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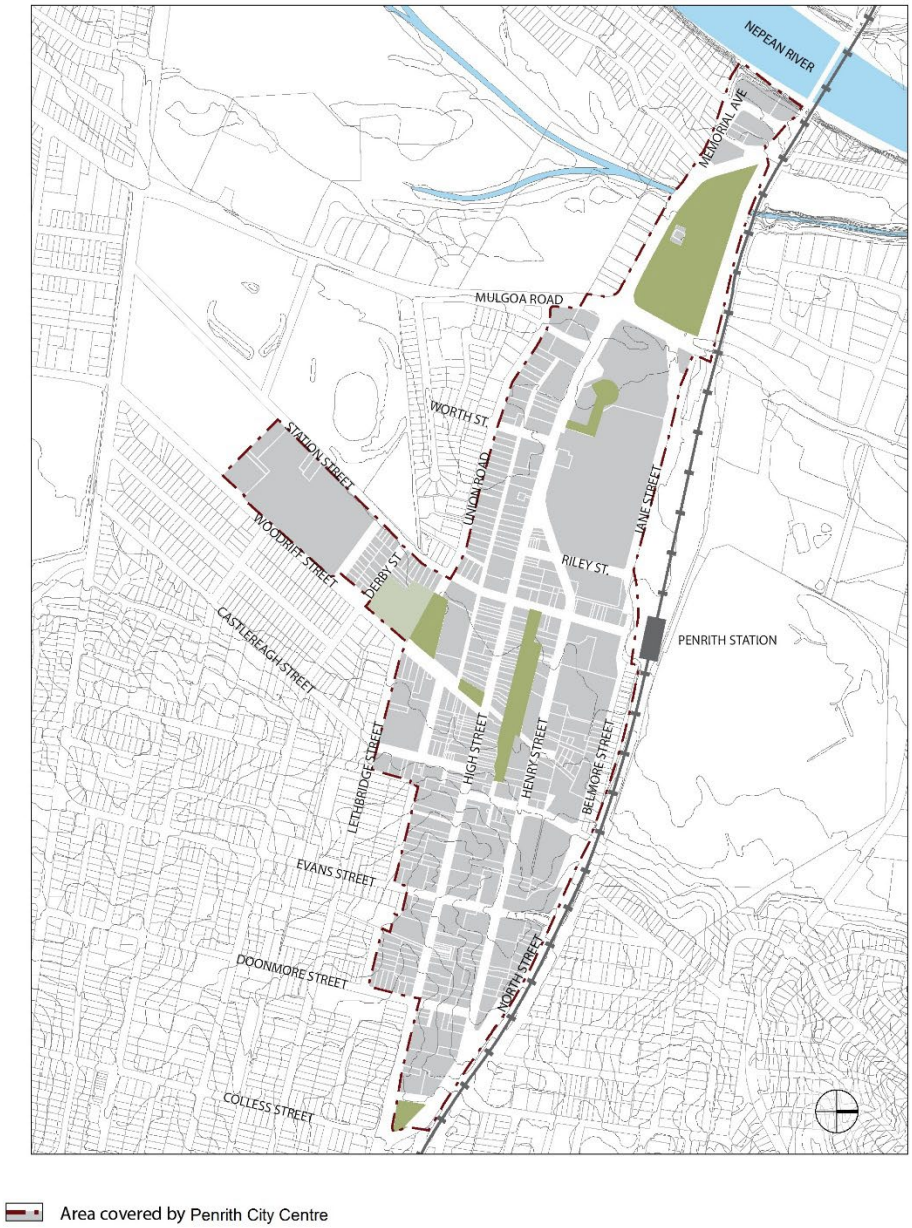
Part A Penrith City Centre

11.1 Preliminary

11.1.1 Area included within the Penrith City Centre

This Section applies to development on land covered by the Penrith City Centre as shown in Figure E11.1. This part of the Section provides specific controls for the Penrith City Centre in addition to the general controls elsewhere in this DCP.

Figure E11.1 Penrith City Centre



11.1.2 Aims and Objectives of this Section

The aim of this Section is to provide more detailed provisions for development in the Penrith Centre that will:

a) contribute to the growth and character of Penrith

b) deliver a balanced social, economic and environmental outcome; and

c) protect and enhance the public domain.

The general objectives of this Section are:

a) To facilitate the revitalisation of Penrith City Centre by promoting redevelopment and urban sustainability;

b) To promote high quality urban design and environmental sustainability in the planning, development and management of the City Centre;

c) To provide for mixed use, commercial and residential development within the Town Centre which provides high levels of amenity for occupants;

d) To provide high levels of accessibility within the City Centre, connecting significant activity nodes, public open space and surrounding residential areas;

e) To encourage development within Penrith City Centre that gives primacy to the public domain and creates an attractive and vibrant centre;

f) To encourage integration of the residential and non-residential land uses and improved access to transport facilities;

g) To achieve an attractive and sustainable Penrith City Centre; and

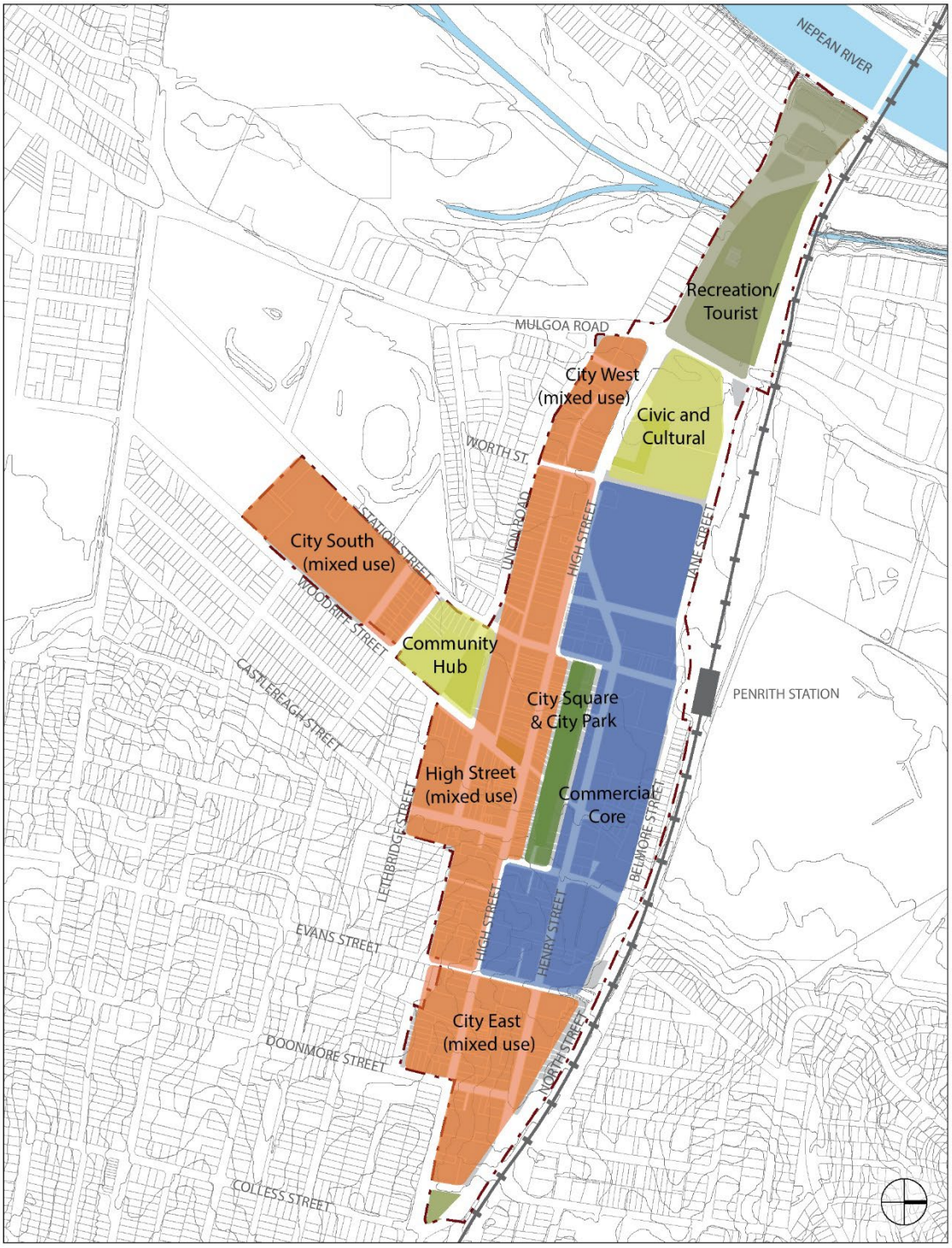
h) To ensure that development in the Penrith City Centre is consistent with the desired future character of each precinct as described in the following section.

11.1.3 Penrith City Centre Precincts and Character areas

The Penrith City Centre developed along a section of The Great Western Highway that was also the transport stop on The Great Western Rail Line. Its reliance on transport links for its development is evident in its elongated, east-west pattern. The City Centre has a distinctive heart in High Street.

There are eight precincts in the Penrith City Centre, all comprising their own distinct characteristics and is illustrated in Figure E11.2. The intended character of these precincts is identified below and will be used to inform and guide future development.

Figure E11.2 Penrith City Centre Character Areas



1. High Street Mixed Use

High Street is the historic heart of Penrith and is the focus of the City Centre activities with its central spine of 2.5km that is segmented into sub-precincts. The street has many low-rise, small scale retail shops, and a concentration of civic and cultural functions.

High Street is a focus of pedestrian activities with its wider, covered footpath areas which already encourage alfresco dining. The street will continue to be the hub for pedestrian street life in the City Centre, accompanied by central city 'greening'. Mixed use developments will encourage a diversity of uses locating in the centre to further activate the street, whilst the residential development aligning the southern edge of the street will engage pedestrian activities into the city centre.

Views of the Blue Mountains escarpment are available along sections of High Street, particularly the eastern half of High Street up to mid-block past Station Street, and should be retained at street level.

This precinct offers the new City Park and City Square, which will be located in what is currently the Allen Place parking area. These public space areas are intended to be a series of linked areas, each expressing its own character to entice residents and workers to visit and enjoy these spaces. The City Park and City Square will be connected to High Street and surrounding streets via laneways and arcades.

The buildings surrounding City Park and City Square will need to have active street frontages and uses fronting these public spaces. Memory Park, located at the corner of High Street and Woodriff Street, is a significant public space in the City Centre that needs to be preserved. It is at this space where ANZAC Day remembrance ceremonies are celebrated.

The concentration of public spaces in this precinct means that development will need to address any potential impacts on these spaces as buildings get higher.

Tree-lined streets provide shade to pedestrians. Other public domain improvements are proposed in the precinct such as continuing the awnings along the street frontage, high quality paving, street furniture and pedestrian lighting.

2. Commercial Core

This area is the 'gateway' to Penrith on arrival by rail, and given this status, needs to be a focus for the highest quality developments.

The Commercial Core precinct is dominated by the Westfield Penrith (Penrith Plaza) shopping centre. The interface of the shopping centre with the city and the 'street life' activity along High and Station Streets needs to be strengthened.

The eastern side of Station Street contains a mixture of commercial uses with some fringe retail and car parking. Council has significant land assets in this area. The TAFE College brings student life and activity into the area, and its presence should be strengthened. The government office development consolidates State Government activities in one building, opposite the station. This area, close to the station, has the potential to significantly intensify as a location for high quality commercial development, supported by some ground level retail.

This precinct will form the northern boundary of the new City Square and City Park. Both public spaces will be located in what is currently the Allen Place parking area, and are intended to be a haven for workers and residents in the City Centre. It is envisaged that the City Square and City Park will become the focus of City activities.

3. City East / Mixed Use

This is the eastern gateway into the city centre area and should be enhanced.

The area east of Evans Street currently contains a mix of fringe retail and residential development. It can develop in the future as a mixed use precinct with a village character of its own, including mixed use buildings containing retail, commercial and residential uses and a small retail hub with emphasis on access and walkability. It is envisaged for this area to develop a live-work character.

High rise commercial development should be restricted in this area to minimise leakage from the Commercial Core area. Links through this area to Nepean Hospital need to be protected and strengthened.

4. City South / Mixed Use

This area comprises the single storey Nepean Village shopping centre, surrounded by a large surface car park. It enjoys street frontages aligning its eastern and western boundaries that provide very distinct characteristics either side. Immediately adjoining the southern boundary is a former industrial property that will be redeveloped into a high density residential precinct.

It is envisaged this area will redevelop into a mixed use precinct with its own identity with clear connections to and synergies with the adjoining high density residential precinct and act as the shopping and service hub for the surrounding and intensifying residential area. There needs to be further emphasis on the land uses and activities located at, as well as the design and utility of urban spaces at the common boundary with that precinct. Future development should reduce the impact of surface car parks on local streets.

Its redevelopment opportunities will need to consider the interface with different environments aligning its boundaries, being residential (to its east) and sporting facilities (in the west).

The precinct can be redeveloped as a mixed use precinct with its own identity through better connectivity to the city centre at the northern end.

5. City West (Mixed Use)

The precinct comprises the southern side of High Street, between Worth Street and the intersection to Mulgoa Road. This area is presently underdeveloped, with a number of apartment buildings having been approved or under construction immediately behind High Street.

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 develop 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.

This precinct currently enjoys unobstructed views of the Blue Mountains escarpment. It is acknowledged that redevelopment will result in loss of such views however, where view corridors can be reasonably maintained from High Street, then the views should be retained.

There is an opportunity to locate an urban space in this precinct that affords an “eat street” environment with connection to the adjoining civic and cultural precinct.

6. Civic and Cultural Precinct

Penrith’s Civic Centre, comprising the council’s offices and library, as well as the Joan Sutherland Performing Arts Centre comprise the civic and cultural precinct. It is located at the north-eastern corner of the High Street and Mulgoa Road intersection, enjoying unobstructed views of the Blue Mountains escarpment.

The precinct contains green public spaces which can be redeveloped to enliven this precinct, making it attractive and vibrant after hours.

7. Community Hub

A number of community facilities are already sited in the city centre and there is an opportunity to amalgamate these facilities in a central precinct at the heart of the city centre, between Station Street and Woodriff Street. There is opportunity to enhance the existing public space with landscaped and shaded spaces for community groups to meet and gather.

Its central location is ideal in ensuring that the precinct is easily accessible from adjoining residential areas, and greatly enhances the precinct's focus for community functions.

8. Recreation / Tourist

The precinct between the Nepean River and the Commercial Core is critical to creating Penrith as a true river city. The sports facilities at Woodriff Gardens and the rowing club along the river provide recreation opportunities for the local residents and workers. The area has low scale development, with some tourist facilities already located along the river (such as a hotel and function centre).

Creating a recreational link between the city centre and the river is a priority in this area. The landscape extension of High Street to the riverfront will be the priority to reconnect the city with the river and to create attractive and legible pedestrian links.

There is a potential to improve pedestrian and cycle connections across the river in this area. Opportunities for outdoor restaurants and cafes along the river should be examined, with the riverfront being landscaped as links to the Great River Walk are established, and improved pedestrian/ cycle paths provide 'bridge to bridge' recreational opportunities.

11.2 Building Form

11.2.1 Introduction

Building form and character refers to the individual elements of building design that collectively contribute to the character and appearance of the built environment.

The development provisions in this Section of the DCP are intended to encourage high quality design for buildings in the Penrith City Centre, balancing the character of Penrith with innovation and creativity. The resulting built form and character of development should contribute to an attractive public domain in central Penrith and produce a desirable setting for its intended uses.

The controls in this section aim to:

a) Establish the scale, dimensions, form and separation of buildings appropriate for the setting in the city centre.

b) Achieve an attractive and sustainable Penrith city form within the City Centre context.

c) Provide a strong definition of the public domain. Achieve active street frontages with good physical and visual connections between buildings and the street.

d) Ensure there is consistency in the main street frontages of buildings having a common alignment to improve accessibility.

e) Provide for pedestrian comfort and protection from weather conditions.

f) Define the public street to provide spaces that are clear in terms of public accessibility and safety, and are easy to maintain. Ensure building depth and bulk is appropriate to the environmental setting and landform by providing for view sharing and good internal building amenity.

g) Ensure building separation is adequate to protect amenity, daylight penetration and privacy between adjoining developments.

h) Encourage mixed use development with residential components that achieve active street fronts and maintain good residential amenity.

i) Achieve an articulation and finish of building exteriors that contribute to a high quality of design excellence.

j) Provide for high quality landscape to contribute to the amenity of the City Centre and a sustainable urban environment.

k) Maintain and enhance important views from the City Centre to surrounding natural landscape features.

l) Contribute to the legibility of the City.

m) Ensure that buildings are responsive to the character and heritage values of the Penrith City Centre.

11.2.2 Building to Street Alignment and Street Setbacks

A. Background

Street setbacks and building alignments establish the front building line. They help to create the proportions of the street and can contribute to the public domain by enhancing streetscape character and continuity of street facades.

Street setbacks can also be used to enhance the setting and address for the building. They provide for landscape areas, entries to ground floor apartments and deep soil zones.

Buildings should be built up to the street alignment to reinforce the urban character and improve pedestrian accessibility, amenity and activity at street level. Above street frontage height, buildings are to be set back to provide sunlight access to streets, pedestrian areas and lower levels of other buildings. These setbacks offer comfortable wind conditions, view corridors, an appropriate building scale for pedestrians, and good growing conditions for street trees.

Towards the edges of the city centre, buildings are setback to provide amenity in predominantly residential areas, including entries to ground floor apartments, landscaping and deep soil zones.

B. Objectives

a) To establish consistent building alignments to the street.

b) To provide street setbacks appropriate to building function and character.

c) To establish the desired spatial proportions of the street and define the street edge.

d) To create a transition between public and private space.

e) To locate active uses, such as shopfronts, closer to pedestrian activity areas.

f) To allow for street landscape character, where appropriate.

g) To maintain sun access to the public domain.

h) To protect important views to the Blue Mountains escarpment.

C. Controls

The controls for building form are as follows:

1) Street building alignment and street setbacks are specified in Figure E11.3.

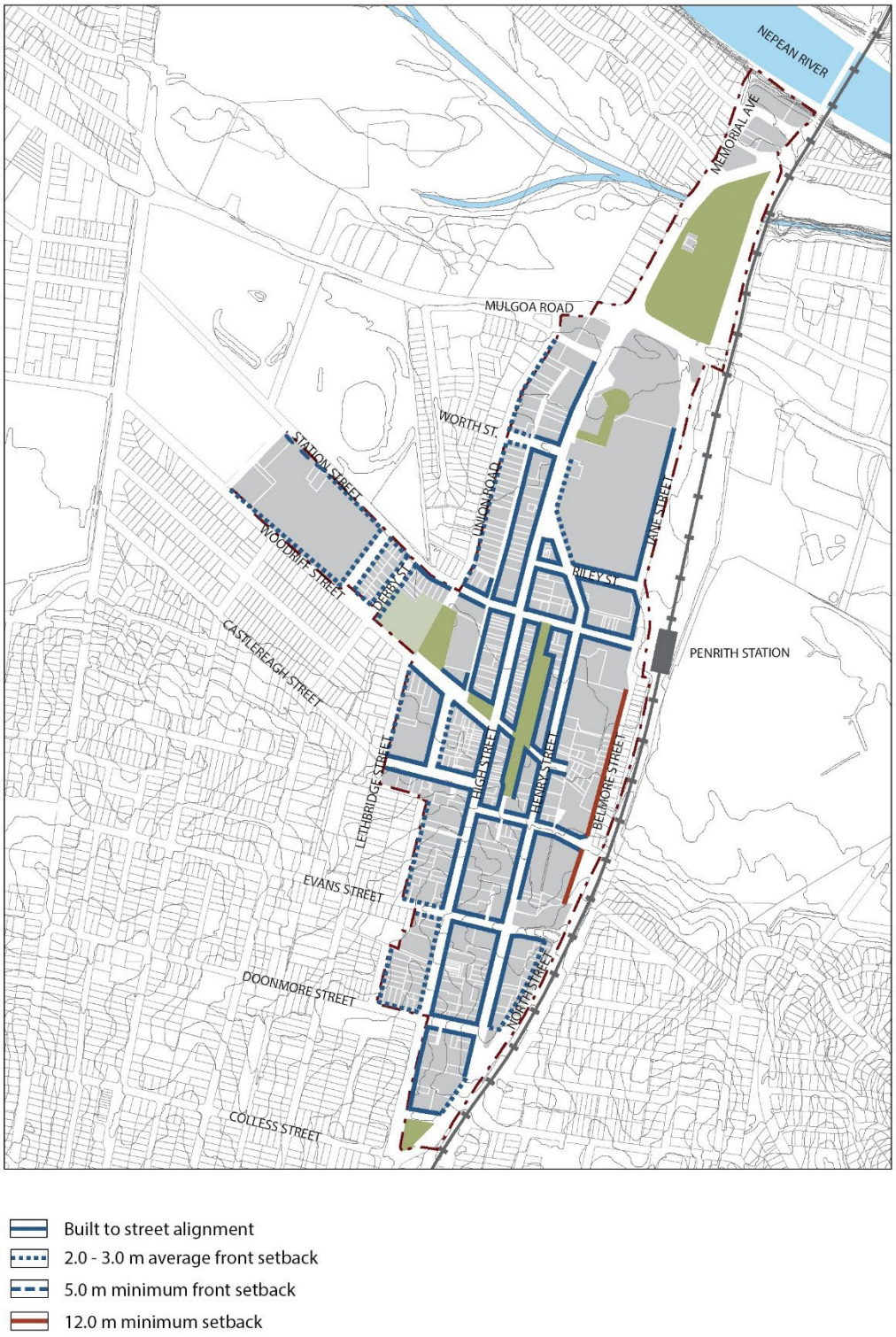
2) Balconies may project up to 600mm into front building setbacks, provided the cumulative width of all balconies at that particular level totals no more than 50% of the horizontal width of the building façade, measured at that level.

3) Minor projections into front building lines and setbacks for sun shading devices, entry awnings and cornices are permissible.

4) Notwithstanding the setback controls, where development must be built to the street alignment (as identified in Figure E11.3) it must also be built to the side boundaries (0m setback) where fronting the street. The minimum height of development built to the side boundary must comply with the minimum street frontage height requirement.

5) Buildings along High Street must demonstrate that views to the Blue Mountains escarpment are maintained through the provision of perspectives.

Figure E11.3 Front Setbacks



11.2.3 Street Frontage Heights

A. Background

Well framed streets are an important characteristic of a City Centre. It is important that buildings within Penrith City Centre contribute to a strong definition of the street and public domain and reflect the City's status as a Regional City, and the function and character of different parts of the City.

The desired street frontage heights are specified in this section to ensure a sense of street enclosure that is appropriate to Penrith's natural setting and status as a regional city.

Street frontage heights refer to the height of the building at the street alignment and directly address the public street. Street sections specify required street frontage height and setbacks for development above street frontage height.

B. Objectives

a) To provide consistent streetscapes through control of the built form visible from the public domain.

b) To achieve comfortable street environments for pedestrians in terms of daylight, scale, sense of enclosure and wind mitigation as well as healthy environments for street trees.

c) To allow sunlight access to new and existing significant public spaces in the city centre.

d) To provide for an appropriate transition in building heights from key public spaces.

e) To provide well sealed enclosure to the significant public spaces.

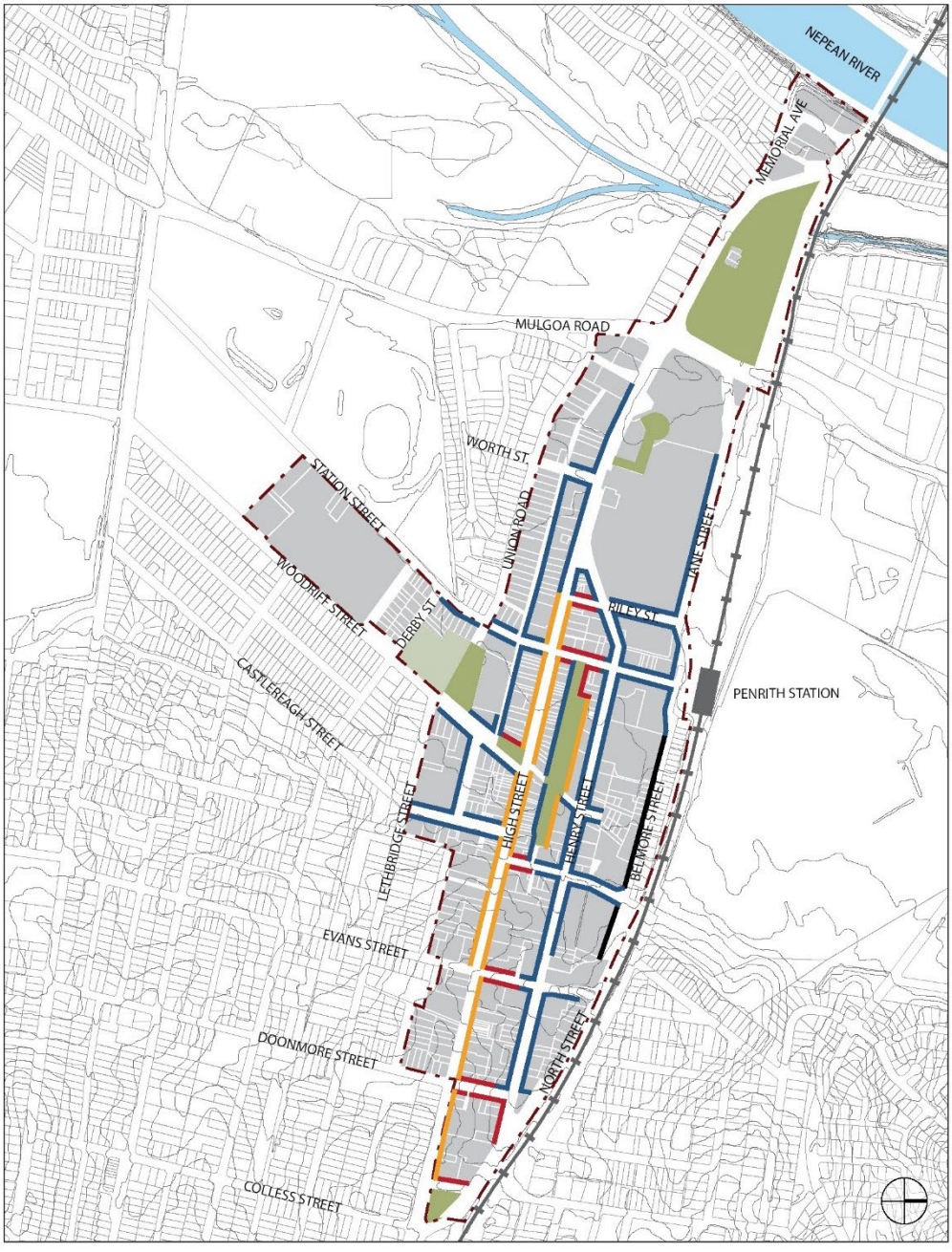
f) To protect important views to the Blue Mountains escarpment.

C. Controls

1) Buildings must comply with the relevant street frontage heights as shown in Figure E11.4 and illustrated in Figures E11.5 to E11.10.

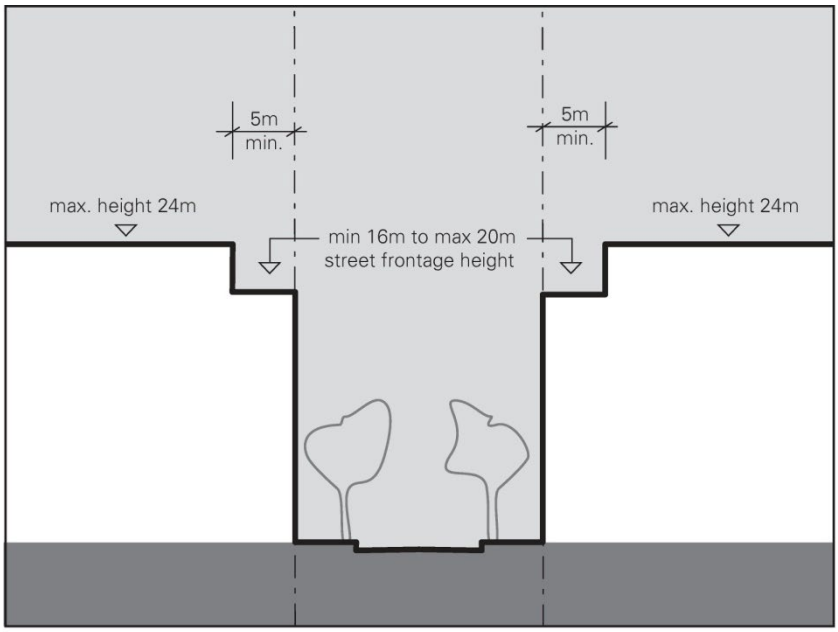
2) Development of land in the vicinity of Allen Place, Memory Park and Judges Park the development must demonstrate that it does not adversely overshadow the adjoining public places.

Figure E11.4 Street Frontage Heights



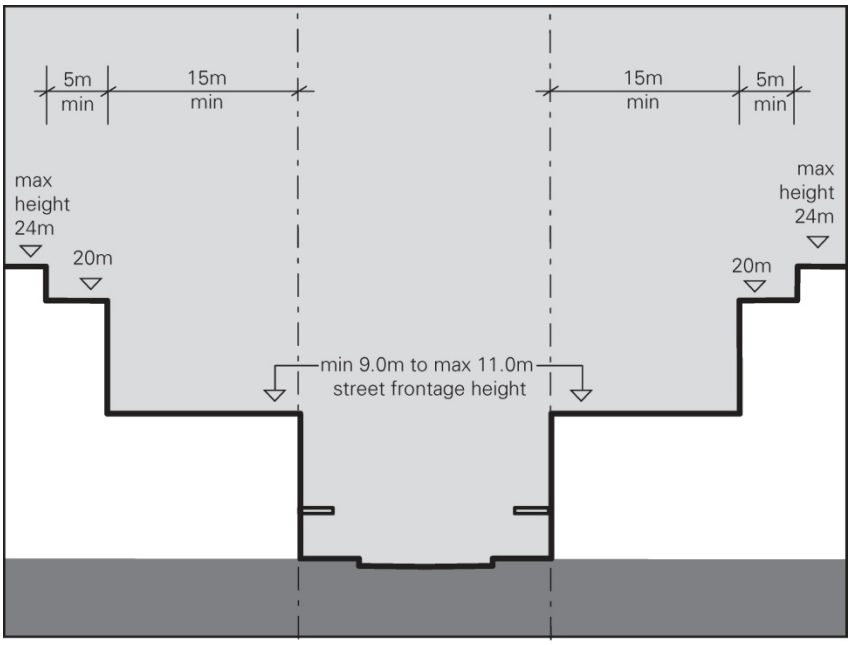
Street frontage height A applies - refer to figure E11.5
Street frontage height B applies - refer to figure E11.6
Street frontage height C applies - refer to figure E11.7
Street section D applies - refer to figure E11.8
Special section through Allen Place - refer to figure E11.9
Front setback applies as specific in figure E11.3

Figure E11.5: Street Frontage Height Type A



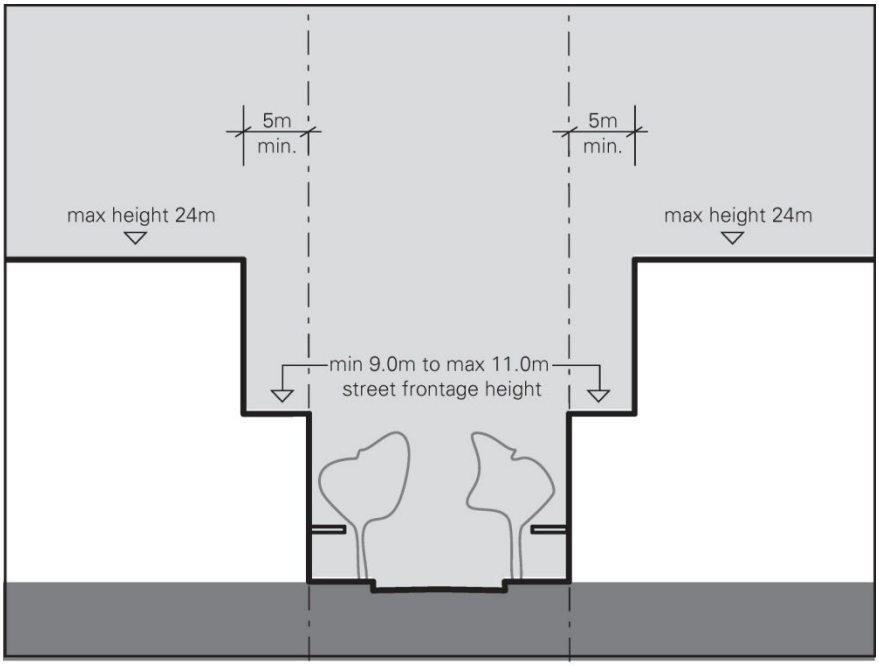
STREET FRONTAGE HEIGHT TYPE A

Figure E11.6: Street Frontage Height Type B



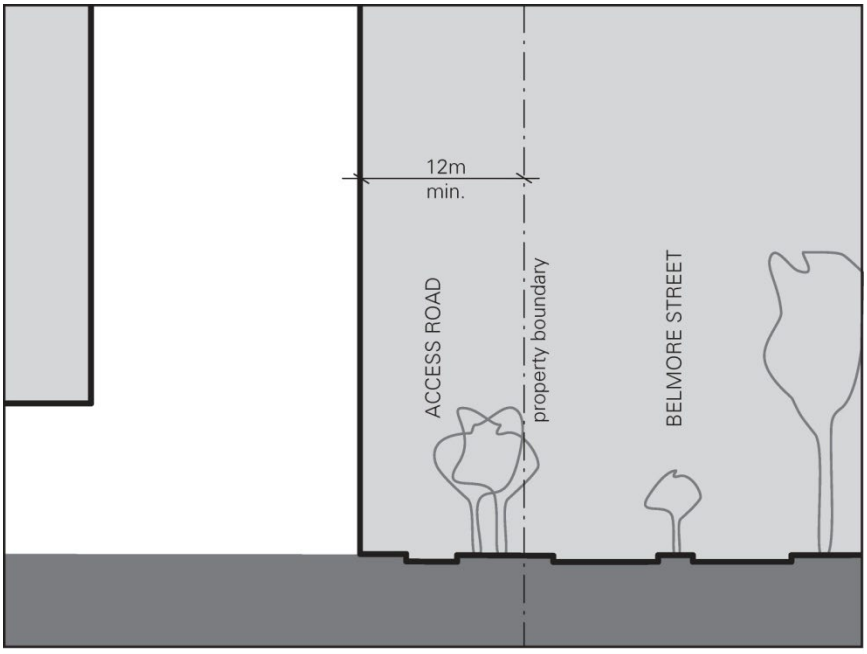
STREET FRONTAGE HEIGHT TYPE B

Figure E11.7: Street Frontage Height Type C



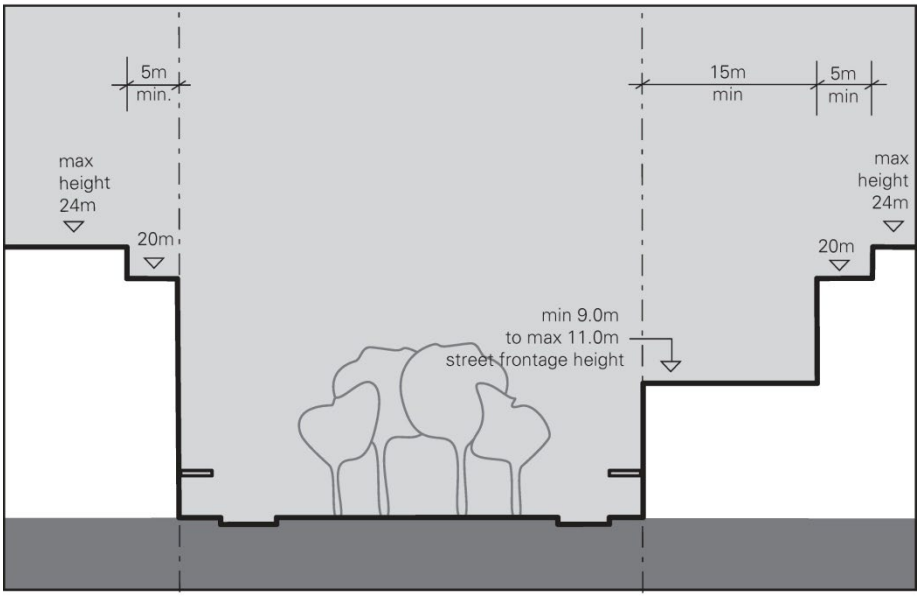
STREET FRONTAGE HEIGHT TYPE C

Figure E11.8: Street Frontage Height Type D

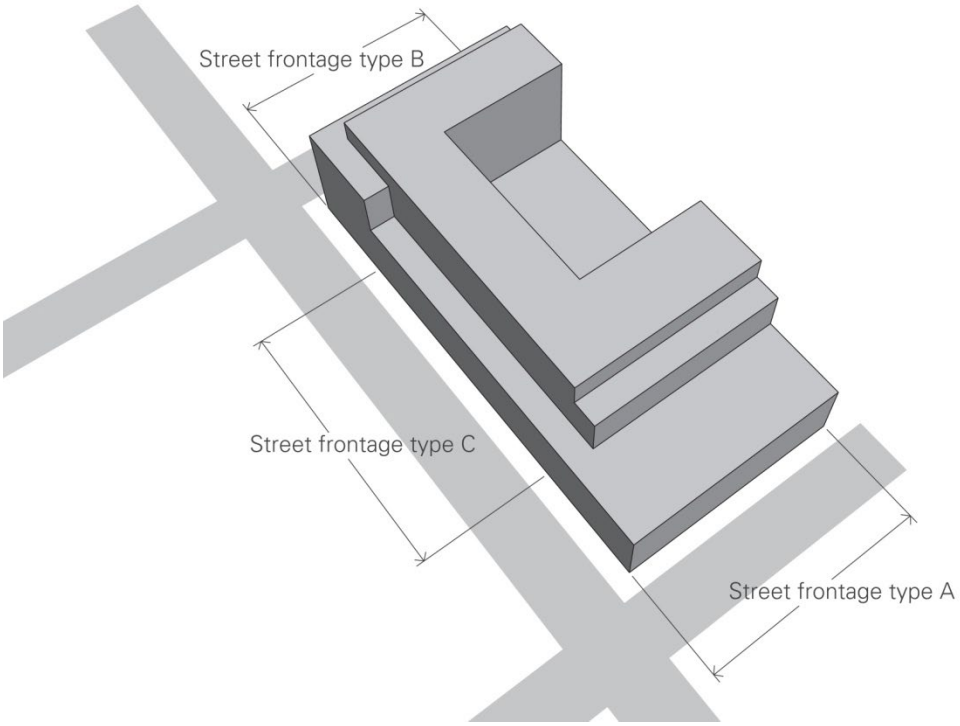


STREET SECTION TYPE D

Figure E11.9: Section through Allen Place (looking west)



SECTION THROUGH ALLEN PLACE
(looking west)



11.2.4. Building Depth and Bulk

A. Background

Controlling the size of upper level floor plates of taller buildings allows for good internal amenity, access to natural light and ventilation and reduces potential adverse effects that tall and bulky buildings may have on the public domain.

Building depth is related to building use. Typically, mixed use buildings have larger commercial floor plates combined with smaller residential floors.

B. Objectives

a) To promote the design and development of sustainable buildings.

b) To achieve the development of living and working environments with good internal amenity and minimise the need for artificial heating, cooling and lighting.

c) To provide viable and useable commercial floor space.

d) To achieve usable and pleasant streets and public domain at ground level. To achieve a city skyline sympathetic to the topography and context.

e) To allow for view sharing and view corridors.

f) To reduce the apparent bulk and scale of buildings by breaking up expanses of building wall with modulation of form.

C. Controls

1) The maximum floorplate sizes and depth of buildings are specified in the table below (also refer to Figure E11.11).

2) Notwithstanding the above, no building above 24m in height is to have a building length in excess of 50m.

3) All points of an office floor should be no more than 10m from a source of daylight (e.g. window, atria, or light wells) in buildings less than 24m in height, and no more than 12.5m from a window in buildings over 24m in height.

4) Use atria, light wells and courtyards to improve internal building amenity and achieve cross ventilation and/or stack effect ventilation. (Refer to figures E11.12 and E11.13)

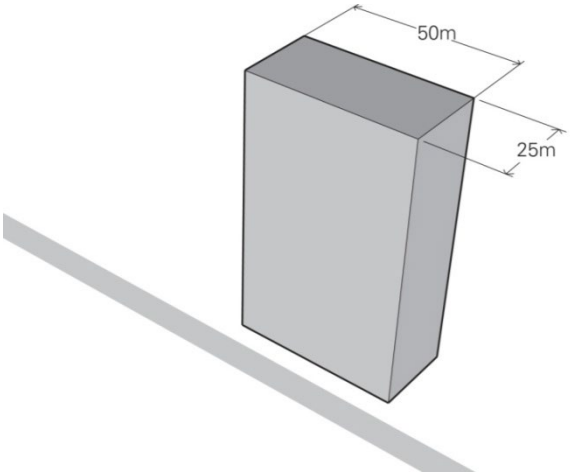
The controls for building depth and height are outlined in Table E11.1.

Table E11.1: Controls for building depth and height

Land Use	Building Use	Condition	Maximum Floorplate	Maximum Building Depth (excludes balconies)
Commercial Core	All	Above 24m height	1,200m^2	25m
Mixed Use	Non Residential	Above 20m height	900m^2	20m

Land Use	Building Use	Condition	Maximum Floorplate	Maximum Building Depth (excludes balconies)
	Residential	Above 20m height	750m^2	18m
All other zones	All	Above 12m height	750m^2	18m

Figure E11.11: In the Commercial Core, the floor plates of commercial buildings above 24m are limited to 1,200m2



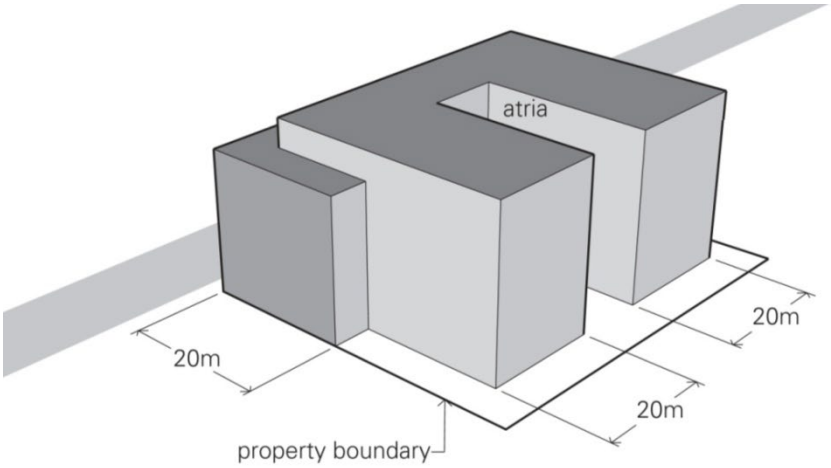
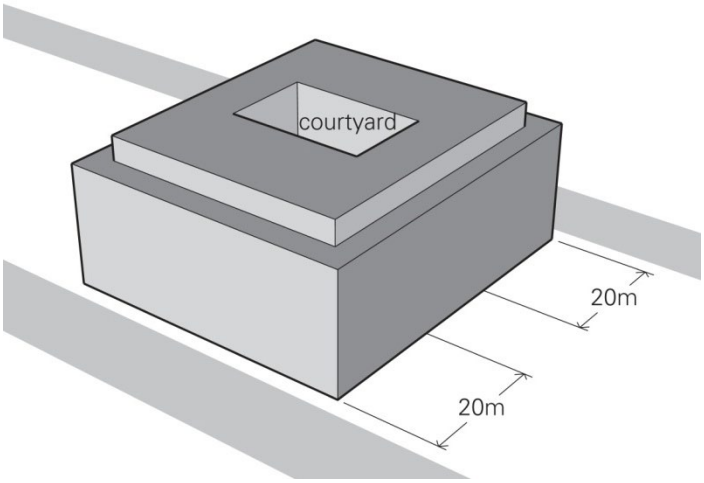


Figure E11.13: Courtyard type buildings allow good light penetration and well suited to sites with two street frontages



11.2.5 Boundary Setbacks and Building Separation

A. Background

Setbacks allow ventilation, daylight access and view sharing and increase privacy. In residential buildings and serviced apartments, separation between windows on side and rear facades and other buildings is particularly important for privacy, acoustic amenity and view sharing.

For commercial buildings, separation distances are smaller due to reduced requirement for visual and acoustic privacy.

Separation for mixed use buildings containing residential and commercial uses is to be in accordance with specified distances for each component use.

B. Objectives

a) To ensure an appropriate level of amenity for building occupants in terms of daylight access, outlook, view sharing, ventilation, wind mitigation, and privacy.

b) To achieve usable and pleasant streets and public domain areas in terms of wind mitigation and daylight access.

C. Controls

1) The minimum building setbacks from the side and rear property boundaries are specified in Table E11.2 and illustrated in figures E11.14 to E11.16.

2) Notwithstanding the setback controls, where development must be built to the street alignment (as identified in figure E11.3) it must also be built to the side boundaries (0m setback) in the vicinity of the street.

3) Where 0m side and rear boundary setbacks are permissible, and where it can be demonstrated that 0m setbacks cannot be achieved, Council may consider buildings that are setback from the boundary providing they are setback at least 5m to provide amenity in terms of day light access, useable outdoor space and landscaping. (Refer to figures E11.14 or E11.15)

4) If the specified setback distances cannot be achieved when an existing building is being refurbished or converted to another use, appropriate visual privacy levels are to be achieved through other means.

Table E11.2: Minimum side and rear setback distance from property boundary

Zone	Building Height and Use	Minimum Setback
Commercial Core	Up to a height of 20m	0m
	Above 20m	5m
	Above 24m	12m
Mixed Use	**Non-Residential Uses**	
	– Up to 20m	0m
	– Above 20m	5m
	– Above 24m	9m
	Residential uses up to 12m height:	
	– Non-habitable rooms	3m
	– Habitable rooms	6m
	Residential uses up to 24m height:	
	– Non-habitable rooms	4.5m
	– Habitable rooms	9m
	Residential uses above 24m height:	
	– Non-habitable rooms	6m
	– Habitable rooms	12m
All other zones	**Non-residential uses:**	
	– Up to 12m	3m
	– Above 12m	6m
	Residential uses up to 12m height:	
	– Non-habitable rooms	3m
	– Habitable rooms	6m

Zone	Building Height and Use	Minimum Setback
	Residential uses above 24m height:	
	– Non-habitable rooms	6m
	– Habitable rooms	12m

Figure E11.14: Minimum side and rear setbacks in the Commercial Core. Generally prefer lower levels to be built to the boundary or set back at least 5m.

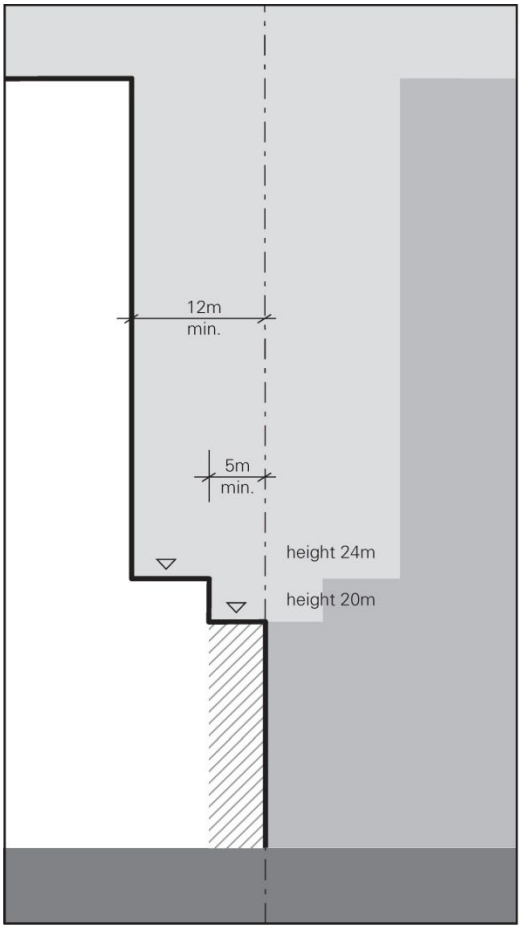


Figure E11.15: Minimum side and rear setbacks for non-residential development in the Mixed Use zone. Generally prefer lower levels to be built to be built to the boundary or set back at least 5m.

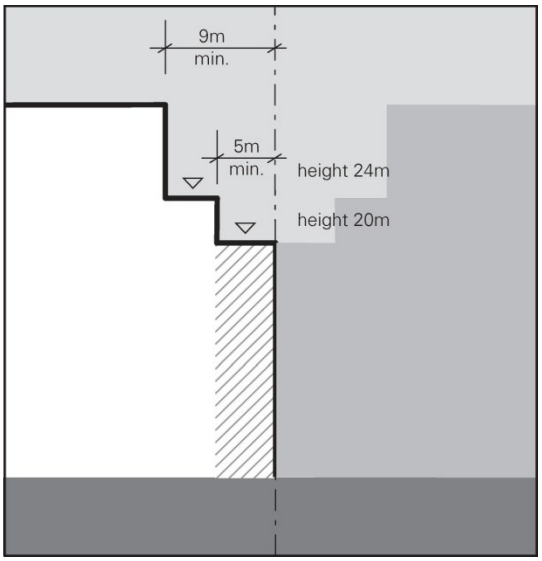
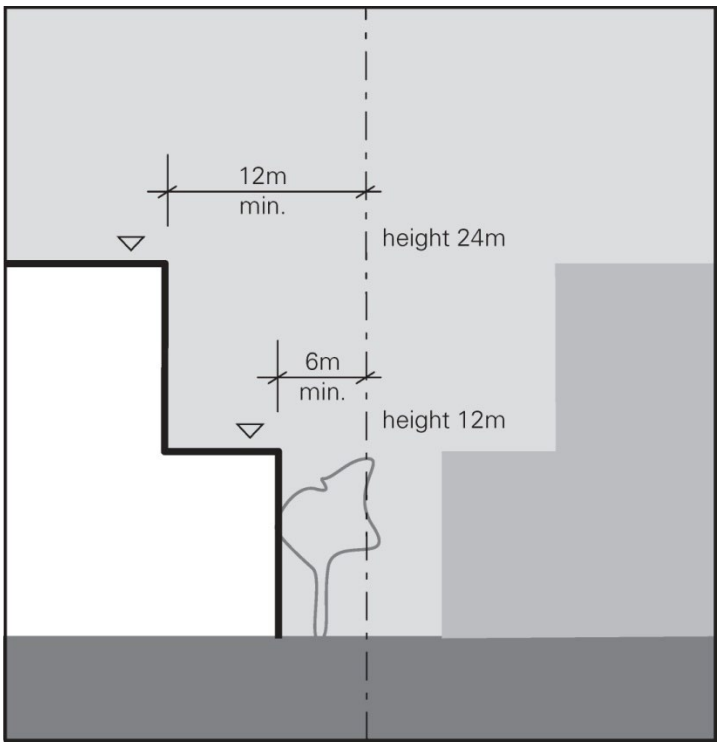


Figure E11.16: Minimum side and rear setbacks for habitable rooms of residential development in the Mixed Use zone.



11.2.6 Mixed Use Buildings

A. Background

Typically, different land uses and activities that are permitted in the same zone may be located in the same building and known as “mixed use developments”.

Mixed-use developments provide a variety of uses and activities within city centres, encouraging use of the City outside the working day, adding vibrancy and life to the city streets. Different uses within the same building are best located to a pattern and layout suitable to the mix of uses, with retail and business activity at ground level to assist street activation, and residential uses, requiring privacy and noise mitigation, located above street level.

Mixed use development within the City Centre is supported in sustainable locations, close to transport nodes, city parks and recreational areas and along central pedestrian locations.

B. Objectives

a) To encourage a variety of mixed-use developments in the City Centre.

b) To create lively streets and public spaces in the City Centre.

c) To increase the diversity and range of shopping and recreational activities for workers, residents and visitors.

d) To enhance public safety by increasing activity in the public domain on week nights and on weekends.

e) To minimise potential conflicts and achieve compatibility between different uses.

f) To minimise conflicts between permitted land use and heritage buildings.

g) To ensure that the design of mixed-use buildings addresses residential amenity.

h) To create legible and safe access and circulation in mixed use buildings.

i) To ensure that mixed use buildings address the public domain and the street.

C. Controls

1) Provide flexible building layouts which allow greater adaptability of the floor area of, or tenancies on, the first floor of a building above the ground floor.

2) Ground floor of all mixed-use buildings is to have a minimum floor to ceiling height of 3.6m in order to provide for flexibility of future use. Above ground level, minimum floor to ceiling heights are 3.3m for commercial office, 3.6m for active public uses, such as retail and restaurants, and 2.7m for residential.

3) The commercial and residential activities of the building are to have separate service provision, such as loading docks, from residential access, servicing needs and primary outlook.

4) Locate clearly demarcated residential entries directly from the public street. Clearly separate and distinguish commercial and residential entries and vertical circulation.

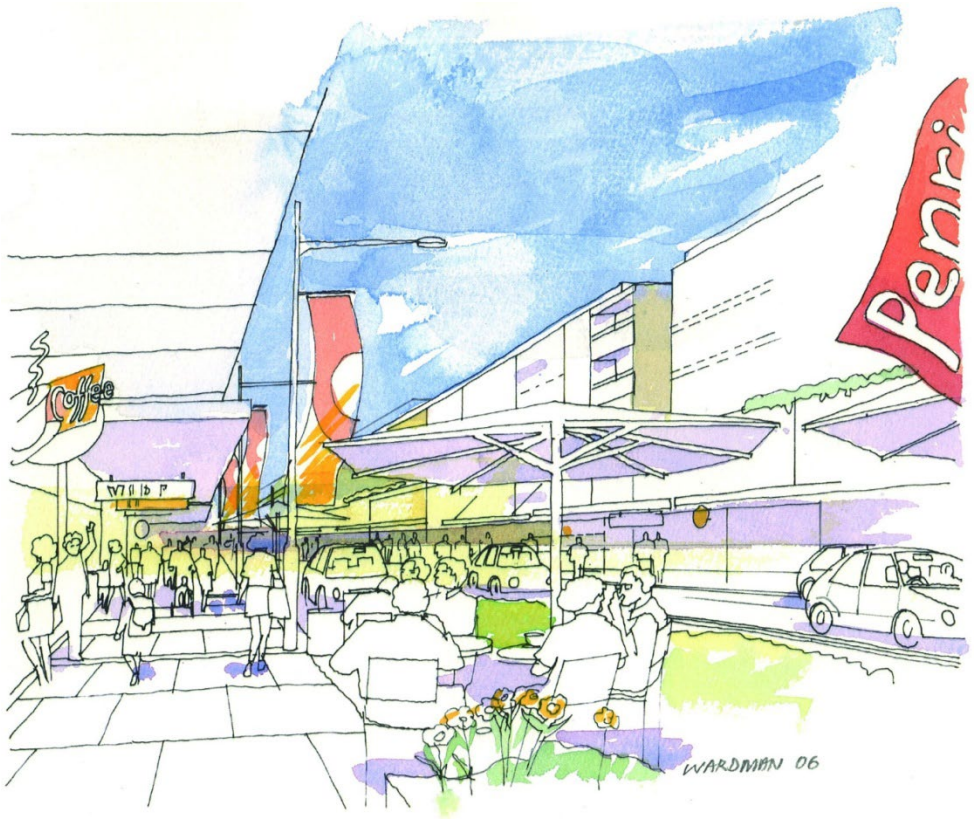
5) Provide security access controls to all entrances into private areas, including car parks and internal courtyards.

6) Provide safe pedestrian routes through the site.

7) Front buildings onto major streets with active uses.

8) Avoid the use of blank building walls at the ground level.

Mixed Use Buildings in High Street



11.2.7 Site Cover and Deep Soil Zones

A. Background

Limiting site cover provides separation between buildings. This space may be public (accessible and useable by the general public), communal (shared by all occupants of a development) or private (for the exclusive use of a single dwelling or tenancy). Limiting site cover improves amenity by providing daylight access, visual privacy and opportunities for recreation and social activities. Site coverage is greater closer to the city core where wall-to-wall development is allowable.

Deep soil zones are areas of natural ground retained within a development, uninhibited by artificial structures and with relatively natural soil profiles. Deep soil zones have important environmental benefits, including:

- promoting healthy growth of large trees with large canopies,
- protecting existing mature trees, and

- allowing infiltration of rainwater to the water table and reduction of stormwater runoff.

B. Objectives

a) To provide an area on sites that enables soft landscaping and deep soil planting, permitting the retention and/or planting of trees that will grow to a large or medium size.

b) To limit building bulk on a site and improve the amenity of developments, allowing for good daylight access, ventilation, and improved visual privacy.

c) To provide passive and active recreational opportunities.

C. Controls

1) The maximum site cover and minimum deep soil area for development is specified in Table E11.3 below:

Table E11.3: Maximum site cover & minimum deep soil for development

Zone/Area	Maximum Site Cover	Minimum Deep Soil Area
Commercial Core	100%	0%
Mixed Use (Other)	100%	0%
Mixed Use (City East)	70%	10%
All Other Zones	70%	10%

2) Deep soil area is provided in one continuous block. In multiple deep soil areas are provided they must have a minimum dimension (in any direction) of 6m.

3) Where non-residential developments result in full site coverage and there is no capacity for water infiltration, the deep soil component must be provided on structure, in accordance with the provisions of Section 11.2.9 Planting on Structures. In such cases, compensatory stormwater management measures must be integrated within the development to minimise stormwater runoff.

4) Where deep soil zones are provided, they must accommodate existing mature trees as well as allowing for the planting of trees/ shrubs that will grow to be mature trees.

5) No structures, works or excavations that may restrict vegetation growth are permitted in this zone (including but not limited to car parking, hard paving, patios, decks and drying areas).

11.2.8 Landscape Design

A. Background

Landscape design includes the planning, design, construction and maintenance of all utility, open space and garden areas. Good landscaping provides breathing space, passive and active recreational opportunities and enhances air quality in city centres. It is fundamental to the amenity and quality of outside space for residential flats and multi-dwelling housing.

B. Objectives

a) To ensure that the use of potable water for landscaping irrigation is minimised.

b) To ensure landscaping is integrated into the design of development.

c) To add value and quality of life for residents and occupants within a development in terms of privacy, outlook, views and recreational opportunities.

d) To improve stormwater quality and control run-off.

e) To improve the microclimate and solar performance within the development.

f) To improve urban air quality and contribute to biodiversity.

Communal public space with deep soil zone allows for tree planting and high quality landscape

C. Controls

1) Recycled water should be used to irrigate landscaped areas.

2) Commercial and retail developments are to incorporate planting into accessible outdoor spaces.

3) Remnant vegetation must be maintained throughout the site wherever practicable.

4) A long-term landscape concept plan must be provided for all landscaped areas including the deep soil landscape zone, in accordance with the Landscape Design Section of this DCP. The plan must outline how landscaped areas are to be maintained for the life of the development.

11.2.9 Planting on Structures

A. Background

The following controls apply in the Commercial Core and Mixed Use zones for planting on roof tops or over car park structures, particular for communal open space required as a component of mixed use residential development, and in non-residential developments where the landscaping proposed is not on natural ground.

Constraints on the location of car parking structures due to water table conditions may mean that open spaces and courtyards might need to be provided over parking structures. The plants in these areas are grown in total containment with artificial soils, drainage and irrigation and are subject to a range of environmental stresses that affect their health, and ultimately their survival. Quality landscape design and open space amenity relies in part on the quality and health of plants.

B. Objectives

a) To contribute to the quality and amenity of open space on roof tops and internal courtyards.

b) To encourage the establishment and healthy growth of greening in urban areas.

c) To minimise the use of potable water for irrigating planting on structures.

C. Controls

1) Recycled water should be used to irrigate in areas with planting on structures.

2) Design for optimum conditions for plant growth by:

   a) providing soil depth, soil volume and soil area appropriate to the size of the plants to be established,

   b) providing appropriate soil conditions and irrigation methods, and

   c) providing appropriate drainage.

3) Design planters to support the appropriate soil depth and plant selection by:

   a) ensuring planter proportions accommodate the largest volume of soil possible and soil depths to ensure tree growth, and

   b) providing square or rectangular planting areas rather than narrow linear areas.

4) Increase minimum soil depths in accordance with:

   a) the mix of plants in a planter for example where trees are planted in association with shrubs, groundcovers and grass,

   b) the level of landscape management, particularly the frequency of irrigation,

   c) anchorage requirements of large and medium trees, and

5) soil type and quality.

6) A long-term landscape concept plan is to be submitted with a development application. The plan is to be prepared in accordance with the requirements of the Landscape Design Section of this DCP. The plan must outline how the planting on structures are to be maintained for the life of the development.

Encourage high quality landscape on structures and internal communal courtyards

11.3 Pedestrian Amenity

A. Background

The pedestrian amenity provisions are intended to achieve a high quality of urban design and pedestrian comfort in the public spaces of the City Centre. The pedestrian environment is to be characterised by excellence of design, high quality materials and a standard of finish appropriate to a regional city centre. The City's lanes, arcades and through site links should form an integrated pedestrian network providing choice of routes at ground level for pedestrians.

In addition to the objectives and controls outlined in the introduction of this Section, the objectives of this section aim to increase the vitality, safety, security and amenity of the public domain by:

a) encouraging future through site links at ground level.

b) ensuring active street frontages and positive building address to the street.

c) ensuring provision of awnings along the commercial core street frontages and other retail and tourist areas.

d) mitigating adverse impacts on the street arising from driveway access crossings, advertising signage and selection of building finishes and materials.

e) protecting significant views and vistas along streets.

11.3.1 Permeability

A. Background

Site links provide access connections between long sides of street blocks for pedestrian and vehicular access at street level. These links provide an important permeability function in the form of lanes, shared zones, arcades and pedestrian ways.

B. Objectives

a) To improve access in the city centre by providing through site links as redevelopment occurs.

b) To retain and enhance existing through site links as redevelopment occurs.

c) To encourage active streets fronts along the length of through site links where possible.

d) To provide for pedestrian amenity and safety.

e) To encourage removal of vehicular entries from primary street frontages.

f) To retain and develop lanes as useful and interesting pedestrian connections as well as for service access.

g) To improve the permeability of large sites when they are redeveloped for more intensive uses.

C. Controls

1) Through site links are to be provided as shown in Figure E11.18.

2) Existing dead end lanes are to be extended through to the next street as redevelopment occurs.

3) New through site links should be connected with existing and proposed through block lanes, shared zones, arcades and pedestrian ways and opposite other through site links.

4) Existing publicly and privately owned links are to be retained.

5) The redevelopment of sites with an extra area of 5 hectares or more are to include new streets, lanes and/or site links to ensure permeability and encourage public access throughout the site.

6) Signage is to be located at street entries indicating public access through the site as well as the street to which the link connects.

Pedestrian links

7) Through site links for pedestrians are to be provided as shown in Figure E11.18 with accessible paths of travel that are:

   a) a minimum width of 4m for its full length and clear of all obstructions including columns, stairs, etc.;

   b) direct and publicly accessible thoroughfares for pedestrians; and

c) Open-air for its full length and have active frontages or a street address.

8) Arcades are to:

a) have a minimum width of 4m for its full length and clear of all obstructions including columns, stairs, etc.;

b) direct and publicly accessible for pedestrians during business trading hours;

c) be designed as an accessible path of travel for persons with a disability and incorporate the 'safer by design' principles;

d) have active frontages on either side for its full length;

e) where practical, have access to natural light for at least 30% of its length; and

f) where enclosed, have clear glazed entry doors to at least 50% of the entrance.

Lanes

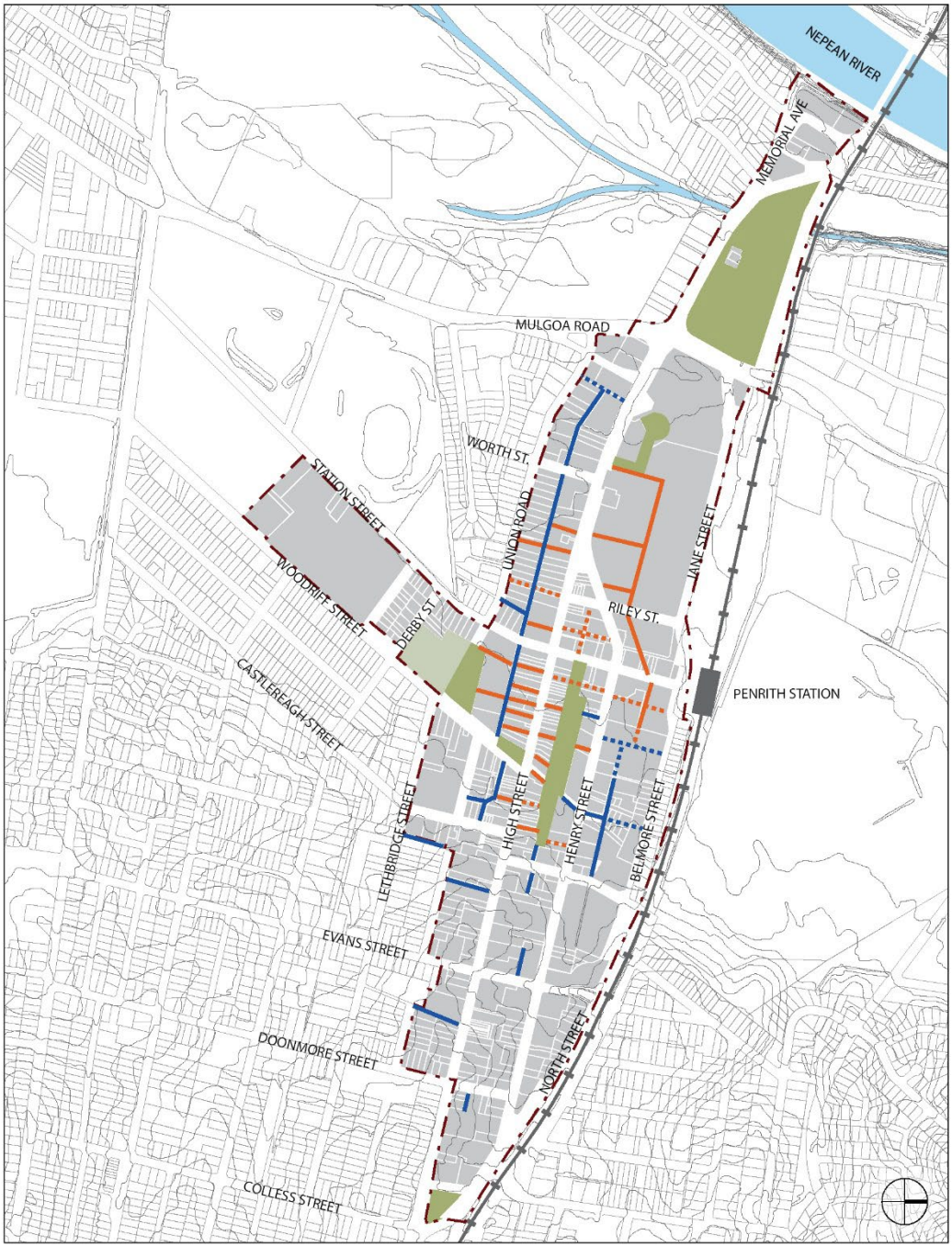
9) Lanes are to be designated pedestrian routes that are:

a) accessible paths of travel, with a minimum width of 6m for its full length clear of all obstructions;

b) designed, paved and lit in accordance with the lighting provisions of this Plan and any technical documents applying to the city centre. The *Penrith City Centre Public Domain Masterplan* should be referred to for further design details.

c) appropriately signposted indicating the street(s) to which the lane connects.

Figure E11.18 Existing and Desired Links



11.3.2 Active Street Frontages and Address

A. Background

Active street frontages promote an interesting and safe pedestrian environment. Busy pedestrian areas and non-residential uses such as shops, studios, offices, cafes, recreation and promenade opportunities promote the most active street fronts. Residential buildings contribute positively to the street by providing a clear street address, direct access from the street and direct outlook over the street.

B. Objectives

a) To promote pedestrian activity and safety in the public domain.

b) To maximise active street fronts in Penrith City Centre.

c) To define areas where active streets are required or are desirable.

d) To encourage an address to the street outside of areas where active street frontages are required.

C. Controls

Active Street Frontages

1) Active frontage uses are defined as one or a combination of the following at street level:

   a) entrance to retail;

   b) shop front;

   c) glazed entries to commercial and residential lobbies occupying less than 50% of the street frontage, to a maximum of 12m frontage;

   d) café or restaurant if accompanied by an entry from the street;

   e) active office uses, such as reception, if visible from the street;

   f) public building if accompanied by an entry.

2) Active street fronts are to be located at the ground level of all buildings located in those areas as shown in the Active Street Frontages map of Penrith LEP 2010.

3) Ground floor active street frontage uses are to be at the same level as the adjoining footpath and must be directly accessible from the street.

4) Restaurants, cafes and the like are to consider providing openable shop fronts.

5) Only open grill or transparent security shutters are permitted to retail frontages.

Street Address

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

2) Street address is required on the ground level of buildings specifically located in areas shown in the Active Street Frontages Map of Penrith LEP 2010.

3) Residential developments are to provide a clear street address and direct pedestrian access off the primary street front, and allow for residents to overlook all surrounding streets.

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

5) Provide direct 'front door' access from ground floor residential units.

6) Residential buildings are to provide not less than 65% of the lot width as street address.

11.3.3 Awnings

A. Background

Awnings increase the useability and amenity of public footpaths by protecting pedestrians from sun and rain. They encourage pedestrian activity along streets and, in conjunction with active edges such as retail frontages, support and enhance the vitality of the local area. Awnings, like building entries, provide a public presence and interface within the public domain and contribute to the identity of a development.

A separate approval to erect an awning over the road reserve including a footpath will be required under the *Roads Act 1993* and the *Local Government Act 1993*.

B. Objectives

a) To provide shelter from wind and rain for public streets where most pedestrian activity occurs.

b) To address the streetscape by providing a consistent street frontage in the city centre.

C. Controls

1) Continuous street frontage awnings are to be provided for all new developments as indicated in Figure E11.19.

2) Awnings dimensions should generally be:

   a) minimum 2.8m deep where street trees are not required, otherwise minimum 2.4m deep;

   b) minimum soffit height of 3.2m and maximum of 4m;

   c) steps for design articulation or to accommodate sloping streets are to be integral with the building design and should not exceed 700mm;

   d) low profile, with slim vertical fascias or eaves (generally not to exceed 300mm height); and

   e) set back from kerb to allow for clearance of street furniture

3) Awning design must match building facades and be complementary to those of adjoining buildings.

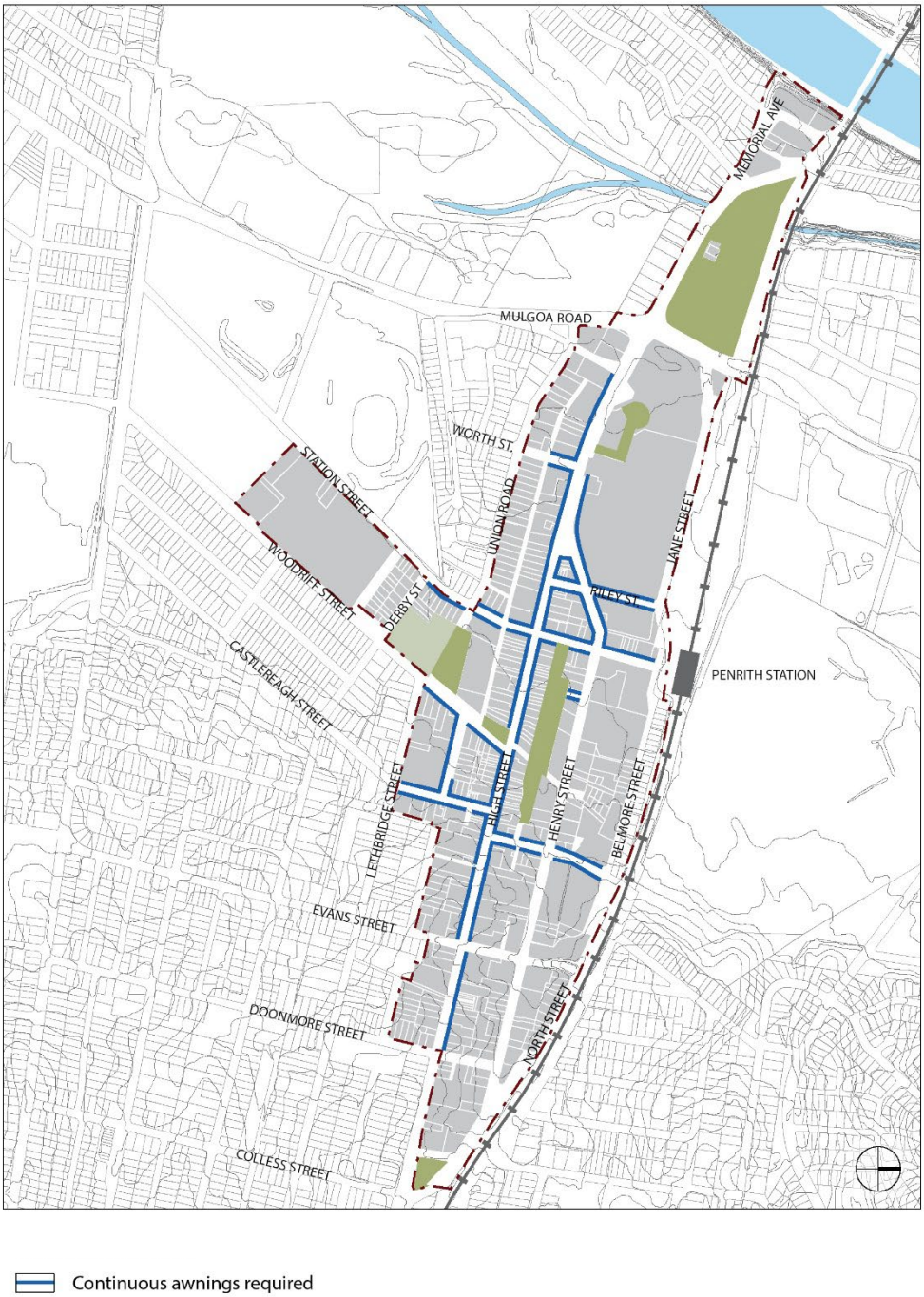
4) Wrap awnings around corners for a minimum 6m from where a building is sited on a street corner.

5) Vertical canvas drop blinds may be used along the outer edge of awnings along north-south streets. These blinds must not carry advertising or signage.

6) Provide under awning lighting recessed into the soffit of the awning or wall mounted onto the building to facilitate night use and to improve public safety.

7) One under-awning sign may be attached to the awning, at intervals of 6m of the awning frontage.

Figure E11.19 Awnings



11.3.4 Vehicle Footpath Crossings

A. Background

Vehicle crossings over footpaths disrupt pedestrian movement and threaten safety. The design of vehicle access to buildings also influences the quality of the public domain. Overly wide and high vehicle access points detract from the streetscape and the active use of street frontages.

The design and location of vehicle access to developments should minimise both conflicts between pedestrians and vehicles on footpaths, particularly along pedestrian priority places, and visual intrusion and disruption of streetscape continuity.

Design of driveways and vehicle access is to be in accordance with the provisions of the Transport, Access and Parking Section of this DCP.

B. Objectives

a) To make vehicle access to buildings more compatible with pedestrian movements.

b) To reduce the impact of vehicular access on the public domain.

c) To ensure vehicle entry points are integrated into building design and contribute to the building design.

C. Controls

Location of Vehicle Access

1) No additional vehicle entry points will be permitted into the parking or service areas of development along those streets identified as significant pedestrian circulation routes in Figure E11.21.

2) In all other areas, one vehicle access point only (including the access for service vehicles and parking for non-residential uses within mixed use developments) will be generally permitted.

3) Where practicable, vehicle access is to be from lanes and minor streets rather than primary street fronts or streets with major pedestrian activity.

4) Where practicable, adjoining buildings are to share or amalgamate vehicle access points. Internal on-site signal equipment is to be used to allow shared access. Where appropriate, new buildings should provide vehicle access points so that they are capable of shared access at a later date.

5) Vehicle access may not be required or may be denied to some heritage buildings.

Design of Vehicle Access

1) Wherever practicable, vehicle access is to be a single lane crossing with a maximum width of 2.7m over the footpath, and perpendicular to the kerb alignment. In exceptional circumstances, a double lane crossing with a maximum width of 5.4m may be permitted for safety reasons (refer to Figure E11.20). The *Penrith City Centre Public Domain Masterplan* should be referred to for further design details.

2) Vehicle access ramps parallel to the street frontage will not be permitted.

3) To ensure vehicle entry points are integrated into building design.

4) Doors to vehicle access points are to be roller shutters or tilting doors fitted behind the building facade.

5) Vehicle entries are to have high quality finishes to walls and ceilings as well as high standard detailing. No service ducts or pipes are to be visible from the street.

Porte Cocheres

1) Porte cocheres disrupt pedestrian movement and do not contribute to active street frontage. They may only be permitted for hotels and major tourist venues subject to urban design, streetscape, heritage and pedestrian amenity considerations.

2) If justified, porte cocheres are to be internal to the building with one combined vehicle entry and exit point, or one entry and one exit point on two different street fronts of the development.

3) In exceptional circumstances for buildings with one street frontage only, an indented porte cochere with separate entry and exit points across the footpath may be permitted, as long as it is constructed entirely at the footpath level and provides an active frontage at its perimeter and provides for safe and clear pedestrian movement along the street.

Figure E11.20: Vehicle Footpath Crossing

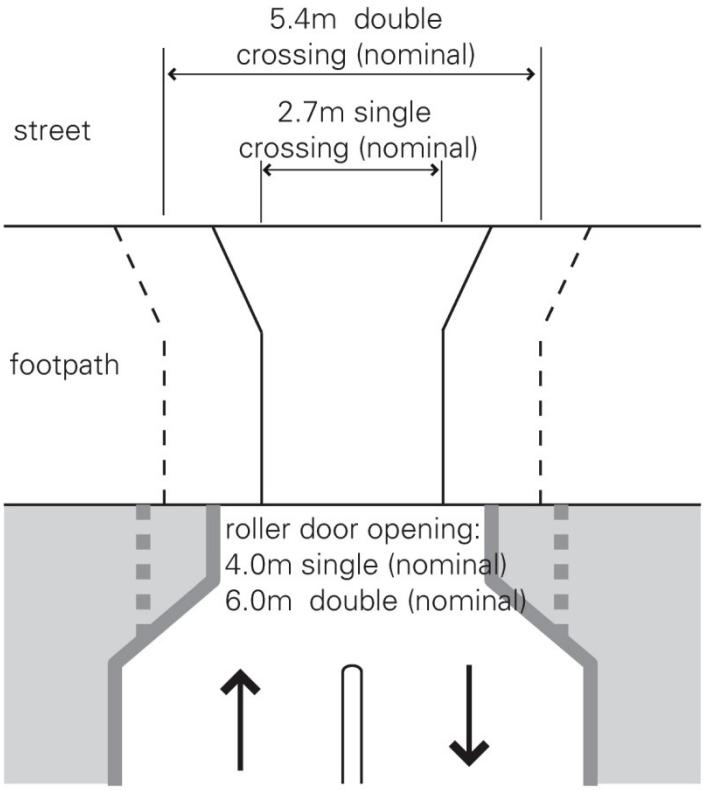
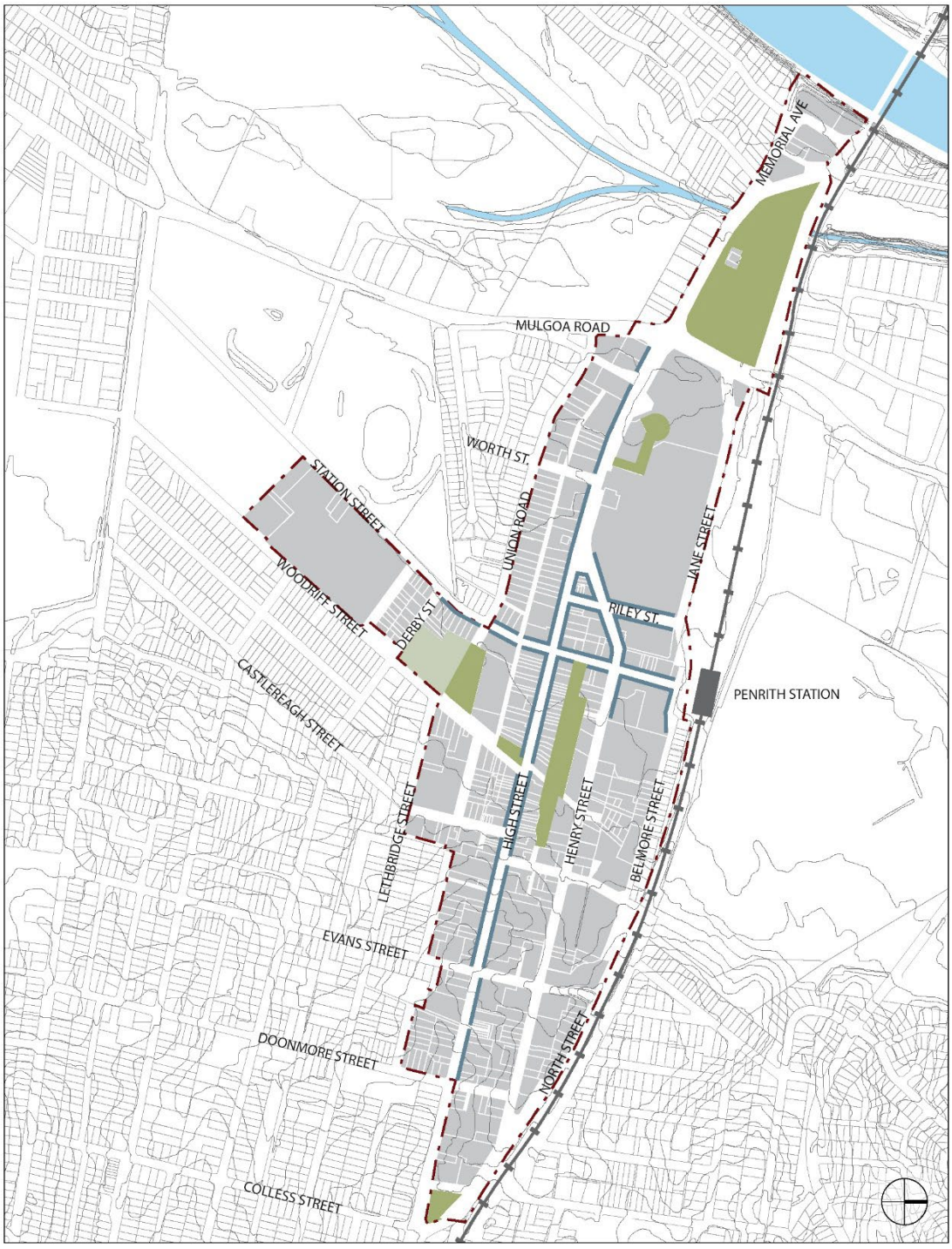


Figure E11.21 Restrictions on Vehicular Entries



11.3.5 Pedestrian Overpasses and Underpasses

A. Background

Streets represent important components of the public domain and provide the best potential amenity and safety when activated by pedestrians. Streets offer sky exposure, sunlight and air, a sense of orientation and direct access to the main frontages of buildings. Generally, pedestrians should be encouraged to use the street level to enhance and contribute to street life, to promote activity and interest, and to maximise safety and security of the public domain. Penrith's climate does not warrant pedestrian isolation from the street, and any conflicts between pedestrians and vehicles are to be resolved at the street level.

Pedestrian overpasses are discouraged as they have a negative impact on the streetscape quality and on views and vistas along streets. New pedestrian underpasses will only be considered where they would directly connect to major transport nodes such as the railway station and substantially improve pedestrian safety and access.

B. Objectives

a) To promote pedestrian activation of streets and public places.

b) To promote 'safer by design' and crime prevention principles.

c) To encourage pedestrian circulation at street level.

d) To protect views and vistas along streets.

C. Controls

1) New overpasses over streets are discouraged. In exceptional circumstances, new overpasses may be considered subject to assessment of impacts on safety and crime prevention, streetscape amenity and activation of the public domain. In such circumstances, overpasses are to be fully glazed, not greater than 6m wide or more than one level high.

2) New pedestrian underpasses are strongly discouraged as they reduce pedestrian accessibility, safety and passive surveillance opportunities. In exceptional circumstances, new underpasses may be considered where it can be demonstrated they would substantially improve pedestrian safety and accessibility, will incorporate active uses for the entire length and have a minimum width of 4.5m clear of all fixed obstructions and a minimum ceiling height of 4m.

11.3.6 Building Exteriors

A. Background

Penrith's cityscape and public domain is defined by its buildings, streets and public places. The maintenance and improvement of the public domain is dependent on a consistent approach to the design of new development including the articulation and finish of building exteriors.

B. Objectives

To ensure that buildings in Penrith:

a) contribute positively to the streetscape and public domain by means of high quality architecture and robust selection of materials and finishes;

b) provide richness of detail and architectural interest especially at visually prominent parts of buildings such as lower levels and roof tops;

c) present appropriate design responses to nearby development that complement the streetscape;

d) clearly define the adjoining streets, street corners and public spaces and avoid ambiguous external spaces with poor pedestrian amenity and security; and

e) maintain a pedestrian scale in the articulation and detailing of the lower levels of the building; and

f) contribute to a visually interesting skyline.

C. Controls

1) Adjoining buildings (particularly heritage buildings) are to be considered when designing new buildings and extensions to existing buildings in terms of:

   a) appropriate alignment and street frontage heights;

   b) setbacks above street frontage heights;

   c) appropriate materials and finishes selection;

   d) facade proportions including horizontal or vertical emphasis; and

   e) the provision of enclosed corners at street intersections.

2) Balconies and terraces should be provided, particularly where buildings overlook parks and on low rise parts of buildings. Gardens on the top of setback areas of buildings and on roofs are encouraged.

3) Articulate façades so that they address the street and add visual interest.

4) External walls should be constructed of high quality and durable materials and finishes with ‘self-cleaning’ attributes, such as face brickwork, rendered brickwork, stone, concrete and glass.

5) To assist articulation and visual interest, avoid expanses of any single material.

6) Maximise glazing for retail uses, but break glazing into sections to avoid large expanses of glass.

7) Highly reflective finishes and curtain wall glazing are not permitted above ground floor level

8) A materials sample board and schedule is required to be submitted with applications for development over $1 million or for that part of any development built to the street edge.

9) The design of roof plant rooms and lift overruns is to be integrated into the overall architecture of the building, and in residential buildings may be screened by roof pergolas.

11.4 Access, Parking and Servicing

A. Background

In addition to controls contained in the Transport, Access and Parking Section of this DCP, this section contains more detailed objectives and controls on pedestrian access, on-site parking and site facilities, and site facilities and services for the City Centre.

B. General Objectives

a) To facilitate the development of building design excellence appropriate to a regional city.

b) To improve non-vehicular access to the city centre, including but not limited to bicycle, pedestrian and mass transit options.

c) To require parking and servicing provisions to be contained within development sites to an amount and rate adequate for the economic and sustainable growth of the city centre.

d) To provide for safe and secure access.

e) To minimise impacts on city amenity, the public domain and streetscape.

f) To ensure that access is provided for persons with a disability.

11.4.1 Pedestrian Access and Mobility

A. Background

Any new developments must be designed to ensure that safe and equitable access is provided to all, including people with a disability.

B. Objectives

a) To provide safe and easy access to buildings to enable better use and enjoyment by people regardless of age and physical condition, whilst also contributing to the vitality and vibrancy of the public domain.

b) To ensure buildings and places are accessible to people with a disability.

c) To provide a safe and accessible public domain.

C. Controls

1) Main building entry points should be clearly visible from primary street frontages and enhanced as appropriate with awnings, building signage or high quality architectural features that improve clarity of building address and contribute to visitor and occupant amenity.

2) The design and provision of facilities for persons with a disability including car parking must comply with Australian Standard 1428 Parts 1 and 2 (or as amended) and the *Commonwealth Disability Discrimination Act 1992* (as amended). The *Penrith City Centre Public Domain Masterplan* should be referred to for further design details for access through and from public places.

3) Barrier free access is to be provided to not less than 20% of dwellings in each development and associated common areas.

4) The development must provide at least one main pedestrian entrance with convenient barrier free access to the ground floor, and have direct link to an identified accessible path of travel in the adjoining public domain.

5) The development must provide accessible internal access, linking to public streets and building entry points.

6) Pedestrian access ways, entry paths and lobbies must use durable materials commensurate with the standard of the adjoining public domain (street) with appropriate slip resistant materials, tactile surfaces and contrasting colours.

7) A report from an accredited access consultant is to be submitted with development application, indicating the proposal's compliance with AS1428. If approved, Council may impose a condition on the development consent requiring the submission of a compliance certificate (or other such document) from an accredited access consultant attesting to the development's compliance with AS1428, and that a person with a disability can access the development.

11.4.2 On-Site Parking Options

A. Background

On-site parking includes underground (basement), surface (at-grade) and above ground parking, including parking stations.

There are particular constraints in certain areas of Penrith city centre on the provision of car parking in underground structures. Due to the high water table, excavation on certain sites may become difficult beyond one level of basement parking. This may necessitate site design which locates the parking above ground. In these cases, minimising the impacts of above ground parking on the public domain is important.

B. Objectives

a) To encourage economic growth in the City Centre.

b) To enable the conversion of above ground parking to other future uses.

c) To support the complementary use and benefit of public transport and non-motorised modes of transport such as bicycles and walking.

C. Controls

1) In addition to the parking requirements outlined in the Transport, Access and Parking Section of this DCP, Figures E11.22 and E11.23 contains additional options for car parking at Penrith City Centre.

2) On-site parking is to be accommodated in basement parking except in the blocks between Belmore and Henry Streets where above ground car parking may be permissible in the form illustrated in Figure 11.24 below.

Figure E11.22: Aboveground parking must be screened by an active edge to the public domain

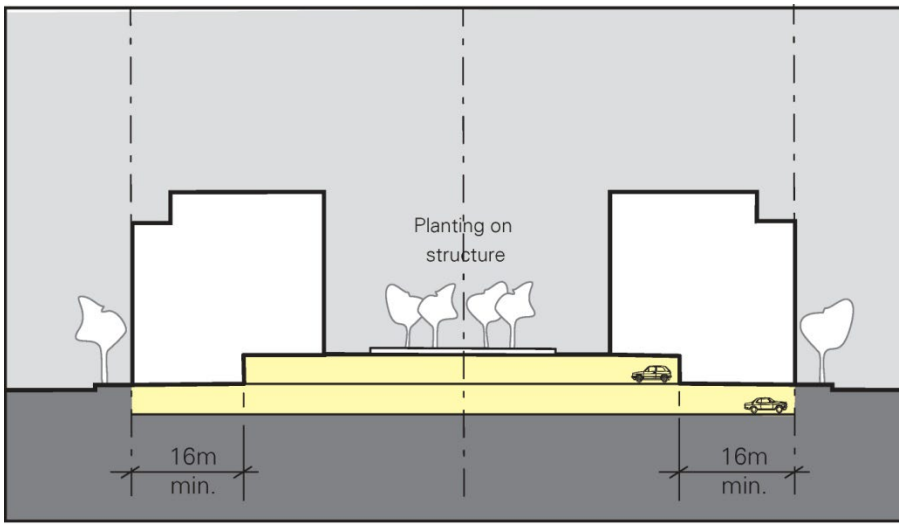


Figure E11.23: Above ground parking may be located adjacent to a lane, as illustrated above, with appropriate screening to reduce the impact on the public domain.

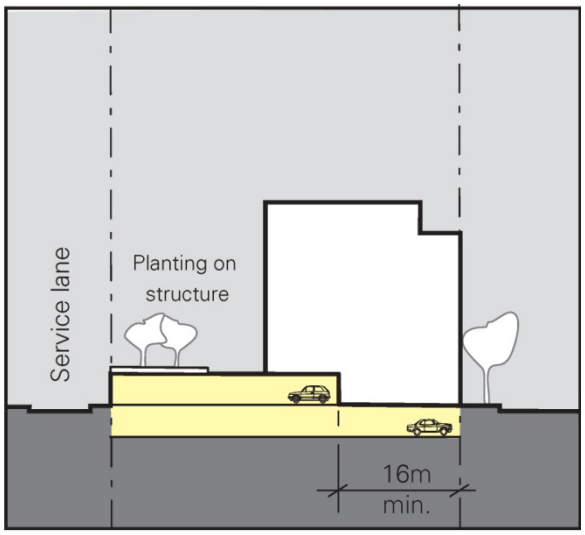
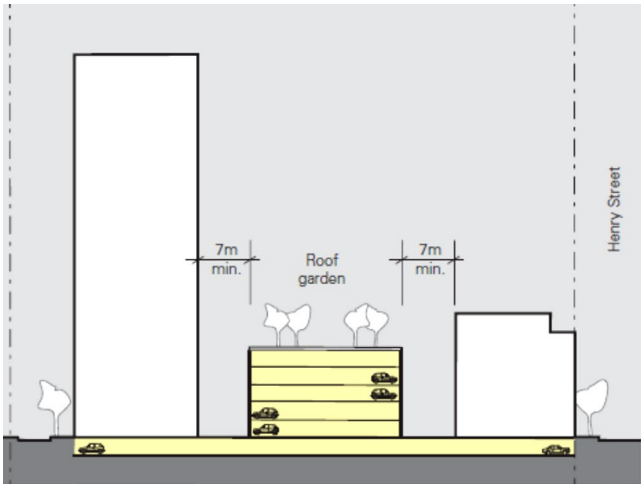


Figure E11.24: In the blocks between Belmore and Henry Streets, above-ground car parking may be permissible in the middle of the block where buildings ensure that it is not visible from surrounding streets or public spaces.



11.4.3 Site Facilities and Services

A. Objectives

a) To ensure that the design and location of site facilities (such as clothes drying areas, mail boxes, recycling and garbage disposal units/ areas, screens, lighting, storage areas, air conditioning units, rainwater tanks/ hot water systems, solar panels and other such devices and communication systems) are integrated within the development and are unobtrusive.

b) To ensure that site services and facilities are adequate for the nature and quantum of development.

c) To establish appropriate access and location requirements for servicing.

d) To ensure service requirements do not have adverse amenity impacts.

B. Controls

Mailboxes

1) Letterboxes should be integrated into a wall immediately adjacent the building entrance(s). Where there are a number of entrances into the building, the letterboxes located at each entrance should service the tenancies that will utilise that building entrance.

2) Letterboxes shall be secure and large enough to accommodate articles such as newspapers.

Communication facilities/networks

3) Telecommunication infrastructure should be built into the development and predominantly below ground, incorporating the following services fundamental in the effective operation of businesses, home businesses and dwellings:

   a) Multiple telecom services including high speed internet (including broadband), voice and data systems,

b) Cabling from all telephone lines, cable TV, internet is built into the building from the outset,

c) Consider centralised (C.A.T.V.) system is provided.

4) Where a master antenna is provided, the antennae must be sited in a location that does intrude into, or is less visible from, surrounding public spaces/ open areas.

Service Infrastructure

5) Infrastructure attributed to the servicing of the development, including associated cabling, should be located below ground.

Air conditioning units, service vents and other associated structures

6) Such structures should be:

a) located away from street frontages and lanes;

b) located in a position where the likely impact is minimised; and

c) adequately setback from the perimeter wall or roof edge of buildings.

7) Where it is to be located on the roof, it should be integrated into the roofscape design and in a position where such facilities do not become a feature in the skyline at the top of building(s).

8) Refer to the Water Management Section of this DCP for locational and connection requirements.

Loading/Unloading Areas

9) Loading/ unloading areas are to be:

a) integrated into the design of developments;

b) separated from car parking and waste storage and collection areas;

c) located away from the circulation path of other vehicles; and

d) designed for commercial vehicle circulation and access complying with AS2890.2.

10) For mixed use developments, separate loading/unloading areas should be provided for commercial/retail and residential uses.

11) Vehicular access to the loading/unloading area(s) is preferred off rear lanes, side streets and right of ways. Where appropriate, consider a single vehicular access point for the loading/unloading area(s) and waste collection area(s).

Fire service and emergency vehicles

12) Generally, provision must be made for all emergency vehicles to enter and leave the site in a forward direction, particularly the NSW Fire Brigade vehicles where:

a) NSW Fire Brigade cannot park their vehicles within the road reserve due to the distance of hydrants from the building or restricted vehicular access to hydrants; or

b) otherwise required by the NSW Fire Brigade's Code of Practice – Building Construction – NSWFB Vehicle Requirements.

13) For developments where NSW Fire Brigade vehicle(s) is required to enter the site, the circulation path and access/egress provision is to comply with NSW Fire Brigade's Code of Practice – Building Construction – NSWFB Vehicle Requirements.

11.5 Sustainable Development

11.5.1 Reflectivity

A. Background

Reflective materials used on the exterior of building can result in undesirable glare for pedestrians and potentially hazardous glare for motorists. Reflective materials can also impose additional heat load on other buildings. The excessive use of highly reflective glass should be discouraged. Buildings with a glazed roof, façade or awning should be designed to minimise hazardous or uncomfortable glare arising from reflected sunlight.

B. Objectives

a) To restrict the reflection of sunlight from buildings to surrounding areas and buildings.

C. Controls

1) New buildings and facades should not result in glare that causes discomfort or threatens safety of pedestrians or drivers.
2) Visible light reflectivity from building materials used on the facades of new buildings should not exceed 20%.
3) Subject to the extent and nature of glazing and reflective materials used, a Reflectivity Report that analyses potential solar glare from the proposed development on pedestrians and motorists may be required.

11.5.2 Maximising Liveability and Longevity

A. Background

Developments should be designed and constructed beyond its initial/first use to ensure that building stock is durable and capable for adaptability in the future. This 'whole of building' approach should also consider how the building design, finishes and materials used in the construction phase affect the amenity and safety of future occupants of the building(s).

B. Objectives

a) To encourage the design of developments based on a 'whole of building' approach.

b) To reduce the occurrence of 'sick building' syndrome on occupants.

c) To ensure that community safety and crime prevention measures are incorporated in the design of the development, including the public domain.

C. Controls

1) Demonstrate how the passive and active environmental design features of the building design and proposed construction achieves ESD criteria and the 'whole of building' approach. Elements include, but not limited to:
   a) Adaptability of buildings and floor levels within buildings to accommodate a range of uses over time;
   b) Occupant comfort and amenity;
   c) Fulfilling the Ecospecifier's Assessment criteria; and

d) Incorporation of safety and crime prevention measures in the design of buildings and public domain as well as the siting of activities in the building.

   A report, prepared by a suitably qualified environmental design expert, may be required with the development application and application for Construction Certificate.

2) Development proposals may require referral to the NSW Police for crime prevention and safety considerations, in accordance with the community safety protocol.

11.5.3 Reduce Resource Consumption

A. Background

All materials have environmental and health consequences in extraction, manufacture, transport, storage and eventually, use in a development. Some materials have significant impacts for maintenance and disposal, and should be carefully considered as part of the material selection at the design and specification stages of a development.

B. Objectives

a) To encourage the selection and use of construction materials with low environmental impact over the lifecycle of the building.

b) To reduce the health problems associated with the solvent content of finishes and fittings.

c) To reduce the health problems associated with the high formaldehyde emission from composite wood products.

C. Controls

1) Materials with low embodied energy properties and/or materials that have been salvaged/ recycled are to be selected for the construction and fi tout of the development.

2) Avoid using high environmental/high impact materials, such as volatile organic compounds (VOC's) and hydrofluoro-carbons (HCFC's) as these materials can become volatile at room temperature contributing to poor indoor air quality and affecting the health of occupants.

11.6 Controls for Residential Development

A. Background

In addition to the controls in the Residential Development Section of this DCP, the State Environmental Planning Policy No.65 – Design Quality of Residential Flat Development (SEPP 65) and the accompanying Residential Flat Design Code also apply to residential development in the Penrith City Centre. This includes residential flat buildings, any residential flat component of a mixed use development, and serviced apartments that are strata titled. The Residential Flat Design Code includes provisions for:

a) Site Analysis;

b) Site configuration;

c) Site amenity;

d) Site access;

e) Building configuration;

f) Building amenity;

g) Building form; and

h) Building performance.

11.6.1 Housing Choice and Mix

A. Background

A choice of apartment types and mix of sizes in the City Centre caters for a variety of socio-economic groups. All residential development in the Penrith City Centre should also comply with the provisions outlined below.

B. Objectives:

a) To ensure that residential development provides a mix of dwelling types and sizes to cater for a range of household types.

b) To ensure that dwelling layout is sufficiently flexible for residents' changing needs over time.

c) To ensure a sufficient proportion of dwellings include accessible layouts and features to accommodate the changing requirements of residents.

d) To ensure the provision of housing that will, in its adaptable features, meet the access and mobility needs of any occupant.

C. Controls

1) Where residential units are proposed at ground level, a report must be provided with the development application demonstrating how future non-residential uses can be accommodated within the ground level design. The report must address:

   a) access requirements including access for persons with a disability;

   b) any upgrading works necessary for compliance with the Building Code of Australia; and

   c) appropriate floor to ceiling heights.

2) For smaller developments comprising up to six dwellings demonstrate how the proposal achieves a mix appropriate to the locality.

3) For developments containing more than six dwellings, a mix of living styles, sizes and layouts is to be achieved by providing:

   a) a mix of bed-sitter/studio, one bedroom, two bedroom and three bedroom apartments;

   b) bed-sitter apartments and one bedroom apartments must not be greater than 25% and not less than 10% of the total mix of apartments within each development; and

   c) two bedroom apartments are not to be more than 65% of the total mix of apartments within each development.

4) 10% of all dwellings or a minimum one dwelling, whichever is the greater, must be designed to be capable of adaptation for disabled or elderly residents. Dwellings must be

designed in accordance with the Australian Adaptable Housing Standard (AS 4299-1995), which includes “pre-adaptation” design details to ensure visitability is achieved.

5) Where possible, adaptable dwellings shall be located on the ground floor, for ease of access. Dwellings located above the ground level of a building may only be provided as adaptable dwellings where lift access is available within the building. The lift access must provide access from the basement to allow access for people with disabilities.

6) The development application must be accompanied by certification from an accredited Access Consultant confirming that the adaptable dwellings are capable of being modified, when required by the occupant, to comply with the Australian Adaptable Housing Standard (AS 4299-1995).

7) Car parking and garages allocated to adaptable dwellings must comply with the requirements of the relevant Australian Standard as accessible car spaces.

Residential Development in Woodriff Street

11.7 Controls for Special Areas

A. Background

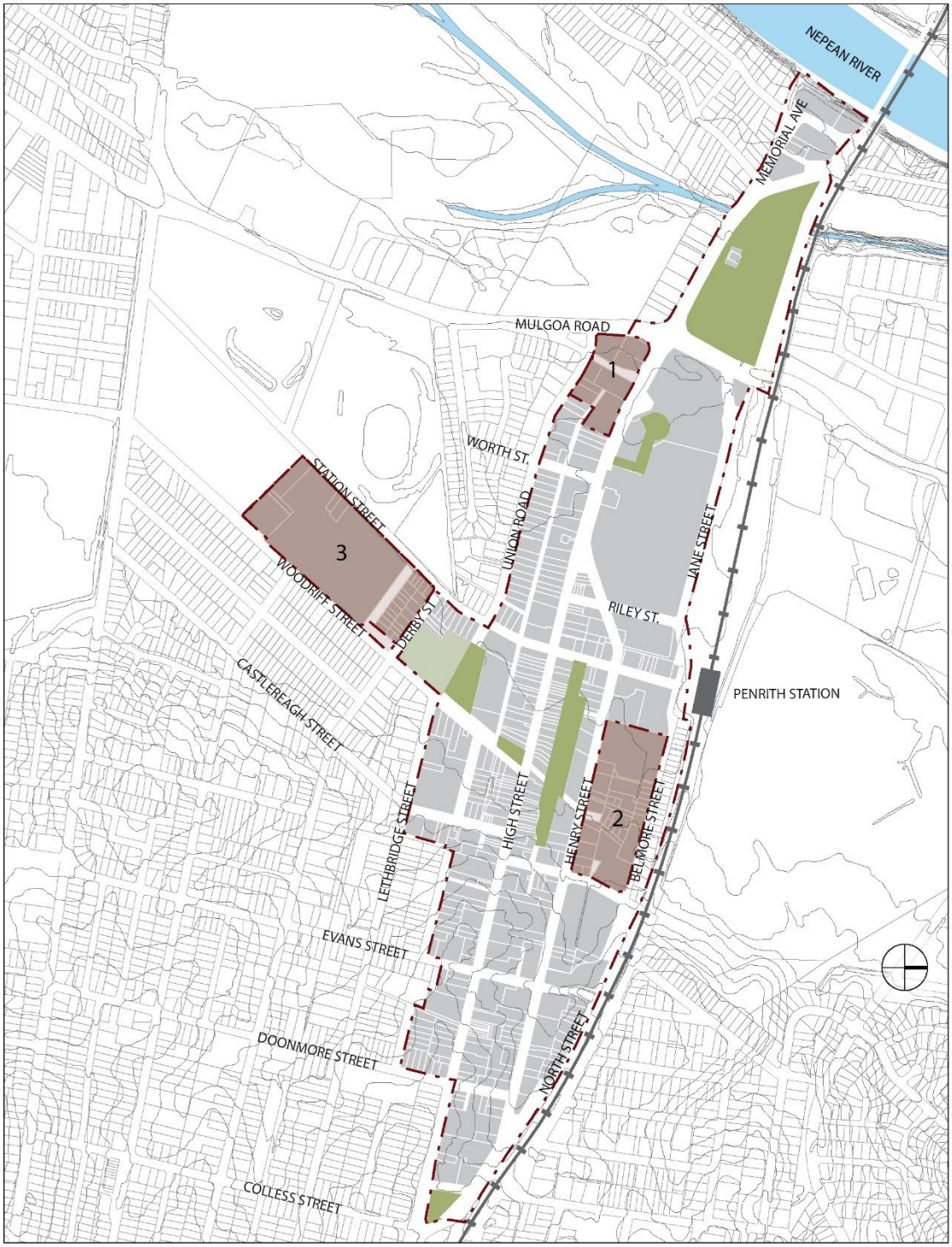
The following controls are additional to the general controls elsewhere in this DCP. Controls for special areas relate to specific sites or precincts in the City Centre.

11.7.1 Precinct Controls

A. Background

Due to their size and/or strategic importance in the City Centre, specific design principles and development outcomes have been identified for the sites identified in Figure E11.25. Redevelopment of these sites should implement design principles and outcomes expressed in the clauses and diagrams that follow.

Figure E11.25: Areas where Precinct controls apply



11.7.1.1 Precinct 1

Precinct 1 is the area generally bounded by High Street, Mulgoa Road and Union Road, as shown in Figure E11.26.

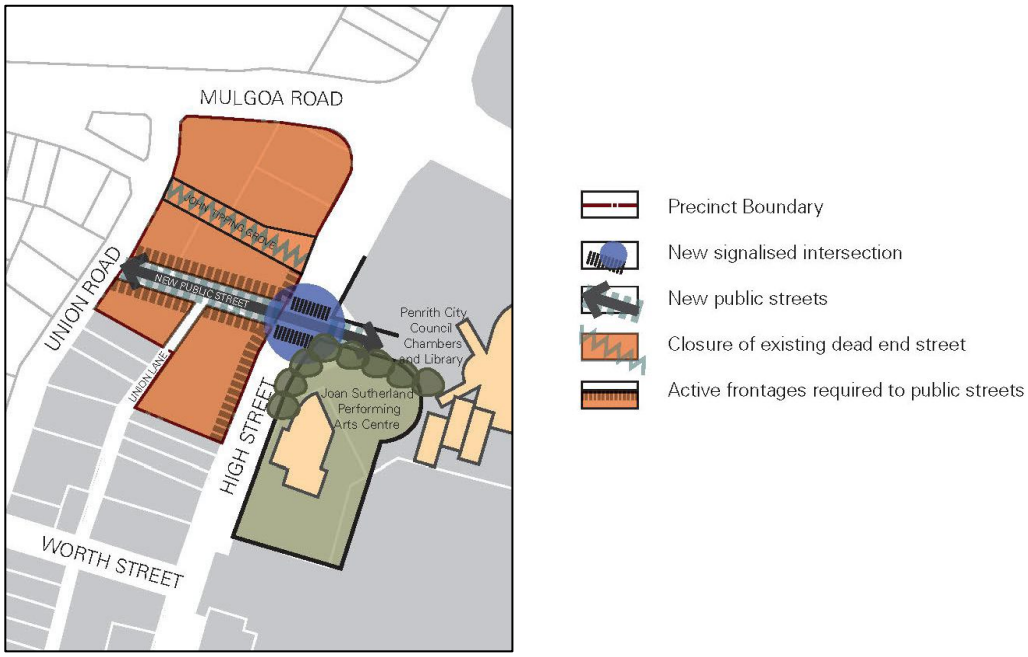
Development of the site must adhere to the following design principles:

1) Rationalise the existing pattern of land ownership.
2) Relocate redundant public street to provide north-south connectivity and active 'eat street' adjoining the Civic and Cultural Precinct.
3) Provide high quality and activity public domain interface with new and existing public streets.

Development of the site should provide the following outcomes:

1) Streets and pedestrian connections:
   a) Closure John Tipping Grove between High Street and Union Road.
   b) A new public street providing direct connections between High Street and Union Road.
   c) Replace existing roundabout on High Street with a signalised intersection at junction of High Street and the new street.
   d) Potential extension of Union Lane to the west to provide access and additional street frontage.
2) Land ownership:
   a) Consolidation of existing land ownership patterns to allow orderly development of land.
3) Public domain interface:
   a) Active frontage/land uses along the new street and High Street.
4) Built form:
   a) Building built to the street alignment of the new street.

Figure E11.26: Precinct 1 Design Principles



11.7.1.2 Precinct 2

Precinct 2 is the area bounded by Henry Street, Lawson Street and Belmore Street, as shown in Figure E11.27.

Development of the site must adhere to the following design principles:

1) Provide good east-west and north-south connectivity with new streets, new lanes and pedestrian connections.
2) Provide off-street parking that is screened from existing streets.
3) Provide high quality and active public domain interface with all other existing public streets.

Development of the site should provide the following outcomes:

1) Streets and pedestrian connections:

a) Provide at least two new public streets with direct connections between Belmore Street and Henry Street.

b) Provide a new lane with east-west connectivity through the site and access to the rear of properties on Henry Street.

2) Open space:

a) Design entry plazas as small public spaces to be adjacent to larger commercial buildings on Belmore Street.

3) Public domain interface:

a) Active frontages to Henry Street, Lawson Street, Belmore Street and the new north-south streets.

Figure E11.27: Precinct 2 Design Principles

11.7.1.3 Precinct 3

Precinct 3 is the area bounded by Station Street, Jamison Road, Derby Street and the "Panasonic", as shown in Figure E11.28.

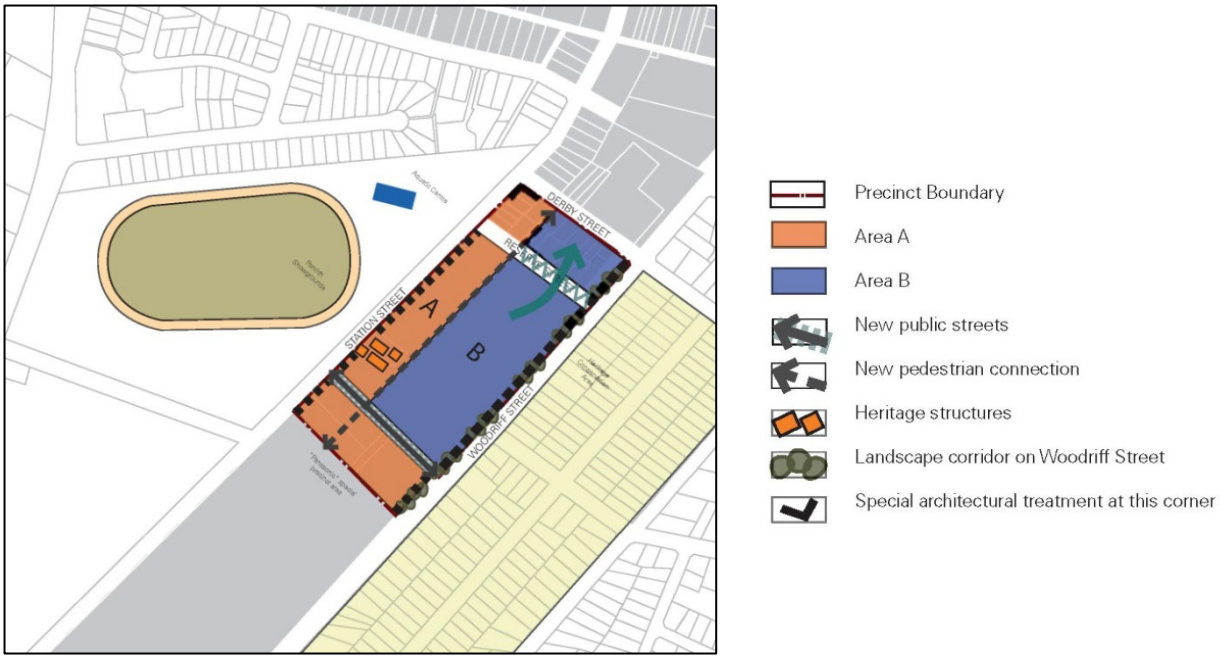
Development of the site must adhere to the following design principles:

1) Provide good east-west and north-south connectivity with new streets and pedestrian connections.
2) Provide opportunities for residential uses towards Station Street and immediately adjoining the "Panasonic" site, where there is greater potential for appropriate amenity and street address.
3) Consolidate retail uses on remainder of the site.
4) Investigate opportunities for expansion of the shopping centre to the north.
5) Consolidate loading and service access to retail development on Woodriff Street.
6) Provide high quality and active public domain interface with all other existing public streets.
7) Provide sensitive interface with heritage items in the precinct.

Development of the site should provide the following outcomes:

1) Streets and pedestrian connections:
   a) Provide a new public street with direct connections between Station and Woodriff Streets and a buffer between retail and residential development.
   b) Provide a new pedestrian connection, parallel Station Street, linking with the pedestrian connection proposed on “Panasonic” site as illustrated.
   c) Additional public streets, lanes and thoroughfare may be required to provide for residential address.
   d) The closure of Reserve Street may be considered, subject to more detailed traffic analysis, the provision of adequate new public streets between Station and Woodriff Streets, and to provision of retail development with a direct and active frontage to Derby Street.
2) Land uses:
   a) Locate retail, tourist accommodation and residential land uses in Area A.
   b) Locate retail and commercial land uses only in Area B (as indicated).
3) Public domain interface:
   a) Active frontage to Station Street, Reserve Street and Derby Street.
   b) Front building setbacks as indicated.
   c) Distinctive corners treatments at the locations indicated.
   d) A landscaped corridor of mature trees on the northern side of Woodriff Street.
4) Heritage:
   a) Integrate heritage listed buildings into the design of the new retail and residential development.

Figure E11.28: Precinct 3 Design Principles



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Part B – North Penrith

11.8.1 Preliminary

This Section was adapted from the North Penrith Design Guidelines which were published by Landcom in 2013, and supplements the North Penrith Concept Plan approval issued by the Minister for Planning and Infrastructure on 9 November 2011.

11.8.1.1 Purpose of this Section

The purpose of this Section is to facilitate the development of retail, commercial, business, residential and light industrial land uses within the North Penrith Precinct in accordance with the North Penrith Concept Plan approval.

11.8.1.2 Land to Which this Section Applies

This Section applies to the North Penrith Precinct, as shown at Figure E11.30. North Penrith comprises approximately 40.6 ha of land that has been identified for a mixed use, transit oriented development.

Figure E11.30 - Land to which this Section Applies

11.8.1.3 Relationship with other Planning Documents

This Section must be read in conjunction with any environmental planning instrument which applies to the land, as well as any Planning Agreement for the North Penrith Precinct.

This Section provides specific controls for the North Penrith Precinct in addition to the general controls elsewhere in this DCP. In the event of an inconsistency between this Section and the rest of the DCP, the requirements of this Section prevail.

11.8.2 Concept Plan

11.8.2.1 Vision

The development of North Penrith is to:

a) create well-designed spaces that engage and activate its community for living and working;
b) provide well-connected linkages, nodes and destinations that integrates with a significant water body;
c) create diverse, yet cohesive, housing products that allow capability to ever changing household needs and formations;
d) provide a business/employment centre that is complementary and an extension to the Penrith CBD.

Figure E11.31 - Illustrative Concept Plan

Figure E11.32: Artist Impression of the Canal

Figure E11.33: Artist Impression of the Oval

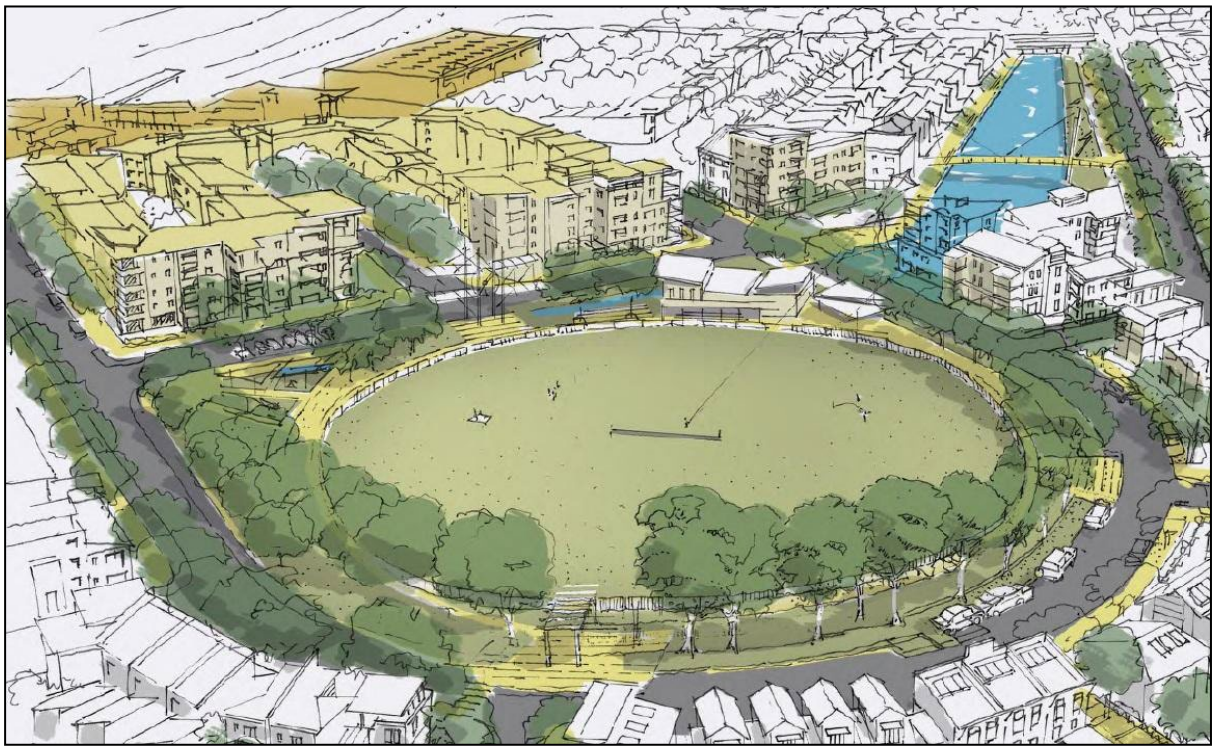
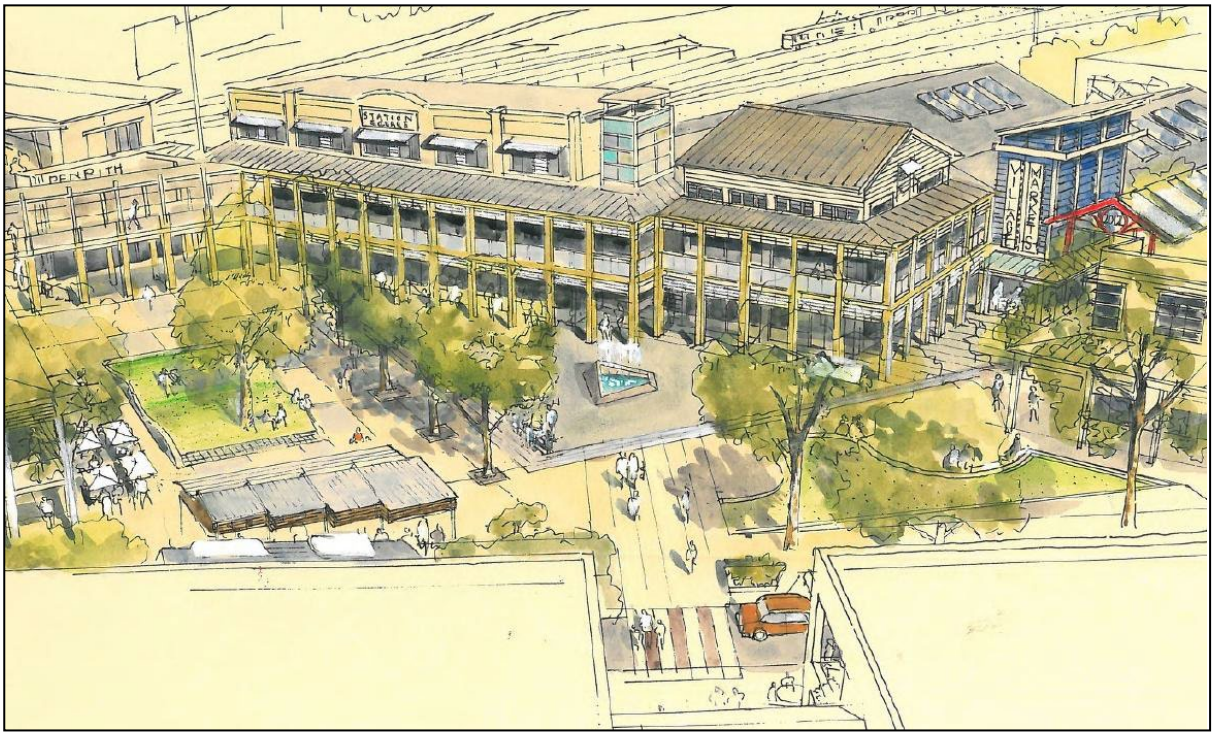


Figure E11.34: Artist Impression of the Village Square



11.8.2.2 Outcomes

The expected outcomes of the North Penrith Precinct are:

1) Transport and Accessibility

a) A residential density, urban structure and parking provision that supports the establishment of a model transit oriented development.

b) An integrated and legible network of open space and pathways to encourage pedestrian and cyclist activity, particularly to and from the train station.

2) Urban Design

a) A dense and interconnected mixture of land uses which include residential, recreational, employment, retail, office and business services.

b) Create a transit oriented, cohesive development incorporating retail, commercial, business, civic, community, recreation, residential and employment uses.

c) Create a safe and convenient pedestrian network formed by a closely spaced grid of streets interconnected with public open spaces.

3) Housing and Community

a) A vibrant urban community of around 900 to 1,000 dwellings.

b) Meet the growing and ageing population of Penrith through the provision of a diverse range of housing types and sizes.

c) Around 7ha of open space/canals including a new oval with outdoor recreational facilities, canal edge boardwalk and local parks.

4) Economic

a) Generate up to 770 direct jobs on the site and over 1,100 flow-on jobs.

b) Deliver a high level of self-containment in terms of employment generation and retail expenditure, reducing the trip generation of residents, workers and commuters visiting North Penrith.

c) Cater for the daily needs and services of the North Penrith community and commuters using Penrith Railway Station.

d) Provide opportunities for employment generating development within a close proximity to public transport services.

5) Environmental

a) Retention of identified key stands of existing trees.

b) Mitigation and management of existing flooding issues on the site.

6) Heritage

a) Enhance the heritage characteristics of Thornton Hall.

b) Respect the Coombewood curtilage.

c) Protection of environmental heritage by incorporation of the heritage features and vistas into the road and open space network.

11.8.3 Residential Development

11.8.3.1 Housing Density and Diversity

A. Objectives

1) To ensure that a minimum residential density is achieved in the precinct in recognition of its proximity to public transport and the Penrith City Centre.
2) To provide a diverse range of housing forms and densities.
3) To promote a range of dwellings types to meet the needs of a diverse range of age groups and family types.

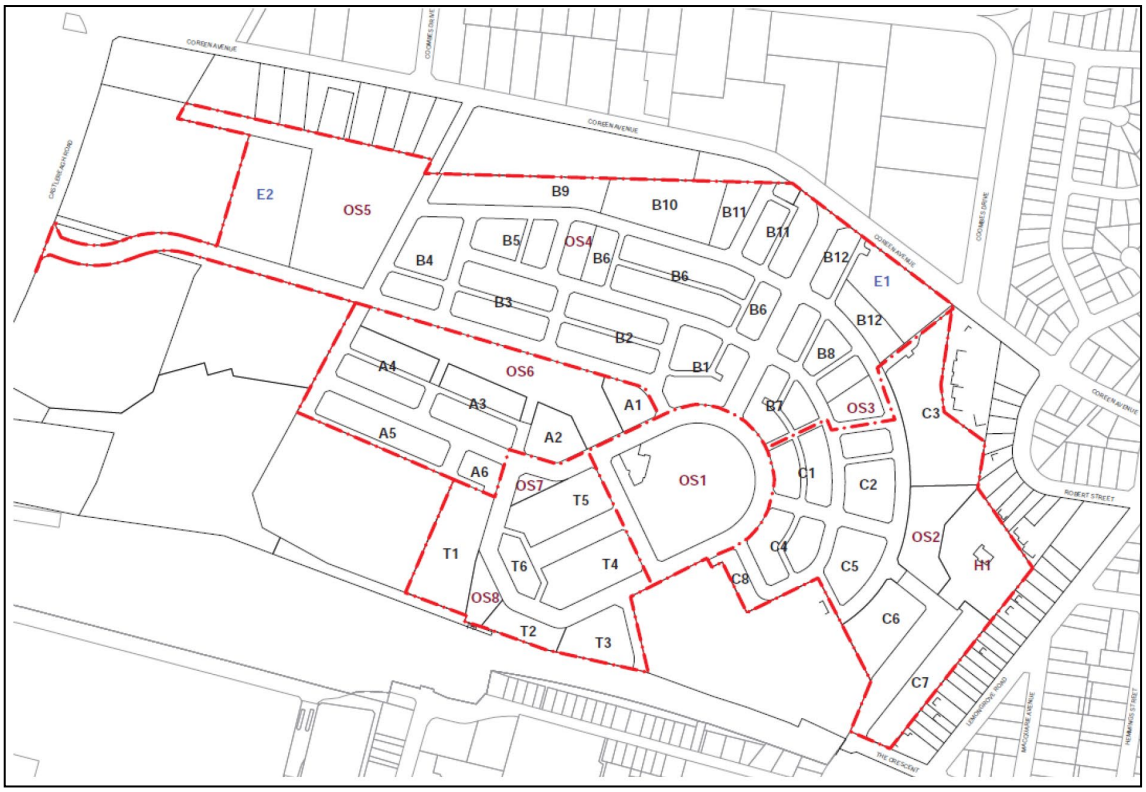
B. Controls

1) Between 900 and 1,000 dwellings are envisaged across the whole precinct. To ensure that a minimum of 900 dwellings is achieved as part of a subdivision application that creates more than 20 lots, the applicant is required to demonstrate that the sub-precinct dwelling target ranges shown in Figure E11.35 and Table E11.4 can be achieved.
2) Subject to agreement of Council and consultation with relevant landowners, dwelling yields may be 'traded' between sub-precincts as long as it meets overall targets and objectives of this DCP.

Table E11.4: Dwelling Target Ranges

Stage	Dwelling Target
Sub – Precinct A1 – A4	128 – 142
Sub – Precinct B1 – B10	181 – 313
Sub – Precinct C1 – C7	153 – 169

Figure E11.35: Minimum dwelling target plan



11.8.3.2 Subdivision

A. Objectives

a) To provide a range of densities, lot sizes and dwelling types to foster a diverse community and interesting streetscapes.

b) To ensure that all residential lots achieve a high level of amenity.

c) To ensure that development on smaller lots is undertaken in a coordinated manner.

B. Controls

1) All applications for Torrens title subdivision proposing residential allotments:

   a) on land identified at Figure E11.36, or

   b) with a site area of less than 235m^2 and with a lot width of less than 8m (as measured at the front facade line)

   are to be accompanied by plans for the proposed dwellings on those lots (i.e. an Integrated Housing Development Application). The minimum number of allotments within an 'integrated housing development' is generally to be 3, except where indicated on Figure E11.36.

   Note: For the purposes of determining the width of an allotment, the front facade line is defined as being 3m from the front, street boundary alignment.

2) For residential allotments with a width greater than or equal to 8m (measured at the front facade line), the subdivision application must include a Building Envelope Plan (see example illustrating guiding principles at Appendix A). The Building Envelope Plan is to:

a) demonstrate that an appropriate built form and residential amenity can be delivered on the allotment in compliance with the relevant provisions of this DCP,

b) nominate elements such as front and side building setbacks, the location of zero lot lines, the preferred locations of private open space and garages and specific fencing requirements,

c) nominate the minimum yield required of any 'super-lot' and / or for residual Integrated Housing Development Application sites.

These restrictions will be approved as part of the subdivision application and are to be complied with by any future application proposing a dwelling on that lot.

3) The location of the zero lot line is to be determined with regard to allotment orientation and the ability to achieve with solar access provisions within this DCP. Where a zero lot line is nominated on allotment on the Building Envelope Plan, the adjoining allotment is to include a 900mm easement for maintenance of the boundary wall (and any services along the side of the dwelling/garage) on the adjoining property. No overhanging eaves or the like will be permitted within the easement. The s88B instrument supporting the easement is to be worded so that Council is removed from any dispute resolution process between adjoining allotments.

4) For residential development within the R1 General Residential zone (except for residential flat buildings):

   a) the lot depth is generally to be between 25m and 30m, and

   b) the minimum lot width is 4.5m (for attached dwellings/semi-detached dwellings) and 8m for dwelling houses).

   Note: Variations to (4) are permitted where it is part of an 'Integrated Housing Development Application' and the applicant can demonstrate that a good level of residential amenity can be achieved to both the proposed dwellings and adjacent properties.

5) Residential allotments should be rectangular and be oriented to facilitate siting of dwellings and private open space to take advantage of winter solar access and summer sun deflection. The use of battle-axe lots is to be avoided where possible.

Figure E11.36 - Sites that are to be undertaken as Integrated Housing Development Applications

11.8.3.3 Building Envelopes

A. Objectives

a) To encourage the efficient use of land and a compact urban environment.

b) To create attractive and cohesive streetscapes.

c) To respect the curtilage of and view corridors associated with Thornton Hall.

d) To manage impacts of development on neighbouring properties in regard to privacy, and overshadowing.

e) To ensure building heights achieve built form outcomes that reinforce quality urban and building design.

B. Controls

1) The maximum number of storeys for residential development is shown at Figure E11.37.

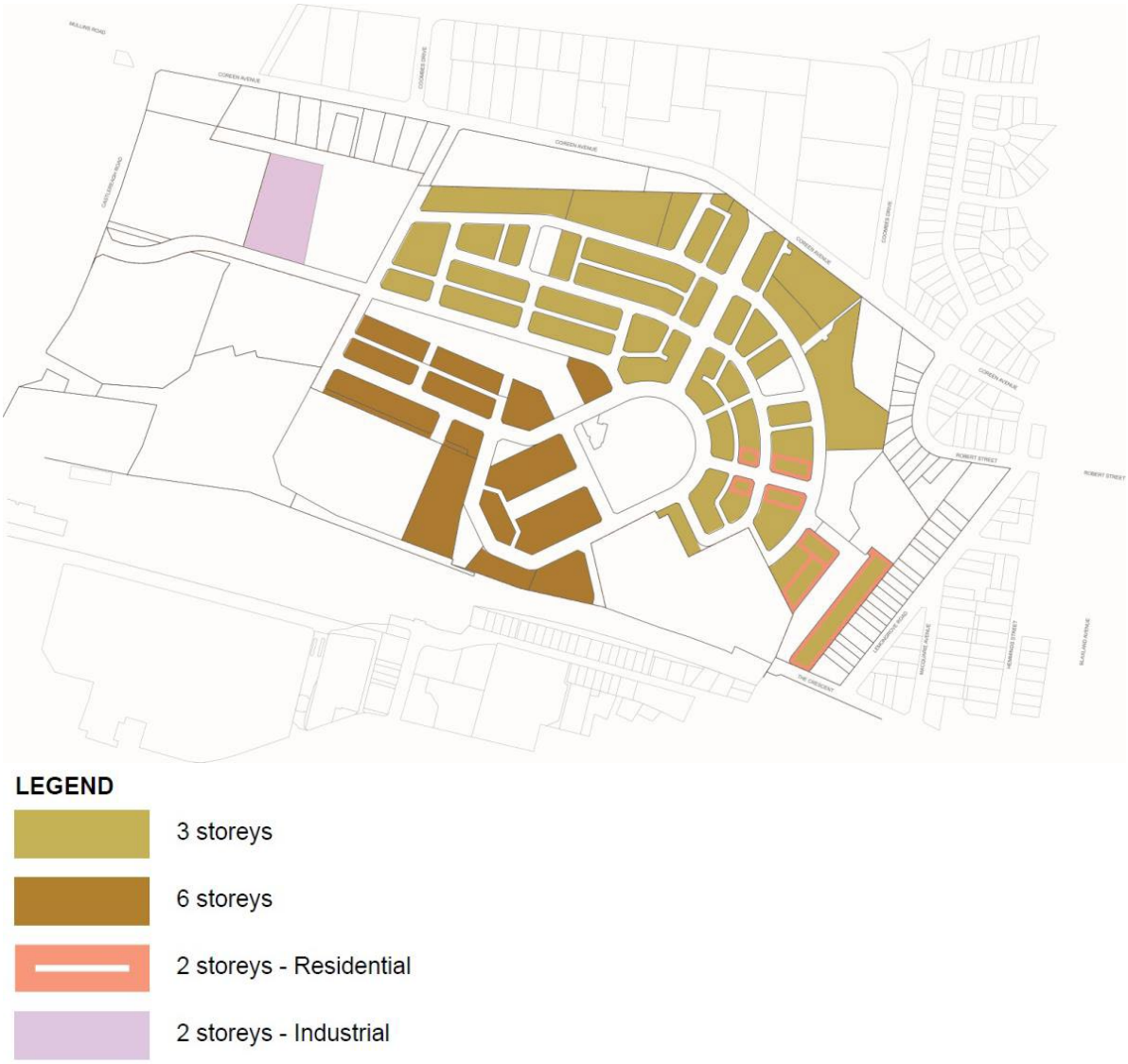
2) For all residential development (excluding residential flat buildings), the floor area of the third storey is to be no more than 60% of the second storey.

3) The location and siting of the third storey is to ensure adequate solar access and privacy for the lot and adjacent residential lots.

4) Development adjacent to a laneway (i.e. ancillary dwelling) is to be no more than 2 storeys.

5) A minimum floor to ceiling height of 2.7m is to be provided for all ground floor living spaces.

Figure 11.37 – Maximum building height plan (storeys)



6) The maximum depth of a dwelling (exclusive of roofs and privacy screens etc) is:
   a) 15m for the second storey (identified as L2 on Figures E11.38 and E11.39),
   b) 12m for any third storey component of a dwelling (identified as L3 on Figures E11.38 and E11.39).
7) The maximum depth of an ancillary dwelling (exclusive of roofs and privacy screens etc.) from the rear boundary is 8m.
8) Front setbacks for residential development within the R1 General Residential Zone (except for residential flat buildings) are (see Figures E11.38 and E11.39):
   a) between 3m and 4.5m (to the front facade line), except on the western side of H1 (Thornton Hall heritage carriageway) where the front setback from the boundary line is to accommodate tree retention and access driveway,

b) a minimum 5.5m (and a minimum 1m behind the front facade line) for the garage, and

c) 0m to the secondary street (for a corner allotment) except for the first 7m of allotment which to be setback at 2m to accommodate the articulation zone requirements at Section 11.8.3.4 Building Design and Articulation (see Figures E11.38 and E11.39).

9) The rear setback for the ground floor level of a dwelling is 0.9m. This does not apply to garages and ancillary dwellings adjacent to a rear lane which may be built to the rear boundary. A rear setback of 3m is required for all allotments that back onto the existing residential allotments fronting Lemongrove Road and for Block C3.

10) The minimum side and rear setback requirements for residential development within the R1 General Residential Zone (except for residential flat buildings) are to be consistent with Table E11.5 below. Projections permitted into side and rear setback areas include sun hoods, gutters, down pipes flues, light fittings and electricity or gas meters, rainwater tanks and hot water units and the like.

Table E11.5: Minimum side and rear setbacks

Dwelling Type	Minimum Side and Rear Setbacks
Ancillary Dwellings	0m on both sides 0m to rear lane
Multi-unit housing, attached dwellings	0m on both sides
Semi-detached dwellings	0m to one side 0.9m to one side
Dwelling houses (lots <8m wide)	0m on both sides
Dwelling houses (lots 8m wide and greater	0m to one side 0.9m to one side – except for where permitted by (11) below

11) Despite the requirements of Table E11.5, dwelling houses on allotments that back onto existing residential allotments fronting Lemongrove Road, shall achieve:

a) a minimum 4m setback at the ground level; and

b) a minimum 6m setback at the upper level.

12) Despite the requirements of Table E11.5, zero setbacks on both side boundaries for ancillary dwellings and dwelling houses are permitted where the following conditions apply:

a) the dwellings are designed in a coordinated manner so as to ensure compliance with the relevant controls within this DCP, in particular, the private open space, privacy and solar access provisions;

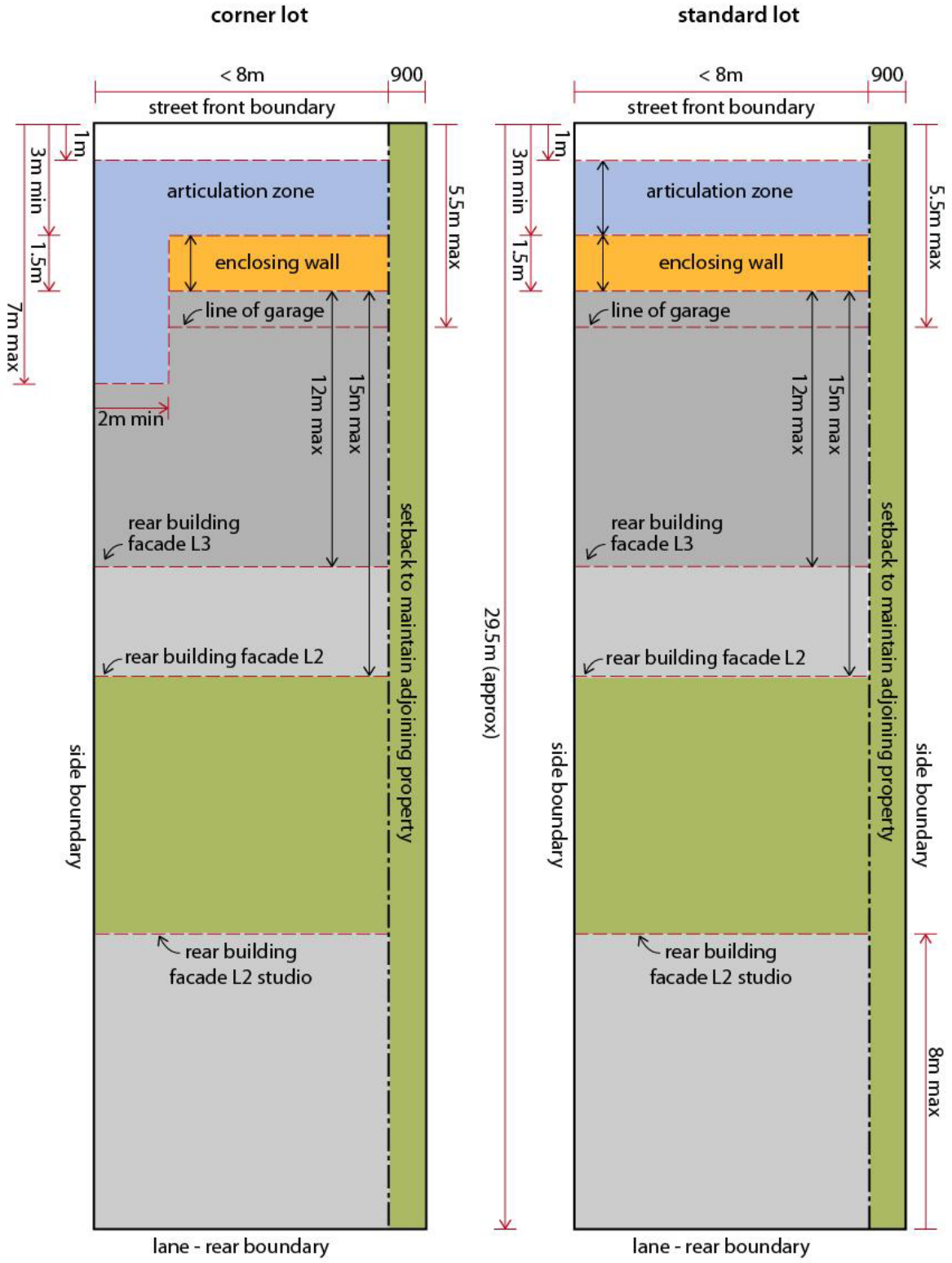
b) construction of adjoining dwellings is undertaken either concurrently or sequentially,

c) reciprocal maintenance easements are included on adjoining allotment title (as per control 11.8.3.2(3)), and

d) compliance with the relevant aspects of the Building Code of Australia.

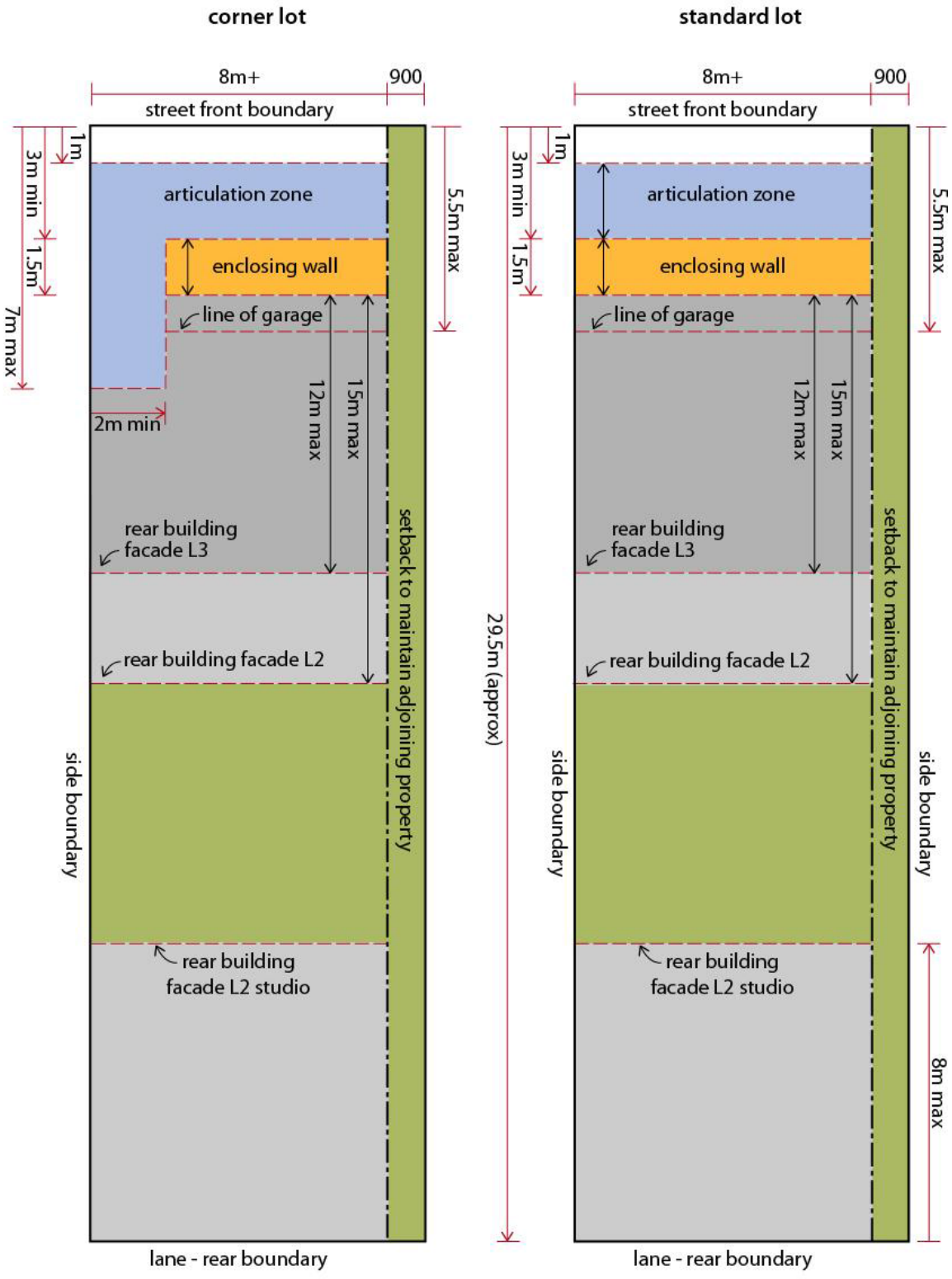
13) Where a studio loft above a garage straddles a property boundary, the central maintenance setback is not required. Appropriate arrangements for maintenance are to be included within the stratum lot title for the studio loft.

Figure 11.38 - Front and rear setback requirements, standard and corner lots (left), less than 8m wide



14) Variations to the building envelope controls contained within Section 11.8.3.3 are permitted where it is part of an 'Integrated Housing Development Application' and the applicant can demonstrate that a good level of residential amenity can be achieved to both the proposed dwellings and adjacent properties.

Figure E11.39 - Front and rear setback requirements, standard and corner lots (left), 8m+ wide



11.8.3.4 Building Design and Articulation

1) To ensure that buildings are designed to enhance the existing and future desired built form and character of the neighbourhood.
2) To create an attractive and cohesive streetscape through the provision of simple and articulated building and roof forms.

A. Controls

1) Particular attention is to be paid to the design quality of the front facade of a dwelling. An articulation zone is to be provided in front of the front facade line as illustrated at Figures E11.38 and E11.39. The articulation zone:
   a) is to be setback at least 1m from the front boundary,
   b) must extend at least 7m from the front boundary line along the secondary street frontage (for corner allotments), and
   c) may extend over 2 storeys (for 2 and 3 storey development).
2) The front articulation zone should include at least 1 primary element or 2 secondary elements from the list below. The minimum depth for a secondary element is 500mm.

Table E11.6: List of elements in the front articulation zone

Primary Elements	Secondary Elements
Verandah/Porch	Entry feature or porticos
Balcony (including upper level balcony over garage door)	Awnings or other features over windows
Pergola	Eaves and sun shading
	Window box treatment
	Recessed or projecting architectural elements
	Bay windows

3) For corner allotments the articulation zone is to be a minimum depth of 2m from the primary and secondary frontages and may include either primary and/or secondary elements as listed above.
4) For allotments located on the southern, eastern and western side of a street, the articulation zone may be designed to incorporate private open space, including principal private open space.
5) Consideration should be given to expressing the third storey of a dwelling in a lighter weight manner than the structure below, through the use of material and colours and the like.
6) Eaves are to provide sun shading, to protect windows and doors and provide aesthetic interest. Subject to 11.8.3.2(3), eaves should have a minimum of 600mm overhang (measured to the fascia board). Council will consider alternative solutions to eaves so

long as they provide appropriate sun shading to windows and display a high level of architectural merit.

7) Building colours, materials and finishes are to be consistent the Residential Design Palette included at Appendix B.

8) Multi-coloured roof tiles are not permitted.

11.8.3.5 Private Open Space and Landscaping

A. Objectives

1) To provide a high level of residential amenity with opportunities for outdoor recreation and relaxation within the property.

2) To enhance the spatial quality, outlook, and usability of private open space.

3) To facilitate solar access to the living areas and private open spaces.

B. Controls

1) Each dwelling is required to be provided with an area of Private Open Space (POS) and Principal Private Open Space (PPOS) consistent with Table E11.7 below.

Table E11.7: Private Open Space Requirements

	Studio Loft	**Multi-Unit Housing, attached and semi-attached dwellings and dwelling houses**		
Lot Width*		<6m	6 – 10m	10m +
Private Open Space	**Studio and 1 bedroom:** 4m^2 and minimum dimension 1m **2+ bedroom:** 8m^2 and minimum dimension 1m	Minimum 20% of the site area and minimum dimension of 2m	Minimum 20% of the site area and minimum dimension of 2m	Minimum 20% of the site area and minimum dimension of 2m
Principal Private Open Space	N/A	16m^2 and minimum dimension of 3m	18m^2 and minimum dimension of 3m	24m^2 and minimum dimension of 4m

* *measured at the Front Facade Line*

2) The location of PPOS is to be determined having regard to allotment orientation, dwelling layout, adjoining dwellings, landscape features, and the preferred locations of PPOS illustrated at Figure E11.40. Where an allotment is located on the southern, eastern and western side of a street, the PPOS must not be provided exclusively within the front of the allotment between the dwelling and the primary street frontage, but may take the form of a garden court, verandah or balcony within the side and/or rear setback. PPOS located in the front of a dwelling must be useable and adjacent to a living space.

3) Where the PPOS is a balcony or roof top area, it must be provided with a fence or landscaped screen at least 1m in height, and be directly accessible from a habitable room.

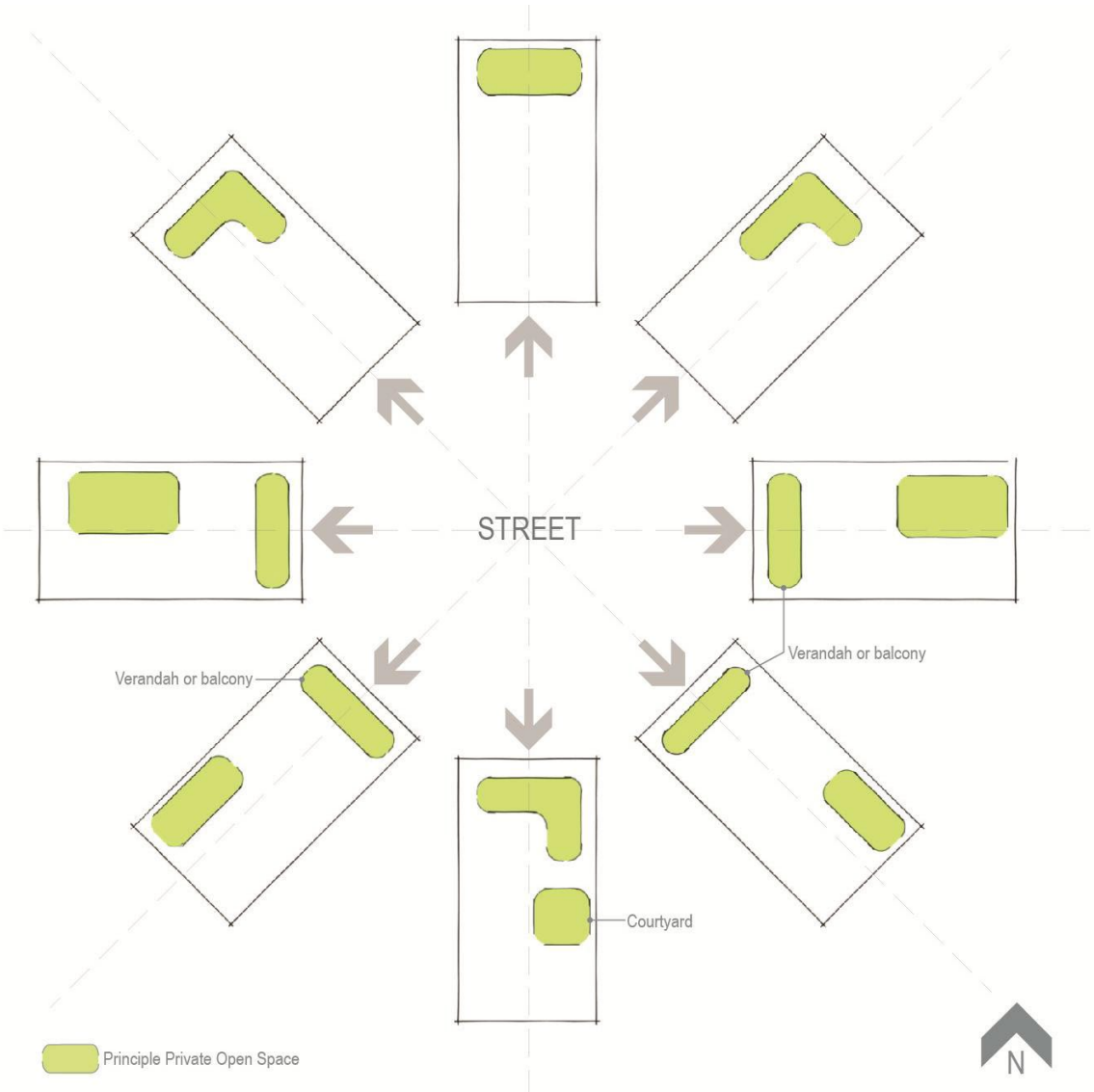
4) The POS of the studio loft is to be located and designed so as to minimise visual and acoustic privacy impacts upon the principal dwelling and its associated POS.

5) The majority of dwellings within any given Development Block should receive at least 2 hours of sunlight between 9am and 3pm at the winter solstice (21 June) to 50% of the required PPOS of both the proposed development and the adjoining properties.

6) Despite 11.8.3.5 (5) above, where an integrated housing development application is proposed, a minimum 70% of the dwellings proposed by that application should receive at least 2 hours of sunlight between 9am and 3pm at the winter solstice (21 June).

7) The first 1m of a site, measured from the front boundary, (excluding driveways, footpaths etc.) is to be soft landscaped. Landscaping within the front yard is to comprise species from the Residential Design Palette included at Appendix B.

Figure E11.40- Private Open space location principles



11.8.3.6 Fencing

A. Objectives

1) To enhance the quality of the streetscape through consistent and co-ordinated front fencing.
2) To define the public and private domain and provide a sense of enclosure to the front yard.
3) To ensure boundary fencing is of a high quality and does not detract from the streetscape.

B. Controls

1) Front fencing is required for all residential allotments. Front fencing is to:
   a) be between 700mm and 1.2m high (including feature elements),
   b) be generally open in design and may comprise a solid component that is no higher than 700mm,
   c) extend along the side boundaries to the front facade line (or at least 1m behind the front facade line for dwelling houses),
   d) extend along the secondary street frontage to match the length of the articulation zone, and
   e) are not to impede safe sight lines for pedestrians and / or traffic.
2) The design, materials and colour of front fencing is to be consistent with the Residential Design Palette included at Appendix B.
3) Where a dwelling is located adjacent to open space, boundary fencing is to be of a high quality material and finish. Articulated post and paling fences (with exposed posts) are preferred in these locations. The design of the fencing is to permit casual surveillance of the open space and provide the dwelling with outlook towards the open space.
4) Timber paling or lapped / capped fencing only can be used internally between allotments. No sheet metal fencing is permitted within the project.

11.8.3.7 Garages, Site Access and Parking

A. Objectives

a) To provide a level of residential parking appropriate for the precinct's location, in close proximity to Penrith Railway Station.
b) To reduce the visual impact of garages, carports and parking areas on the streetscape and improve dwelling presentation.
c) To ensure the design of garages do not dominate the frontage of the dwelling.

B. Controls

1) The parking rates provided in this Section override the parking rates outlined in the Transport, Access and Parking Section of this DCP.
2) The maximum parking rates for multi-unit housing, attached and semi-detached dwellings and dwelling houses are:
   a) 1-2 bedroom: 1 space per dwelling, and

b) 3+ bedroom: 2 spaces per dwelling.

3) All visitor parking is to be provided on-street.

4) The garage arrangement is to be consistent with Figures E11.41 and E11.42 in that:

   a) vehicle access for lots with rear lane access should only be via the rear lane,

   b) for lots less than 8m wide, all garaging is to be accessed from the rear lane (if rear loaded). If there is no rear laneway, a single / tandem garage is permitted at the front,

   c) for lots between 8m and 12m wide, garaging may comprise a single / tandem front loaded garage or a rear loaded, double / tandem garage, and

   d) for lots greater than 12m wide, garaging may either comprise a double front loaded garage or a rear loaded, double / tandem garage.

   Note: For the purposes of determining the width of an allotment, the front facade line is defined as being 3m from the front, street boundary alignment.

5) The maximum width of a garage door is 3.2m and 6m for single/tandem and double garages respectively. Where a studio loft is included, its own garage or carport requires access from the rear lane.

6) Carports and garages are to be treated as an important element of the dwelling facade and interface with the public domain. They are to be integrated with and complementary, in terms of design and material, to the dwelling design. Garage doors are to be visually recessive through use of materials, colours, overhangs and the like.

7) The location of driveways is to be determined with regard to dwelling design and orientation, street gully pits and tree bays and is to maximise the availability of on-street parking.

8) All parking and driveway access is to comply with AS 2890.1 – 2004.

Figure E11.41 - Garage location principles (<8m and 8-12m wide lots)

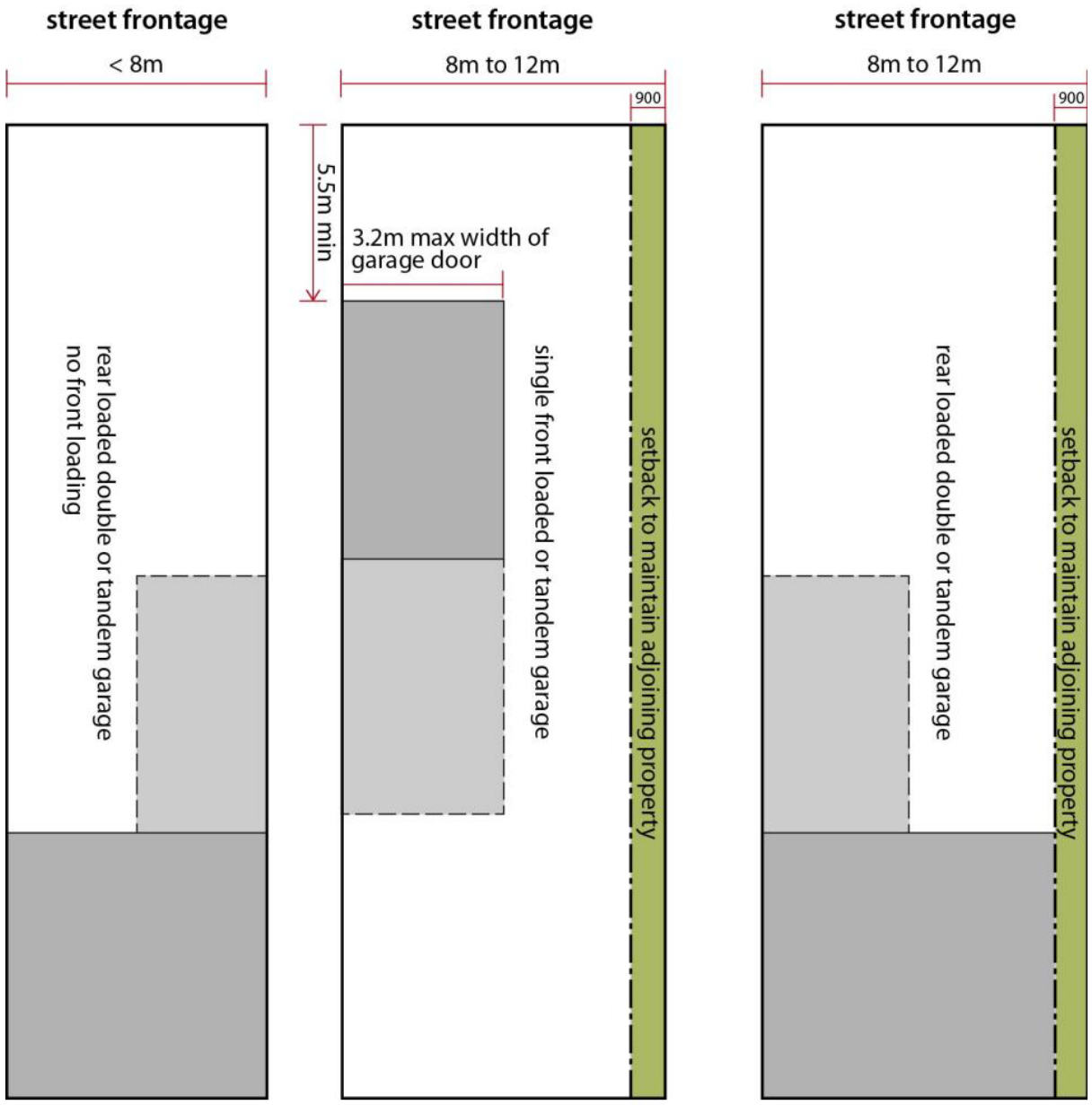
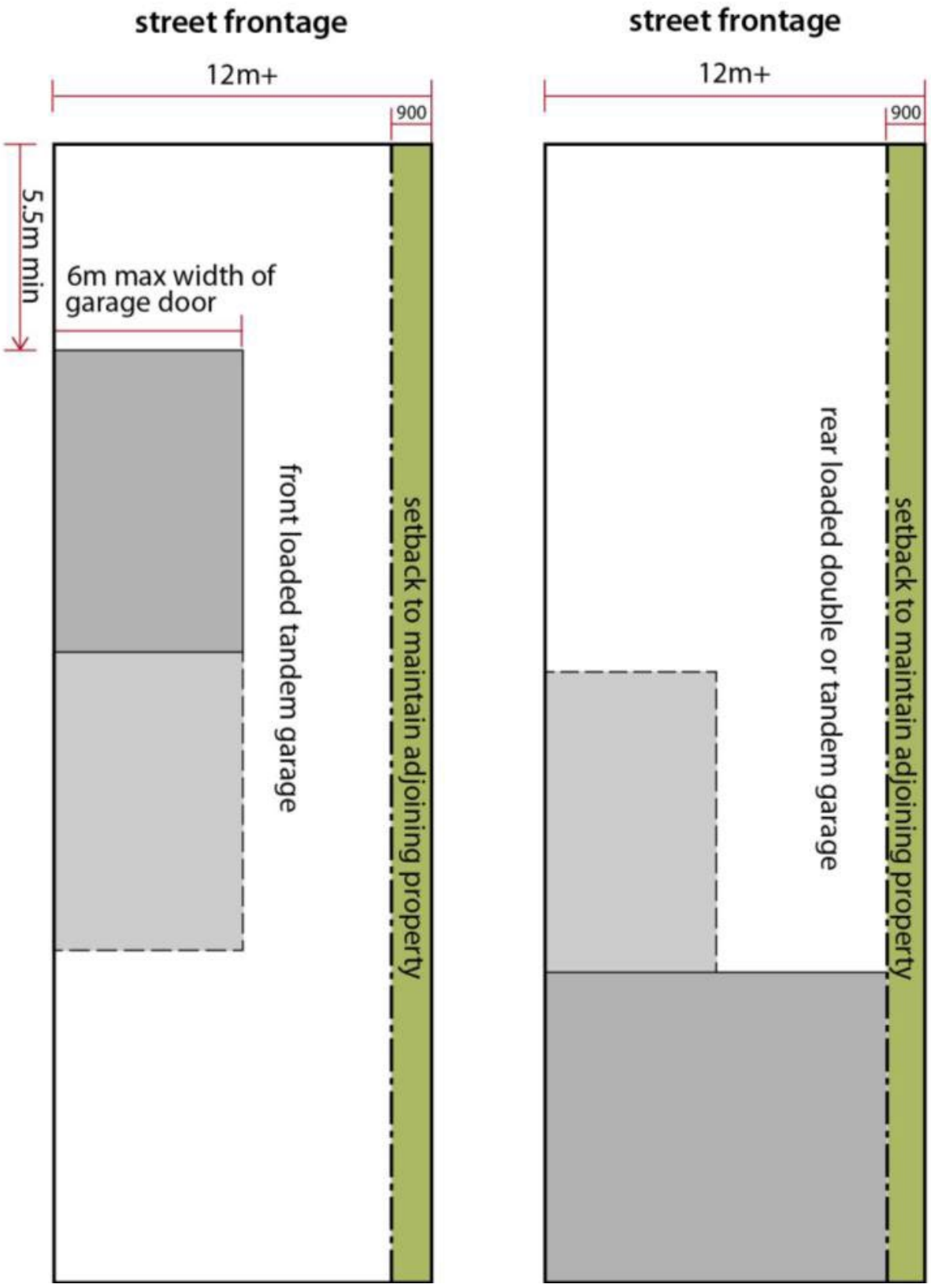


Figure E11.42 - Garage location principles (12m+ wide lots)



11.8.3.8 Visual and Acoustic Amenity

A. Objectives

a) To ensure buildings are designed to achieve the highest possible levels of visual and acoustic privacy.

b) To protect visual privacy by minimising direct overlooking of habitable rooms and private open space.

c) To contain noise within dwellings and minimise the intrusion of noise from outdoor areas.

B. Controls

1) Direct overlooking of main habitable areas and private open spaces of adjacent dwellings should be minimised through building layout, window and balcony location and design, and the use of screening devices, including landscaping.

2) Habitable room windows with a direct sightline to the habitable room windows in an adjacent dwelling within 3m are to:

   a) be obscured by fencing, screens or appropriate landscaping, or

   b) be offset from the edge of one window to the edge of the other by a distance sufficient to limit views into the adjacent window, or

   c) have sill height of 1.5m above floor level, or

   d) have fixed opaque glazing in any part of the window below 1.5m above floor level.

3) A screening device is to have a maximum of 25% permeability to be considered effective.

4) The design of attached dwellings must minimise the opportunity for sound transmission through the building structure, with particular attention given to protecting bedrooms and living areas.

5) In attached dwellings, bedrooms of one dwelling are not to share walls with living spaces or garages of adjoining dwellings, unless it is demonstrated that the shared walls and floors meet the noise transmission and insulation requirements of the Building Code of Australia.

6) Residential development in close proximity to the railway corridor, Coreen Avenue, the east and west sides of the Boulevard, the upgraded commuter car park and those flanking the entry road from Coreen Avenue to the commuter car park, are to include design measures so as to achieve the following internal noise levels at these residences:

   a) a target internal noise level of 35 dB(A) LAeq is to apply in the sleeping areas, and

   b) a target internal noise level of 40 dB(A) LAeq in other living areas.

11.8.3.9 Specific Provisions - Key Sites

A. Objectives

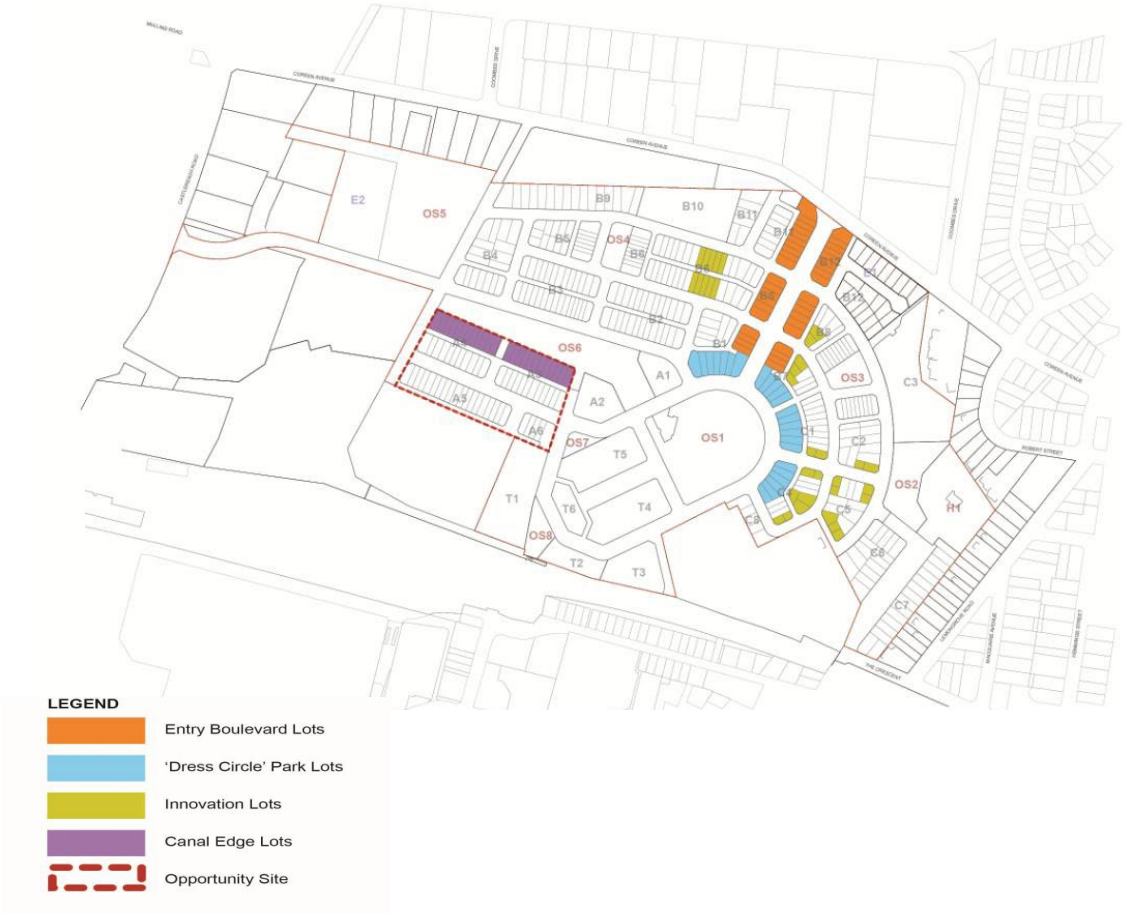
a) To provide additional guidance with respect to the urban design outcomes sought for key sites within the precinct.

b) To promote development that results in a high quality public and private domain interface, in particular, the streetscape appearance of development.

B. Controls

1) Development on the key sites nominated at Figure E11.43 is to achieve the desired outcomes specified below.

Figure E11.43: Specific Provisions for key sites



Entry Boulevard Lots

1) A minimum building height of 2 storeys is required for all lots. A third storey is preferred on corner lots.
2) Dwelling facades are to display high quality materials and finishes consistent with the Residential Design Palette (Appendix B).
3) Despite Section 11.8.3.7 Garages, Site Access and Parking, all garaging is to be from the rear lane.
4) Front fencing is to generally consistent and assist in unifying the streetscape.

'Dress Circle' Park Lots

1) A building height of 3 storeys is encouraged for all dwellings (except for ancillary dwellings).
2) A high level of consistency of built form and massing is required across the dwelling frontages to achieve a harmonious streetscape and a strong urban edge to the oval.

3) Buildings are to take advantage of the location overlooking the oval with front balconies and terraces.

4) Dwellings are to display high quality materials and finishes consistent with the Residential Design Palette (Appendix B).

5) Identical facades are to be limited to no more than 4 dwellings in a row.

6) Despite Section 11.8.3.7 Garages, Site Access and Parking, all garaging is to be from the rear lane.

Innovation Lots

1) Housing is to demonstrate how compact, affordable dwellings can achieve a high level of internal amenity.

2) Dwellings are to be single or double storey and may include 0m side and rear setbacks.

Canal Edge Lots

1) A minimum building height of 3 storeys is encouraged for all residential dwellings (except for ancillary dwellings).

2) Building form and massing is to create a strong consistent edge to the canal.

3) Entrances stairs to dwellings off the canal walk are to be paired together.

4) The ground floor level and front yard / private open space of the dwellings is to be raised above the level of the pedestrian boardwalk to provide privacy for the dwellings.

5) Detailing of front fencing and landscaping (fronting the canal) is to balance privacy and surveillance issues. The front fencing treatment is to be of high quality and consistent along the full length of the canal frontage.

6) The dwelling facades are to display high quality materials and finishes consistent with the Residential Design Palette (Appendix B).

7) Buildings are to take advantage of the location overlooking the canal and include high levels of glazing and front balconies and terraces.

8) Despite Section 11.8.3.7 Garages, Site Access and Parking, all garaging is to be from the rear lane.

Opportunity Site

1) Buildings envelopes are to provide a legible and permeable development pattern.

2) The Opportunity Site may accommodate a variety of land uses, in addition to residential, such as commercial office, institution, education uses or the like, adjacent to the Village Centre, which is .

3) Non-residential uses fronting the canal should address the canal with semi-active uses.

4) The road and block pattern within the site may vary in response to alternative uses.

5) Building heights (of up to 6 storeys) are permitted for uses on the Opportunity Site.

6) A range of retail, business, and commercial premises should be provided at the ground level to activate the street frontages within the Opportunity Site.

7) Development within the Opportunity Site should promote pedestrian activity and cycling and provide facilities for pedestrians and cyclists.

11.8.3.10 Specific Provisions - Residential Flat Buildings

A. Objectives

a) To establish high quality residential flat developments that have a good level of amenity.

b) To provide additional guidance with respect to the urban design outcomes for residential flat buildings in the precinct.

B. Controls

1) Residential flat development is to be generally consistent with the guidelines set out within the NSW Residential Flat Design Code and the development controls in the table below. If there is any inconsistency, the development controls below prevail.

2) In addition, the parking rates provided in Table E11.8 override the parking rates outlined in the Transport, Access and Parking Section of this DCP.

Table E11.8: Development Controls for Residential Flat Buildings

Element	Control
Minimum Lot Size	650m^2
Maximum Building Height	Maximum 6 storeys, except for Block C3 which is 3 storeys
Maximum car parking rates	**Studio:** 0.5 spaces per dwelling **1 – 2 bedroom:** 1 space per dwelling **3+ bedrooms:** 2 spaces per dwelling Visitor parking on street

3) Development on the residential flat development sites nominated at Figure E11.44 is to achieve the desired outcomes specified below.

Note: Residential flat buildings may occur on sites other than those nominated at Figure E11.44.

Figure E11.44 – Sites nominated for key residential flat development

Blocks A1 – A6

1) Front buildings onto streets with active uses where possible.
2) A range of retail, business, and commercial premises should be provided at the ground level to activate the street frontages within the Opportunity Site particularly.
3) Development is to include or facilitate public pedestrian/cycle connections. Public access and connections to public access is to be provided at development application stage. A staging plan showing how the proposed development will connect to the public access should be provided with each development application.
4) The ground floor level and front yard / private open space of the dwellings is to be raised above the level of the canal / street to provide privacy for the dwellings.
5) Buildings are to take advantage of the location overlooking the canal and oval with front balconies and terraces.
6) Parking should be screened from the street and canal interfaces. Underground parking is preferred.
7) Block A2 should include a ground floor cafe/neighbourhood shop adjacent to the oval.
8) Streets and lanes are to:
    a) be clear and direct throughways for pedestrians with paving finishes, lighting etc. that are appropriate for a pedestrian route.
    b) provide public access at all times, and
    c) have signage indicating public accessibility.

Blocks T3 – T5

1) Residential uses at ground floor should be designed as 'live/ work' spaces.
2) The residential component is to be consistent with relevant controls in Section 11.8.4 The Village Centre.

Block C3

1) Existing highlighted trees identified at Figure E11.45 are to be retained.
2) No excavation or disturbance of area around the trees identified in Figure E11.45.
3) The site is to be retained as whole and not re-subdivided (except for strata or community title). The trees are to be retained in common property.
4) Boundary fencing with Open Space (OS2) is to be transparent of high quality materials.

Figure E11.45: Block C3 tree retention

11.8.3.11 Specific Provisions - Ancillary Dwellings

A. Objectives

a) To encourage a diversity of affordable housing product.

b) To provide housing and accommodation options for a range of family types and age groups.

c) To promote innovative housing solutions compatible with the surrounding residential environment.

d) To provide passive surveillance of rear lanes and shared driveways.

e) To encourage the use of studios over garages to provide surveillance, work from home or residential accommodation opportunities.

B. Controls

1) Subdivision applications that involve the creation of a laneway are to nominate the preferred location of an ancillary dwelling so as to comply with the generally controls with the indicative controls provided at Appendix A and achieve an acceptable degree of passive surveillance within the laneway. The preferred locations for ancillary dwellings are shown at Figure E11.46.

2) Ancillary dwelling development is to be consistent with the controls in the table below.

3) The parking rates provided in this Section override the parking rates outlined in the Transport, Access and Parking Section of this DCP.

Table E11.9: Controls for ancillary dwellings

Element	Control
Setbacks	0m to sides and laneway
Maximum building height	2 storeys (i.e. 1 floor above garage)
Private Open Space (required for studio lofts only)	**Studio and 1 bedroom:** 4m^2, minimum dimension 1m **2 or more bedroom:** 8m^2, minimum dimension 1m
Maximum car parking	**Secondary Dwellings:** 0 spaces **Studio lofts:** 1 space

4) The design and layout of studio lofts is to minimise overlooking and overshadowing of the private space of the principal dwelling and any adjacent dwellings.

5) Strata title subdivision of a studio loft into a separate allotment will be permissible only where the following are provided:

   a) appropriate private open space,

   b) separate pedestrian access,

   c) one on-site car parking space,

   d) separate services for mail delivery and waste collection, and an on-site garbage storage area which is not visible from public street,

   e) separate connections and metering for utilities, and

   f) compliance with the Building Code of Australia.

Figure E11.46 - Preferred location of ancillary dwellings

11.8.4 The Village Centre

11.8.4.1 Built Form Controls

For the purposes of this Part, the Village Centre is all land that is zoned B4 Mixed Use.

A. Objectives

a) To encourage a vibrant and active mixed use village centre and cater for the needs of the North Penrith residents.

b) To create an urban village environment that is complementary to its location near the Penrith City Centre and the Penrith Railway Station.

c) To provide the opportunity to accommodate a large format commercial and / or education use as part of the Village Centre.

d) To provide consistent streetscapes through control of the built form visible from the public domain.

e) To ensure developments are safe and secure for pedestrians and contribute to the safety of the public domain.

f) To provide shelter from sun, wind and rain for public streets where most pedestrian activity occurs.

g) To ensure buildings and places are accessible to people with a disability.

h) To ensure that all signage and advertising achieves a very high level of design quality in terms of graphic design, its relationship to the architectural design of buildings and the character of streetscapes.

i) To ensure buildings achieve a high level of environmental sustainability.

B. Controls

1) The location of preferred land uses within the Village Centre is to be generally consistent with the Figure E11.47. The nominated 'Opportunity Site' may be developed for commercial, educational uses and the like should the demand arise.

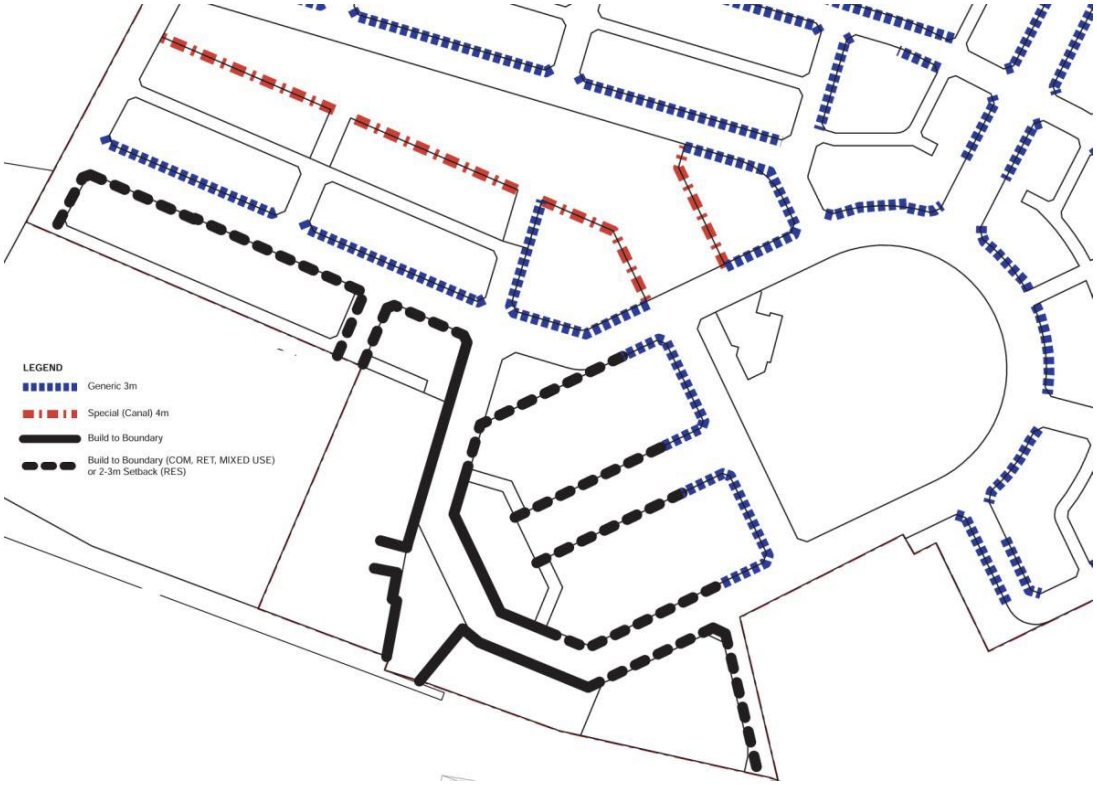
2) Building heights with the Village Centre are to be a minimum of 2 storeys, excluding the supermarket, and a maximum of 6 storeys.

3) The ground floor of all mixed-use buildings is to have a minimum floor to ceiling height of 3.6m in order to provide for flexibility of future use. Above ground level, minimum floor to ceiling heights are 3.3m for commercial office, 3.6m for active public uses, such as retail and restaurants, and 2.7m for residential.

4) Building setbacks / build-to lines within the Village Centre are to be consistent with Figure E11.48. Buildings are generally to be built to the street/square alignment. No upper level setbacks are required.

Figure E11.47 - Village Centre location of preferred land uses

Figure E11.48 - Village Centre build to lines



5) Building frontage types within the Village Centre are to be generally consistent with Figures E11.49 and E11.50 and Table E11.10 below.

Table E11.10: Building frontage characteristics

Frontage Type	Characteristics
Village Square colonnade	• Continuous and consistent frontage treatment around the Village Square required with linkage to railway station entrance. • May be in the form of a colonnade, posted verandah or similar structure. • Minimum height of 8m to the top of the colonnade. • Must extend over 2 storeys with a minimum clear depth of 3m and height of 3.6m (at ground level).
Awnings	• Continuous and intermittent awnings required as per Figure E11.50. • To be solid element (not glazed), at an angle of 900 to the wall (i.e. not angled upwards) • May be cantilevered or suspended

Frontage Type	Characteristics

	• Dimensions:
	  ▪ Min. 3m deep (to allow street trees etc.);
	  ▪ Min. soffit height of 3.2m and max of 4m;
	  ▪ Low profile, with slim vertical fascias or eaves (generally not to exceed 300m).
	• To be designed to match building facades and be complementary to those of adjoining buildings
	• Awnings to wrap around corners where a building is sited on a street corner
	• Vertical canvas drop blinds may be used along the outer edge of awnings.
	• Provide under awning or wall mounted lighting to facilitate night use and to improve public safety
	• One under-awning sign may be attached to the awning, at minimum intervals of 6m of the awning frontage
	• Temporary/pull down awnings permitted on intermittent awnings frontage.

Shelter to car park	• To provide continuous weather shelter between Village Square and the car park. • May be cantilevered or suspended with a min height of 3.2m. • Is to be well lit and publicly accessible at all times.

Figure E11.49 - Village Centre frontage types

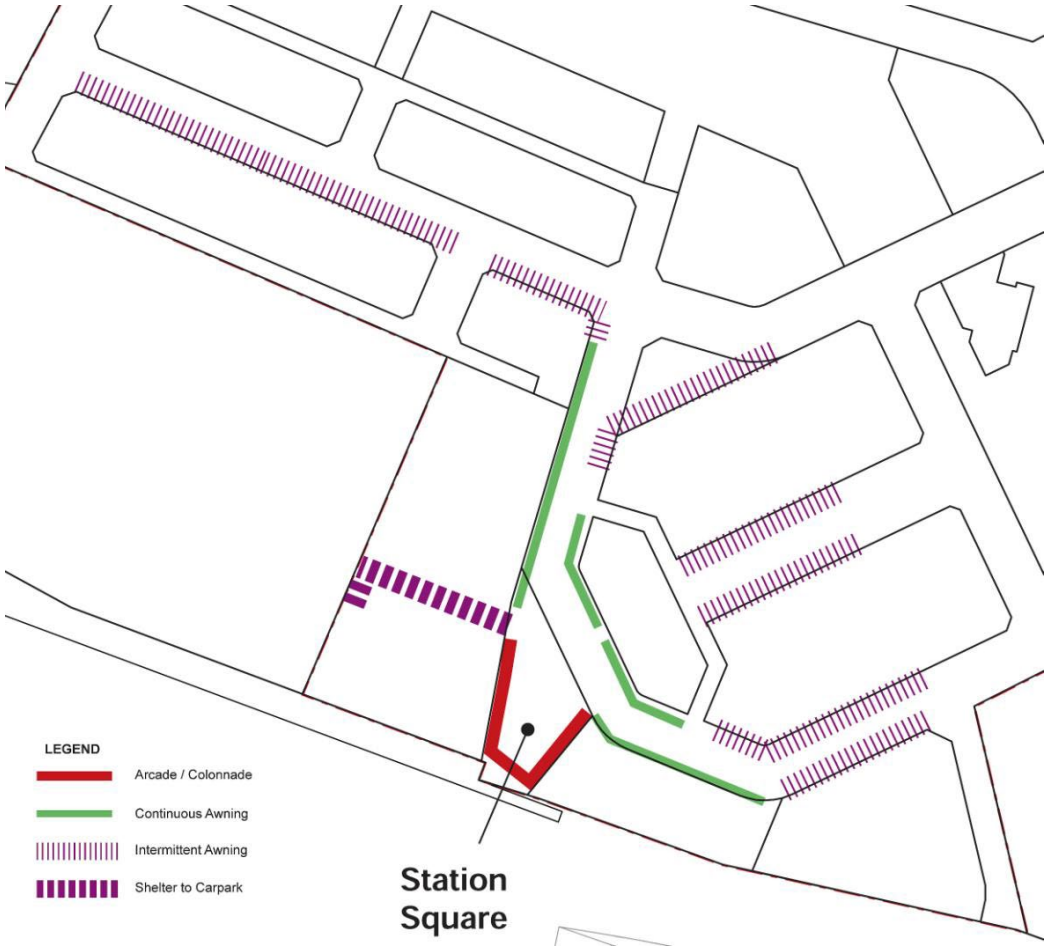
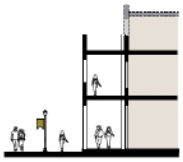
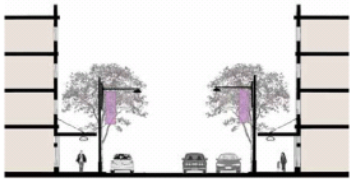


Figure E11.50: - Examples of different frontage types within the Village Centre

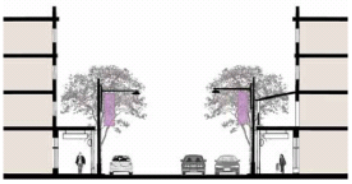


Colonnade: This frontage type is appropriate for retail shopfronts around the Station Square. It can also provide access to commercial offices on levels one and two.



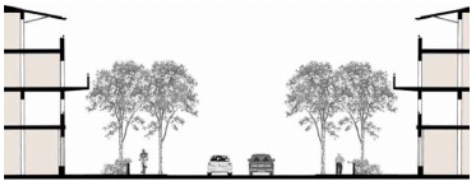
Awnings: The building is built to the frontage line. An awning attached to the building facade just underneath the first floor "transition" line, overlaps the footpath by 3m.

This frontage type is appropriate for conventional retail shopfronts, as well as showrooms or offices.



Posted Verandah and Posted Awning: The building is built to the frontage line. A posted verandah or posted awning is attached to the buildings facade and overlaps the footpath by 3m.

This frontage type is appropriate for conventional retail shopfronts, commercial buildings and mixed use.



Garden Forecourt: The majority of the building is setback 3m from the frontage line creating a garden forecourt for residential apartments. A front fence defines the front property boundary and has a maximum height of 1.2m with hedge behind.

6) Street frontages are required at ground level of buildings as shown at Figure E11.51 and Table E11.11 below.

Table E11.11: Street Frontage Requirements

Street Frontage Type	Characteristics
Active	• Retail shop fronts and entries. • Cafe / restaurants with direct access to the street.
Semi-active	• Active street frontage uses • Glazed entries to commercial and residential lobbies occupying less than 50% of the street frontage, to a maximum of 12m frontage. • Active office uses, such as reception, if visible from the street. • Public building if accompanied by an entry.
Street address	• Active and semi-active street frontage uses • Residential entries, lobbies, and habitable rooms with clear glazing to the street not more than 1.2m above street level, and does not include car parking areas

Figure E11.51 - Village Centre active frontages plan

7) Main building entry points should be clearly visible from primary street frontages and enhanced as appropriate with awnings, building signage or high quality architectural features that improve clarity of building address and contribute to visitor and occupant amenity.

8) Mixed use buildings within the Village Centre are to:

   a) provide direct 'front door' access from ground floor residential units,

   b) provide clearly separate and distinguishable commercial and residential entries and vertical circulation, and

   c) provide multiple entrances for large developments including an entrance on each street frontage.

9) To facilitate the future conversion of ground floor residential uses to non-residential uses, the s88B instrument is to include a provision stating that the body corporate is not to unreasonably restrict or limit the ability for such a conversion to occur.

10) The design and provision of facilities for persons with a disability including car parking must comply with Australian Standard AS 1428 Parts 1 and 2 (or as amended) and the *Commonwealth Disability Discrimination Act 1992* (as amended). A report from an accredited access consultant is to be submitted with a development application (where relevant), indicating the proposal's compliance.

11) The solid to void ratio is to be generally 60/40 for above ground levels. External materials and finishes:

   a) should be constructed of high quality and durable materials and finishes with 'self-cleaning' attributes (e.g. face and rendered brickwork, stone, concrete and glass);

   b) consider the views/appearance from the commuter car park and the railway line;

   c) maximise glazing for retail uses at ground level;

   d) avoid large expanses of blank walls; and

   e) are not to include highly reflective finishes and curtain wall glazing above ground floor level.

12) The design of roof plant rooms and lift overruns is to be integrated into the overall architecture of the building, and in residential buildings may be screened by roof pergolas.

13) As part of the first major retail/commercial development within the Village Centre, a signage strategy is to be prepared and submitted for approval and is to:

   a) identify the preferred locations and quantum of all building identification and advertising signage,

   b) include a palette of preferred materials, signage types and graphic style,

   c) outline proposed illumination requirements so as to consider its impact on future, nearby residential uses,

   d) promote a high quality, co-ordinated approach to signage within the Village Centre and minimise visual clutter, and

   e) include details of any way finding signage.

Proposed signage within future development is to be consistent with the approved signage strategy.

14) Non-residential developments including mixed-use developments with a construction cost of $1 million or more are to demonstrate a commitment to achieving no less than 4

stars under Green Star and 5 stars under the Australian Building Greenhouse Rating system.

15) All dwellings, including those dwellings in a mixed-use building and serviced apartments which are intended to be or are capable of being strata titled, are to demonstrate compliance with the State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004.

16) For commercial buildings that will be accommodating 'general office areas', the target internal noise level is to be 40 dB(A) LAeq.

11.8.4.2 Access, Parking and Servicing

A. Objectives

a) To provide an appropriate level of on-site parking consistent with the principles of transit oriented development.

b) To support the complementary use and benefit of public transport and non-motorised modes of transport such as bicycles and walking.

c) To provide adequate space for parking and manoeuvring of vehicles (including service vehicles and bicycles).

d) To reduce the impact of vehicular access on the public domain.

B. Controls

1) The parking rates provided in this Section override the parking rates outlined in the Transport, Access and Parking Section of this DCP.

2) Maximum parking rates are to be in accordance with Table E11.12. The preferred location of and access to car parking within the Village Centre is shown at Figure E11.52.

Table E11.12: Parking Rates

Development Type	Maximum Car Parking Rate
Commercial / Retail	1 space per 50m^2 GFA*
Supermarket	1 space per 26m^2 GFA
Residential • Studio • 1 – 2 bedrooms • 3 + bedrooms • Visitors • Car wash bay	 • 0.5 spaces per dwelling • 1 space per dwelling • 2 spaces per dwelling • On-Street only • 1 space for car washing for every 50 units up to a maximum of 4 spaces per building.
Other uses	In accordance with the Transport, Access and Parking Section of this DCP.

** A minimum of 1space per 75m^2 GFA is required for all commercial / retail uses*

3) Accessible car spaces should be in accordance with the Access to Premises Standards, Building Code of Australia and AS2890.

Bicycle parking shall be provided in accordance with the Transport, Access and Parking Section of this DCP.

4) Where above ground parking is proposed, the location of the parking area must:

   a) be located on the side or rear of the site, and not be visible from the street and street frontage;

   b) be landscaped or screened so that cars parked in the parking area are not visible from adjoining buildings or the street/street frontage; and

   c) allow safe and direct access to the building's entry points.

5) Where possible, natural ventilation is to be provided to underground parking areas with ventilation grilles and structures that are:

   a) integrated into the overall façade and landscape design of the development,

   b) located away from the primary street facade, and

   c) oriented away from windows of habitable rooms and private open space areas.

6) Car parking above ground level is to have a minimum floor to ceiling height of 2.8m so it may be adapted to another use in the future.

7) All parking provided on site is to meet AS2890 and where, appropriate AS1428.

Figure E11.52 - Village Centre preferred location of car parking

11.8.5 Thornton Hall

11.8.5.1 Built Form Controls

A. Objectives

a) To conserve the heritage significance of Thornton Hall including its setting and its relationship with its surroundings.

b) To provide an ongoing use that is appropriate for the heritage significance of the building.

c) To encourage removal of inappropriate alterations and additions and the reconstruction of significant missing elements of the building.

B. Controls

1) Any alteration and additions to Thornton Hall is to be consistent with the following principles:

   a) retain and conserve significant building fabric,

   b) remove intrusive additions, including the verandah enclosures and brick porch,

   c) reconstruct verandahs based on the evidence provided in early photographs. Consideration should be given to interpreting the balcony/parapet structure that was accessed via the roof,

   d) external painting of the original section of Thornton Hall should be based on colours that were used during the last quarter of the nineteenth century,

   e) retain significant internal spaces and significant internal fabric. This should include 1930s fireplaces, ceilings, layout of the three main rooms,

   f) there should be no roof additions such as dormers,

   g) additions to Thornton Hall should be restricted to one storey in height and should be located at the rear of the building, and

   h) materials for any additions should be sympathetic to Thornton Hall but do not need to be the same as those used in Thornton Hall. A high standard of contemporary design should be encouraged for the additions.

2) New development is to maintain an appropriate curtilage around Thornton Hall and be consistent with the following principles and Figure E11.53 and E11.54.

   a) maintain screening provided by existing trees. Some thinning of trees may assist in reinforcing the view corridor between Thornton hall and the rest of the site,

   b) any garage should be located to the rear of Thornton Hall, and

   c) any other outbuildings or structures such as a swimming pool should be located to the rear of Thornton Hall.

3) Vehicular access should reflect the original access to Thornton Hall. Reconstruct the original driveway and turning circle at the front of the house. Retain the historic hoop pine as the driveway entry marker at The Crescent.

4) Any new landscape design should enhance the setting of Thornton Hall and reinforce view corridors. Planting consistent with Thornton Hall's later nineteenth century date of construction should be considered for the grounds at the front of the house.

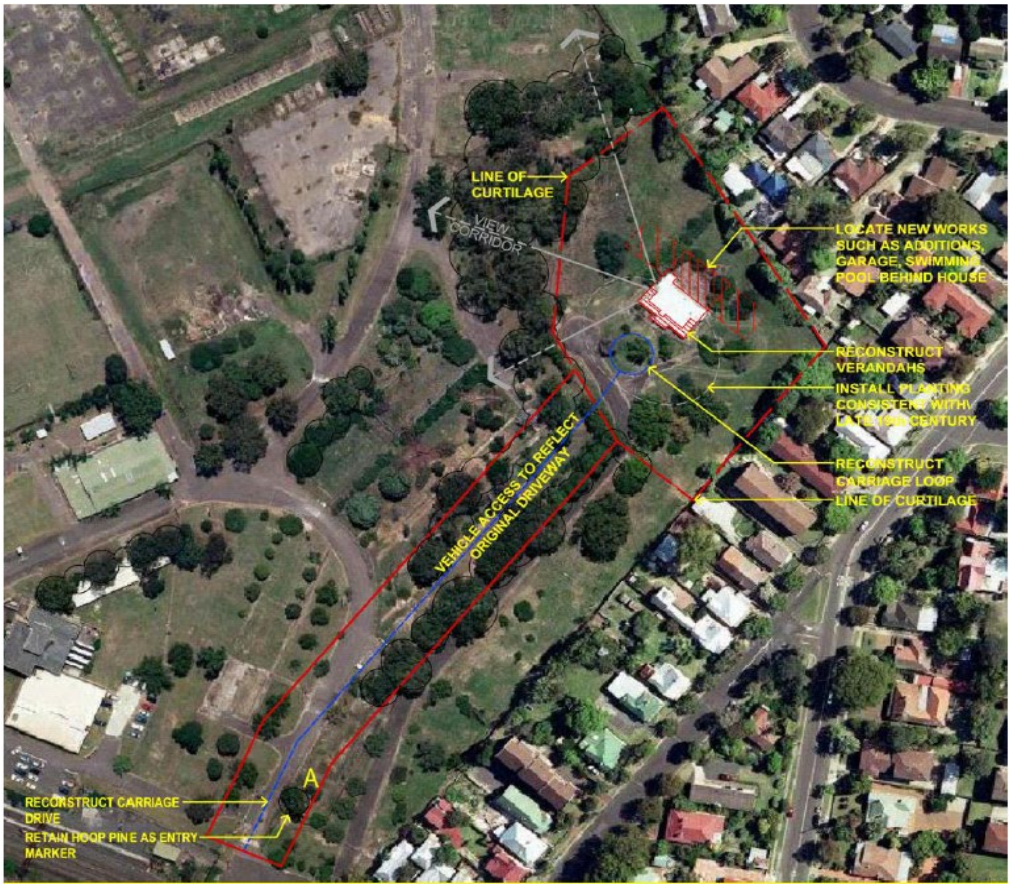
5) The existing trees along the existing entry road into Thornton Hall are to be retained and protected.

6) Fencing should be unobtrusive in character and simple in design. It is preferable to use timber rather than brick or stone. Hedging may be an acceptable alternative to a more traditional fence form.

7) Rear setback controls for all allotments that back onto the existing residential allotments fronting Lemongrove Road are provided at Section 11.8.3.3 Building Envelopes, control (11).

Figure E11.53 - Thornton Hall site principles

Figure E11.54: Thornton Hall Site Principles (aerial view)



11.8.6 Industrial Development

11.8.6.1 Built Form Controls

A. Objectives

a) To minimise the impact of industrial development on adjacent residential uses, in terms of solar access, noise and odour.

b) To ensure that industrial development can integrate with adjoining residential development and contribute to a visually cohesive urban environment.

c) To encourage a high standard of architectural design, utilising quality materials and finishes appropriate for the locality.

d) To enhance the visual quality of industrial development through appropriate setbacks, building and landscape design, particularly when viewed from public areas and residential areas.

B. Controls

1) The minimum lot size (Torrens Title) is 2,000m^2.

2) The maximum building height is 12m (1 - 2 storeys). Notwithstanding this, a maximum building height of 4m (1storey) applies within 8m from an adjoining residential boundary.

3) Building setbacks are as follows:

Table E11.13: Building Setback Requirements

Location	Minimum Setback
To Coreen Avenue (E1, E2)	6m
To western access road (E3)	6m
To adjacent industrial uses	0m
To adjacent residential uses	1m
To Combewood House property boundary	30m

4) Prominent elevations, such as those with a frontage to the street or public open space (OS5) are to:

   a) be finished in high quality materials that are durable, low maintenance and non-reflective,

   b) be activated through the use of glazing, office administration areas, building entries and the like (large, blank wall surfaces is not permitted), and

   c) provide screening for any plant and mechanical equipment.

5) Elevations that are adjacent to a residential boundary are to be of solid in construction with minimal openings so as to minimise noise emissions.

6) Consideration should be given to the compatibility of the location and design of the car parking, storage loading areas to adjoining residential properties.

7) Boundary fencing (adjacent to residential uses) shall be between 1.8m and 2m high and of a solid material such as timber, steel or masonry.

Appendix A – Example of Building Envelope Plan

Appendix B – Residential Design Palette

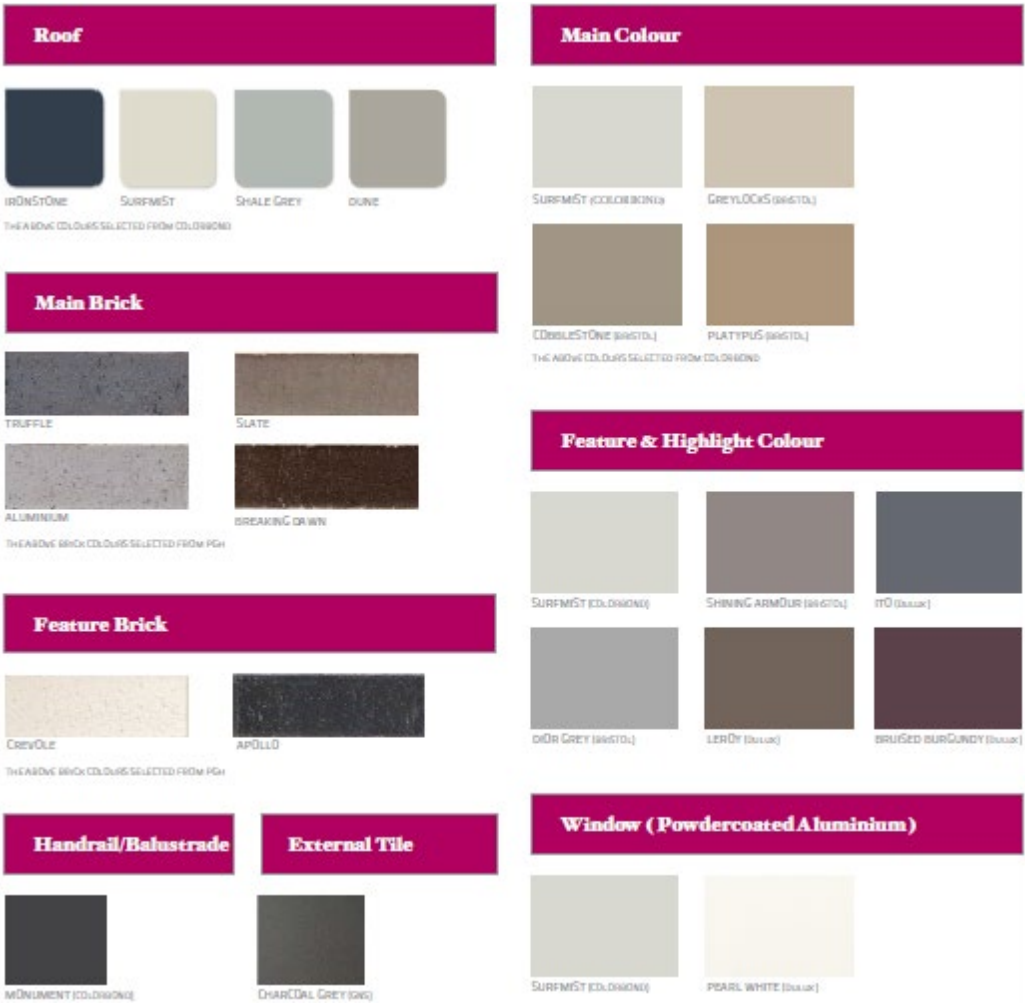


Table of Contents

Part C 164 Station Street, Penrith

1 Site analysis and local context

1.1 Land and purpose to which this section applies

This section applies to land located at 164 Station Street, Penrith as shown below (Figure 1), comprising 7.855Ha of land which has been identified to accommodate high density residential land uses consisting predominantly of high density housing/units. This purpose of this section is to facilitate the development of residential land uses in accordance with the envisaged future character of the site.

Figure 1: Land to which this section applies

1.2 Site Vision

The urban vision for the redevelopment of the former Panasonic industrial site is to create a new residential neighbourhood at the southern edge of Penrith City Centre which respects and acknowledges the significance of the area including the city's urban vibrancy adjacent to the Blue Mountains. The site will act as the southern gateway to the Penrith City Centre and the new residential neighbourhood is consistent with the Penrith Progression Structure Plan 2015.

1.3 Site Objectives

The development of the site is to meet the following site objectives:

- Create a benchmark in urban residential neighbourhood development for Penrith;
- Create a built form formulated around large areas of public and community open space which provided connectivity through the site;
- Provide well connected and accessible areas of open space which link the site to the surrounding context;
- Provide an inviting and secure site with limited vehicular movement above ground level to enhance pedestrianisation;
- Provide a diverse range of high density housing products which respond to growing household.

Figure 2: Landscape Masterplan

1.4 Local Context

The site location within proximity to the Penrith City Centre, Penrith Station and the areas broader context can be seen in terms of the city context and adjacent existing land uses. Refer to Figures 3 and 4:

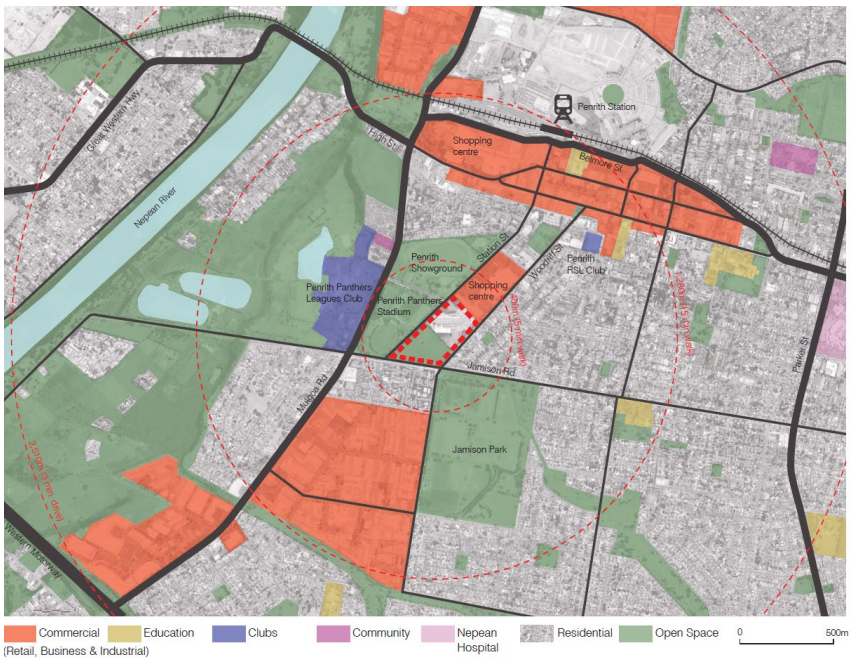
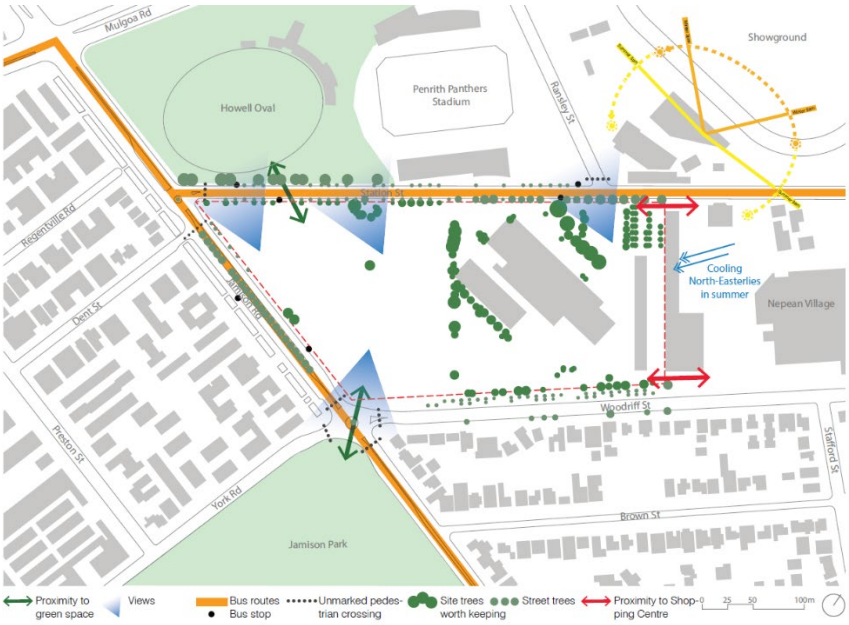


Figure 4: Site Context



2 Structure Plan

2.1 Urban Structure

The urban structure for the site is envisaged to be one centralised around the local and communal open space on the site, complimented by high quality public domain elements and architectural forms. In reference to architectural diversity and built form, the following objectives should be followed:

Objectives:

- To establish the urban image of the development by differences in public domain, built form and architectural diversity that enhance its prominent location within Penrith's city centre;
- To provide differences in streetscape treatment and urban character;
- To mark the pedestrian and vehicular entry points into the development off Station Street with formal urban strategies;
- To ensure a variety of pedestrian focused spatial experiences and safe social opportunities across the development.

Controls:

- To accommodate mixed uses and local retail off Station Street;
- To have a permeable pedestrian access structure with controlled vehicle circulation;
- To incorporate views and vistas across the site which accommodate Crime Prevention Through Environmental Design (CPTED) principles;
- Provide strong public landscape connections through the site in accordance with Figure 5;
- Encourage pedestrian access/movements through the site in accordance with Figure 6;
- Encourage through site views and vistas in accordance with Figure 7.

Figure 5: Urban Structure: Landscape and Open Space Connections

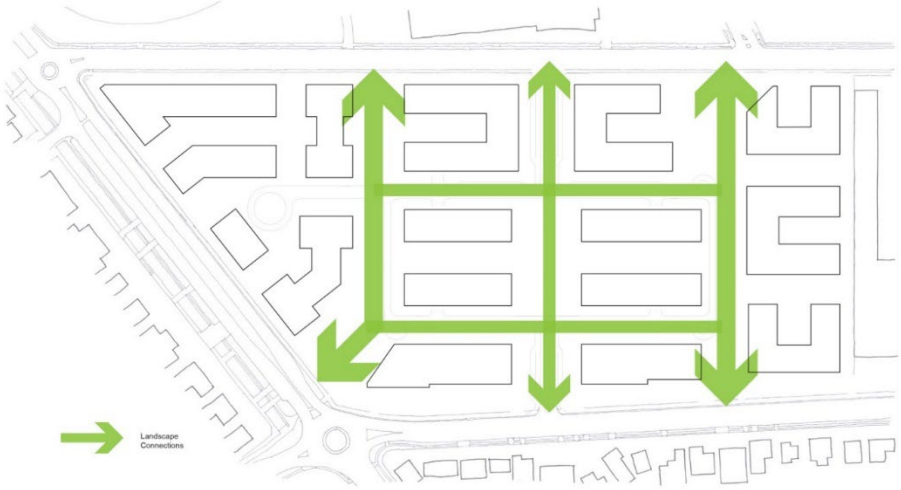


Figure 6: Urban Structure Access Patterns

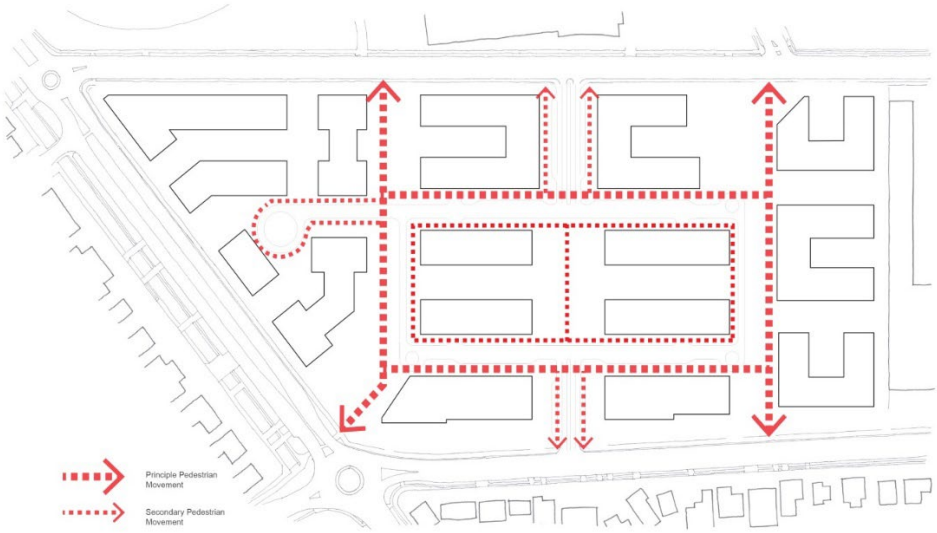
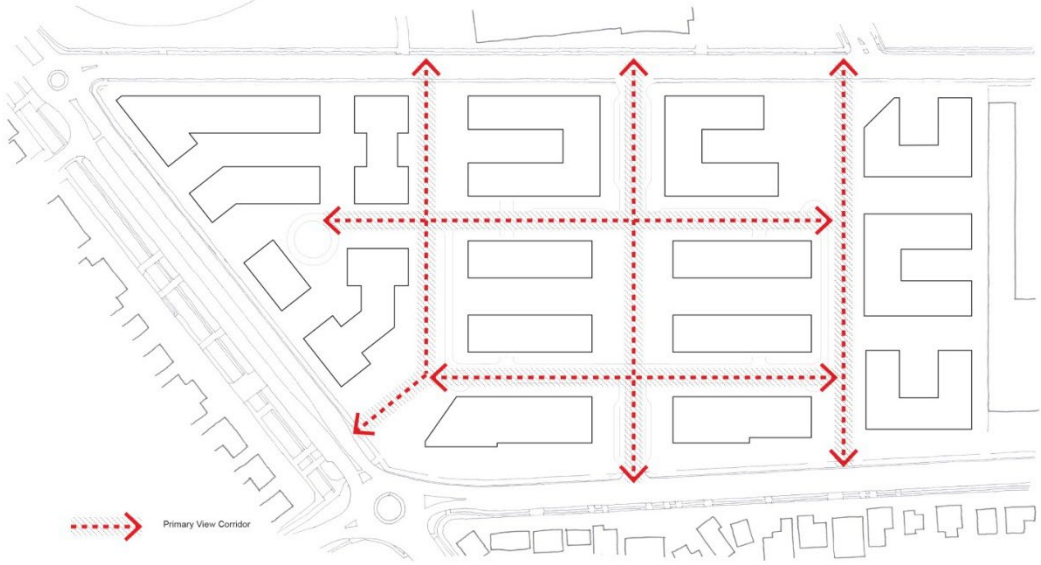


Figure 7: Urban Structure Views and Vistas



2.2 Landscape Structure

Objectives:

The public domain and landscape character within the development pursues the following qualities as detailed in Figure 8:

- A permeable, safe and pedestrian friendly landscape for community use;
- A formal entry boulevard with retail and community uses;
- Neighbourhood tree lined streets for enhanced urbanity and pedestrian friendly use;
- Picturesque linear parks with shared pedestrian and bicycle paths;
- Pedestrian links to Jamison Park to provide for passive recreation opportunities;
- A formal Station Street Plaza/Park;
- Landscaped buffers to adjacent developments;
- Opportunity for a diversity of Communal Gardens (private open space).

Public domain/landscape detail is the subject of a landscape design competition. The above principles will be maintained throughout the competition stages.

Figure 8: Indicative Landscape Character Zones

2.2.1 Landscape and Public Domain Allocation

A landscape design competition is required to be undertaken for public domain/public landscaping within the site. This competition is to run in accordance with the recommendations of the Government Architect and NSW State Governments Director Generals Design Excellence Guidelines. The Landscape Competition will relate to public open space (including the south finger parklands, the central boulevard garden and the north

finger parklands and plaza). An indicative landscape and public domain allocation plan is provided in Figure 9.

Controls

- A range of community uses within communal areas of open space are to be provided (including children's play areas and BBQ facilities);
- Private open space is to be clearly separated from public open space via level changes (see Figure 12)
- The following minimum area of public open space is to be provided on the site

Southern Finger and Linear Parkland	4,000 sqm
Central Boulevarde	2,000 sqm
Northern Finger Linear Parkland with Station Street Plaza	4,000 sqm
Streetscape and pavement treatments	5,500 sqm
Boundary edges to Station Street, Jamison Road and Woodriff Street	1,000 sqm

Note detailed character of each of these landscaped areas will be undertaken by the successful competition entrant.

Figure 9: Landscape and Public Domain Allocation

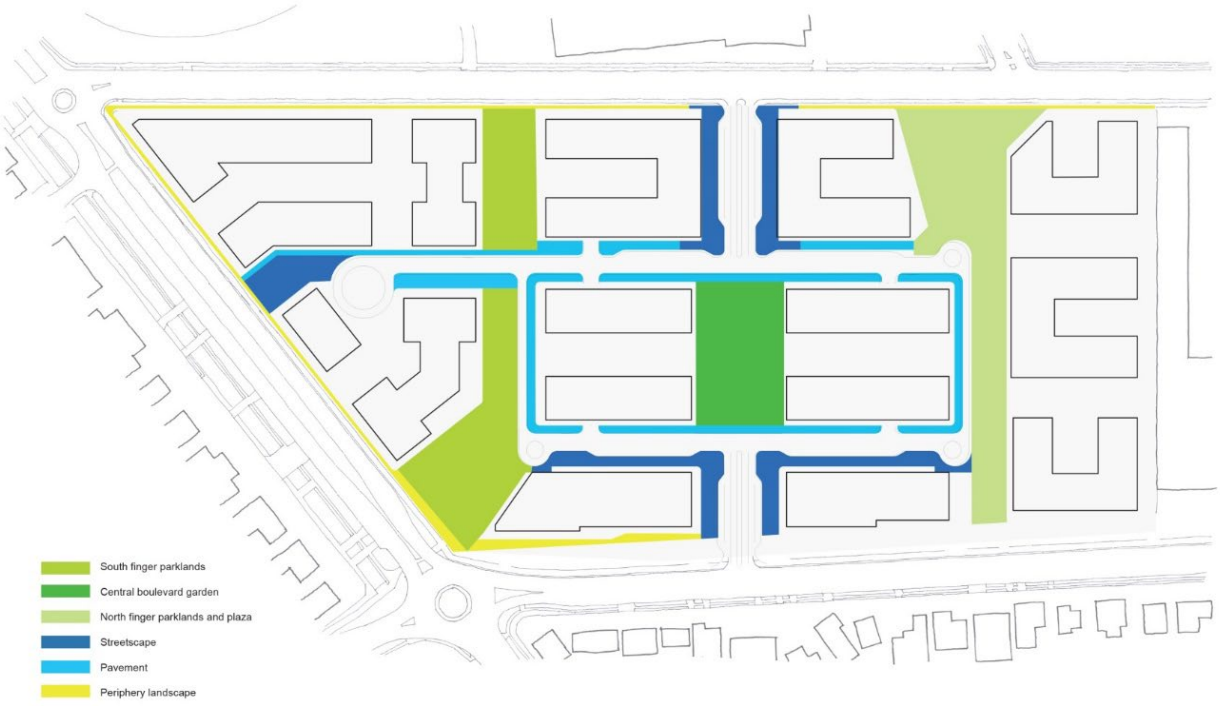
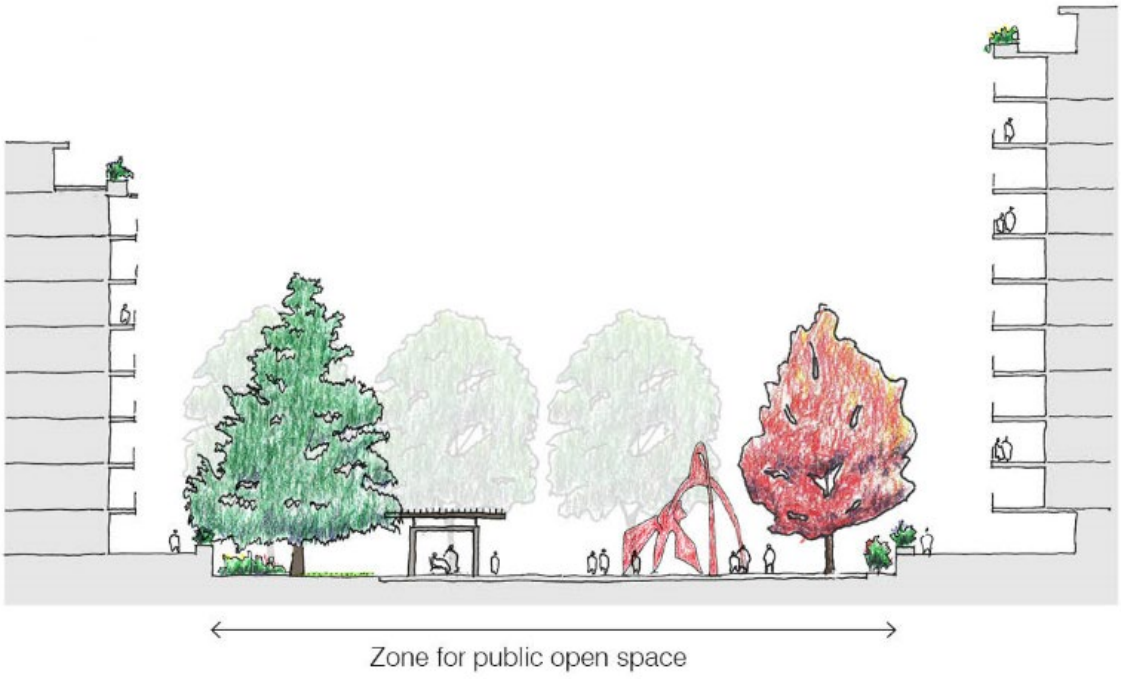


Figure 10: Illustrative Indicative Landscape Masterplan: Northern Finger Linear Park with Station Street Plaza. (Detailed Design subject to Landscape Competition)

Figure 11: Illustrative Indicative Landscape Masterplan: Southern Finger Linear Park. (Detailed Design subject to Landscape Competition)

Figure 12: Typical section plan demonstrating level transition from public v private open space



Typical section private space to puplic open space.
Note level changes.

2.3 Character Areas and Urban Precincts

Built form is to spatially frame new streets and linear parks. Taller built form is located along Jamison Road to define the importance of the southern urban edge to Penrith's city centre. Additional height is to be located at the corner of Jamison and Station Street as urban markers and in association with the linear parks. Elsewhere, the modulation of built form will 'close off' and spatially frame internal vistas. This will accentuate the urban experience when moving between the various urban precincts.

The following section provides a breakdown of key precincts within the site. The broader urban form strategy can be seen below in *Figure 13*. Detailed design for buildings within these precincts will be provided at Development Application phase.

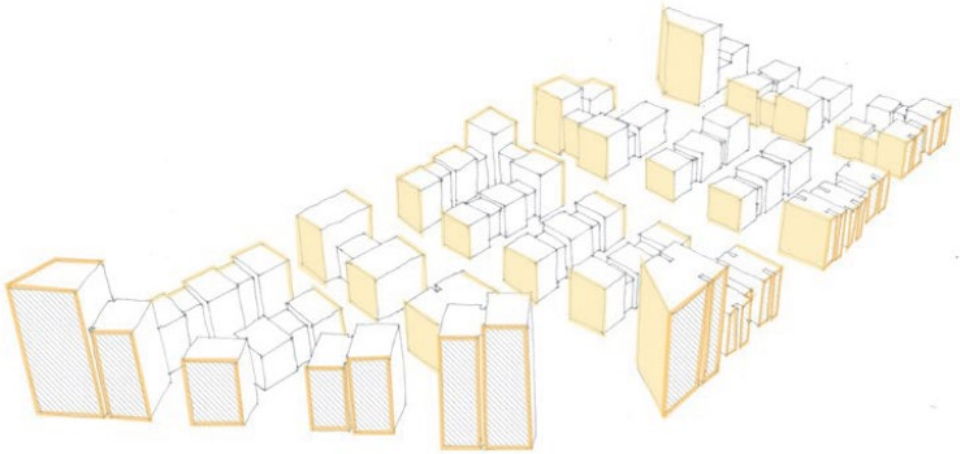
Objectives:

- Provide a sequence of urban precincts which provide design excellence in the provision of public domain landscaping and built form articulation;
- Provide urban precincts which respect the surrounding character of the site and its context within Penrith.

Controls:

- Development Applications are to follow precinct specific objectives and controls as they relate to different parts of the site in line with precincts identified in Figures 15 to 17.

Figure 13: Urban Form Strategy



2.3.1 Key Urban Building Form

The following corner sites are key urban building points within the site which will maintain the highest scale on the site.

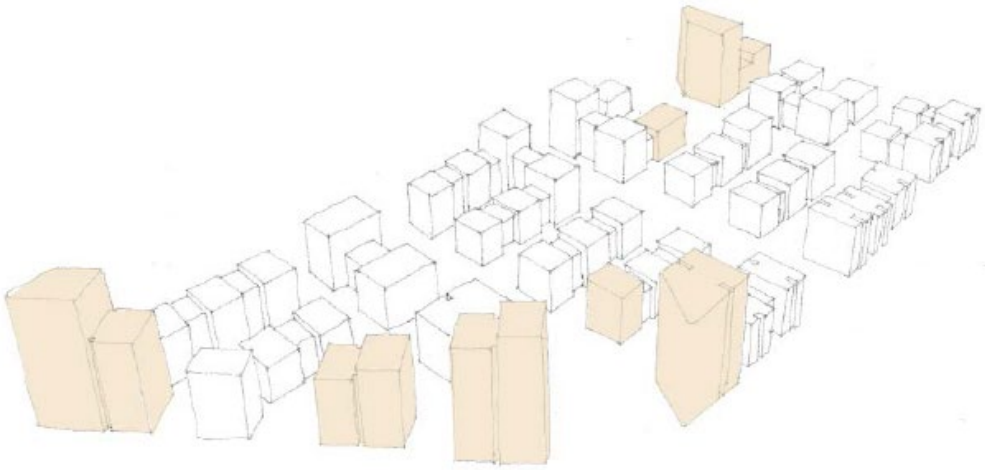
Objectives:

- Provide varied built forms across the site to improve vistas and visual presentation of buildings.

Controls:

- Pinnacle built forms are to be predominantly located on key building corners on the sites edges as identified in Figure 14.

Figure 14: Key Urban Forms



2.3.2 Urban Precinct: Station Street and Entry Boulevarde

This section relates to the frontage of the site to Station Street and the entry boulevard into the site as identified in Figure 15.

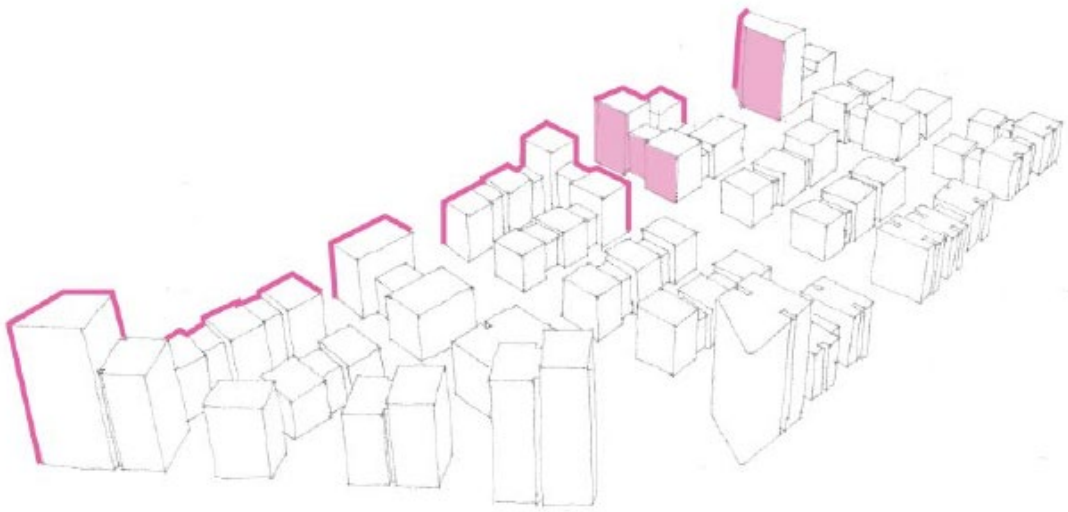
Objectives:

- Provide a constant scale and allow for balcony projections which are set back into the building block;
- Allow for articulated entry points which are appropriately scaled;
- Provide for pedestrian access via defined access ways within the building wall;
- Provide a distinction between ground floor uses and upper floors for residential uses in the area for the entry boulevard (ground level retail and residential above);
- Provide street awnings with a recessed ground floor where local retail uses are proposed.

Controls:

- Retail uses should be contained to the entry boulevard off Station Street and consist of localised retail uses which complement the predominantly high density residential use of the site (i.e. cafes, pharmacies, newsagencies, general practitioners);
- Provide footpath seating adjacent to the entry boulevard to the site off Station Street.

Figure 15: Station Street and Entry Boulevard Precinct



2.3.3 Urban Precinct: Jamison Road

This section relates to the Jamison Road site frontage, being the southern edge of Penrith's city centre, as identified in Figure 16.

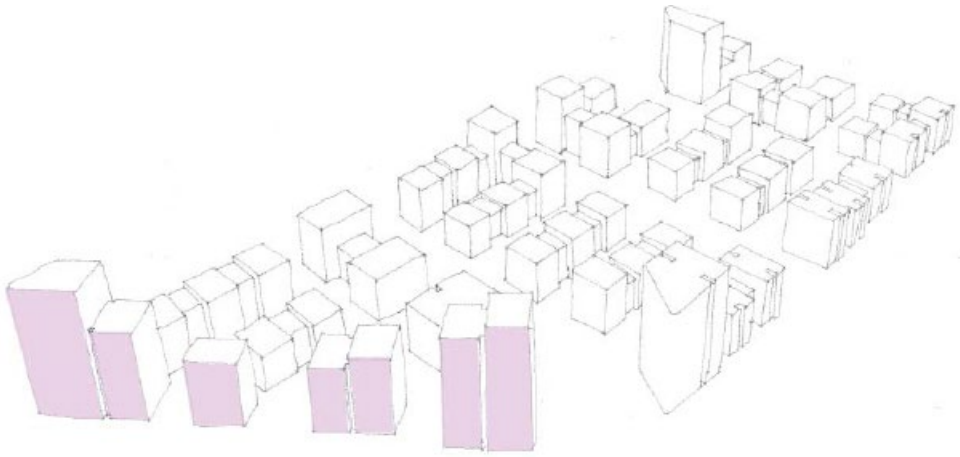
Objectives:

- Provide street corner articulation and urban markers;
- Reinforce the geometry of Jamison Road through a constant setback;
- Emphasise the vertical element of the buildings through modulation and articulation.

Controls:

- Built form to demonstrate design excellence and present as modulated and articulated to the street;
- Provide a distinction between ground floor apartments and upper floors.

Figure 16: Jamison Road Precinct



2.3.4 Urban Precinct: Woodriff and Park Edge

This section relates to the Woodriff Street frontage of the site and adjoining park edges as identified in Figure 17.

Objectives:

- Provide transitional built form;
- Encourage the retention of public verge open space adjoining Woodriff Street.

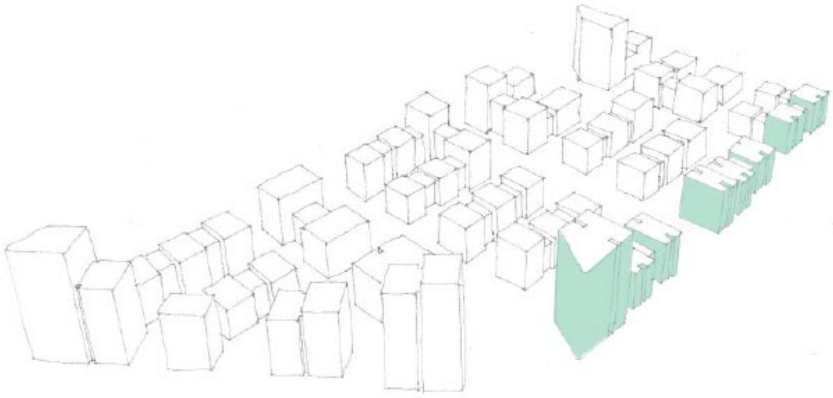
Woodriff Street Controls:

- Provide an appropriately scaled residential development to be set against a wide landscape verge;
- Create a varied building edge with a rhythm and modelling in the built form.

Park Edge Controls:

- Provide elevated ground floor units integrated with balcony terraces and screening to provide suitable privacy and interface with the public domain/landscaped verge fronting Woodriff Street.

Figure 17: Woodriff and Park Edge Precinct



2.4 Dwelling Density

Objectives:

- To provide a range of high density residential buildings to cater for housing demand and needs;
- To ensure that all residential development on the land is of a high quality and provides amenity;
- Appropriately cater for residential growth and housing demand within Penrith through delivery of dwelling yields illustrated.

Controls:

- The minimum residential dwelling densities should be achieved within each of the project stages;
- Higher density forms to be located on key corners of the site (urban markers). Lower scale form to be provided on eastern edge fronting Woodriff Street to respect the amenity of the adjoining low density residential uses;
- The following minimum apartment yields apply to the subject site at both a 2:1 compliant FSR and 2.5:1 FSR under the incentives clause

Dwelling Density	Current controls	Incentives clause
- Stage 1:	Minimum: 480	Minimum: 600
- Stage 2:	Minimum: 80	Minimum: 100
- Stage 3:	Minimum: 400	Minimum: 500
- Stage 4:	Minimum: 190	Minimum: 240
- Stage 5:	Minimum: 320	Minimum: 400
Minimum	**1470 dwellings**	**1840 dwellings**

2.5 Indicative Development Staging

Objectives:

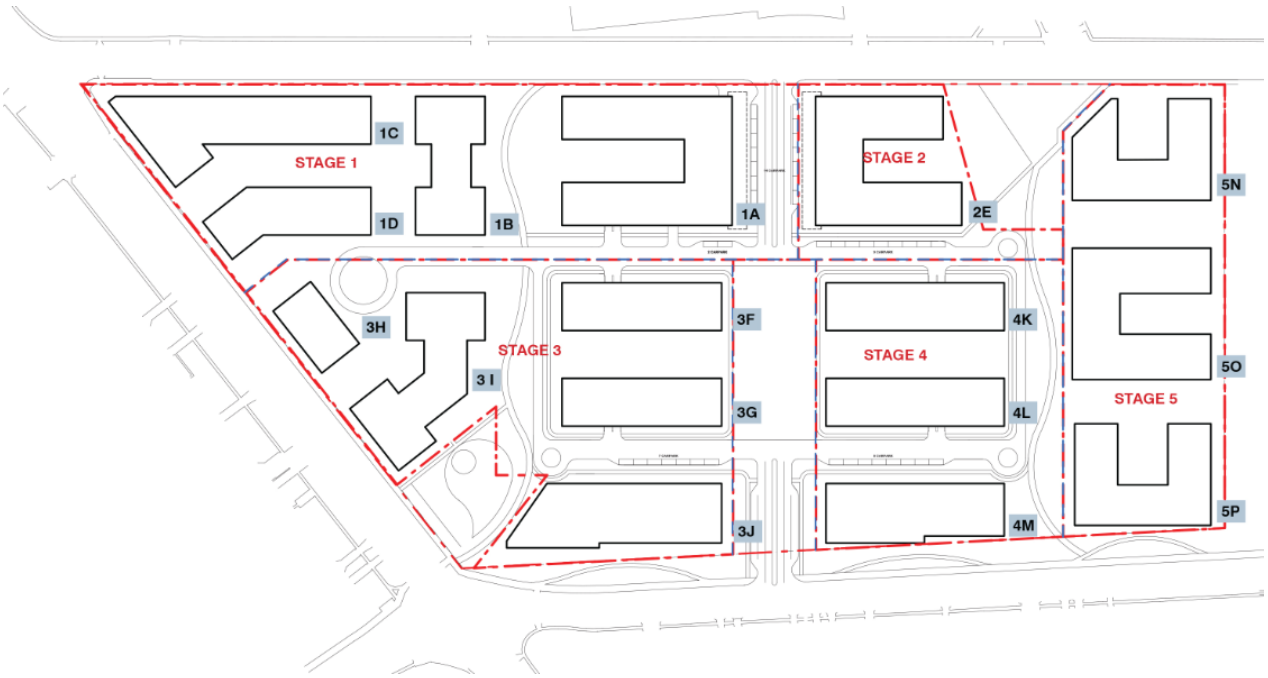
- Stage development to limit issues associated with construction and traffic;
- Stage construction promoting the use of both site frontages;
- Provide quality housing and amenities for each stage limiting associated construction issues.

Controls:

Undertake development in line with the indicative development staging plan identified in Figure 18:

- Stage 1 Station Street and Entry Boulevarde (South) Precinct
- Stage 2 Station Street and Entry Boulevarde (North) Precinct
- Stage 3 Jamison Road, Woodriff Street and Central (South) Precinct
- Stage 4 Woodriff Street and Central (North) Precinct
- Stage 5 North Precinct

Figure 18: Staging Plan



3 The Public Domain

3.1 Street Network and Design

Objectives

- Reduce vehicular movements at grade to maximise the presence and permeability of the ground level public domain and open space which connects the site to the surrounding context;
- Encourage primary vehicular movements to basements.

Controls

- Section 10.4 of the Penrith DCP 2014 applies in regard to road configuration and road hierarchy requirements

3.2 Pedestrian and Cyclist Networks

Pedestrian and cyclist movements should be incorporated into any design proposed on the site.

Objectives

- The public domain of the streetscape is to define the urban character of the development as a pedestrian friendly neighbourhood precinct;
- To ensure that the streets are safe for pedestrian and cyclist movements incorporating Crime Prevention Through Environmental Design principles;
- The site is to become a focus for community activity;
- Encourage a shared use path along the Station Street frontage;
- The pedestrian and cyclist paths are to be integrated within the existing and proposed open space networks

Controls:

- Pedestrian and cyclists paths are to be provided within the public domain and public open space areas providing connectivity between the site;
- Safe public thoroughfares are to be provided which connect the public domain to residential buildings and adjoining road networks.

3.3 Public Open Space and Landscape Network

The public open spaces are to set a high standard in urban design quality. These spaces are to allow passive and active recreation uses, accommodate safe pedestrian circulation during the day and at night, adopt water sensitive principles and tell a story about the richness of living in a residential neighbourhood within Penrith's city centre. The detailed design of public open spaces across the site will be the subject of a landscape design competition.

Objectives:

- To provide a variety of high quality public domain and public areas of open space within the street including quality pavement, tree lined streets and well delivered pocket parks;
- To provide high quality parkland spaces;
- To provide a diversity of open space that facilities pedestrian linkages across the site;
- To provide superior quality landscaping to the site.

Controls:

- A minimum of 10,000 square metres of land is to be allocated to the provision of public open space (excluding streetscape improvements). Delivery of landscaping and building construction to be carried out simultaneously in accordance with the indicative staging plan in Figure 18;
- Provide comprehensive public and private landscaping in accordance with the indicative landscape plan provided in Figure 19;
- Creation of a linear landscape corridor through the central area;
- Create new public domain areas and public open spaces to frame key site entry areas and encourage pedestrian movements throughout the site
- Public art will be provided in key locations throughout the site.

Figure 19: Illustrative Landscape Masterplan

3.4 Above Ground Basements

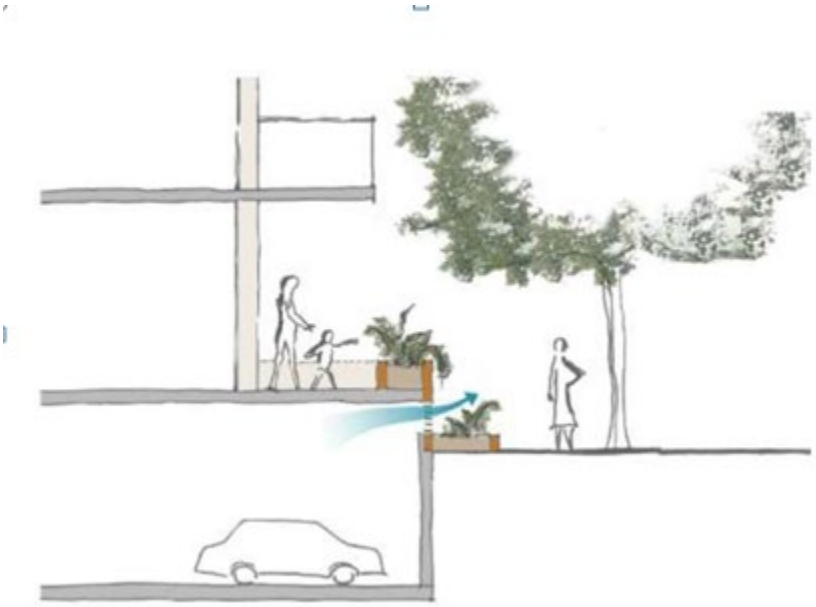
Objectives:

- Improve basement circulation throughout the site

Controls:

- Above ground basements less than 1m above natural ground level can be provided on site where appropriate to assist natural ventilation to the basement;
- Basement openings above ground are to be adequately screened through building edge landscaping which separates the basement opening from the public domain and residential balconies as indicated in Figure 20.

Figure 20: Public Domain and Basement Interface



4 Residential Development

4.1 Key Design Principles

Site Design Objectives

- Provide good east-west and north-south connectivity with new public streets that are clearly integrated with the existing street network;
- Locate non-residential uses towards the northern end of the site where they will be in closer proximity to the city centre;
- Emphasise the significance of the site as the southern gateway to the city centre through the built form;
- Provide high quality public domain interface with existing streets surrounding the site;
- Consider interface with heritage conservation area on the eastern side of Woodriff Street.

Built Form Objectives

Provide a variety of building heights throughout the site which:

- Result in well-defined and visually interesting built form;
- Reflect the gateway treatment to the corner of Station Street and Jamison Road with opportunities for increased building heights;
- Provide appropriate transition to surrounding land uses which is sensitive to amenity and visual impact of surrounding or nearby development; and
- Taller buildings to be located and orientated to minimise the shadow impact on future buildings within the site and to avoid adverse impacts on the surrounding uses.

4.2 Building Height, Massing and Siting

Building height, massing and siting is to respect the surrounding urban context, public domain and landscaping provided on the site.

Objectives

- Where applicable, buildings should incorporate varying scales to improve articulation and modulation in addition to street presentation and architectural diversity. This includes varied heights and transition from low to medium to high rise buildings within specific precincts.

Controls

A range of building heights will be provided as indicated in *Figure 21*.

- **Station Street:** Predominantly medium building heights street edge alignment with higher building heights on key corners (Station Street and Jamison Road);
- **Jamison Road:** Key urban markers incorporating medium to high building heights;
- **Woodriff Street:** Predominantly low building heights appropriately setback from the road via the existing road reserve. High building heights will be on the corner of Woodriff Street and Jamison Road ;
- **Entry Boulevarde:** Higher buildings on street edges with low to medium building heights at the connector road interface;

- **Connecter Road/Park Precinct:** Predominantly low to medium building heights to maintain solar access to key areas of public open space.

Note: The building heights are subject to consistency with incentives provisions under the any Penrith LEP 2010. This includes Floor Space Ratio, Height of Building and any site specific or public-benefit based incentives.

The number of storeys indicated below are indicative only and will be subject to a Design Jury process.

Figure 21: Indicative Building Heights

4.3 Building Setbacks

Building setbacks are required to maintain appropriate separation between buildings in accordance with the controls of the NSW Apartment Design Guidelines.

Controls:

1) The following setbacks should be provided as identified in Figure 22

- Station Street Frontage: 5m from site boundary (minimum)
- Woodriff Street Frontage: 5m from site boundary (minimum)
- Jamison Road Frontage: 5m from site boundary (minimum)
- Buildings fronting public open spaces, parks and internal streets (other than entry boulevards): 2.5 m (minimum)
- Entry Boulevarde off Station Street: 2.5m (minimum)
- Northern Boundary: 6m (minimum)

2) Other setbacks (side and rear) will be governed via the separation controls of the Apartment Design Guidelines as follows:

Up to four storeys (approximately 12m):

- 12m between habitable rooms/balconies
- 9m between habitable and non-habitable rooms
- 6m between non-habitable rooms

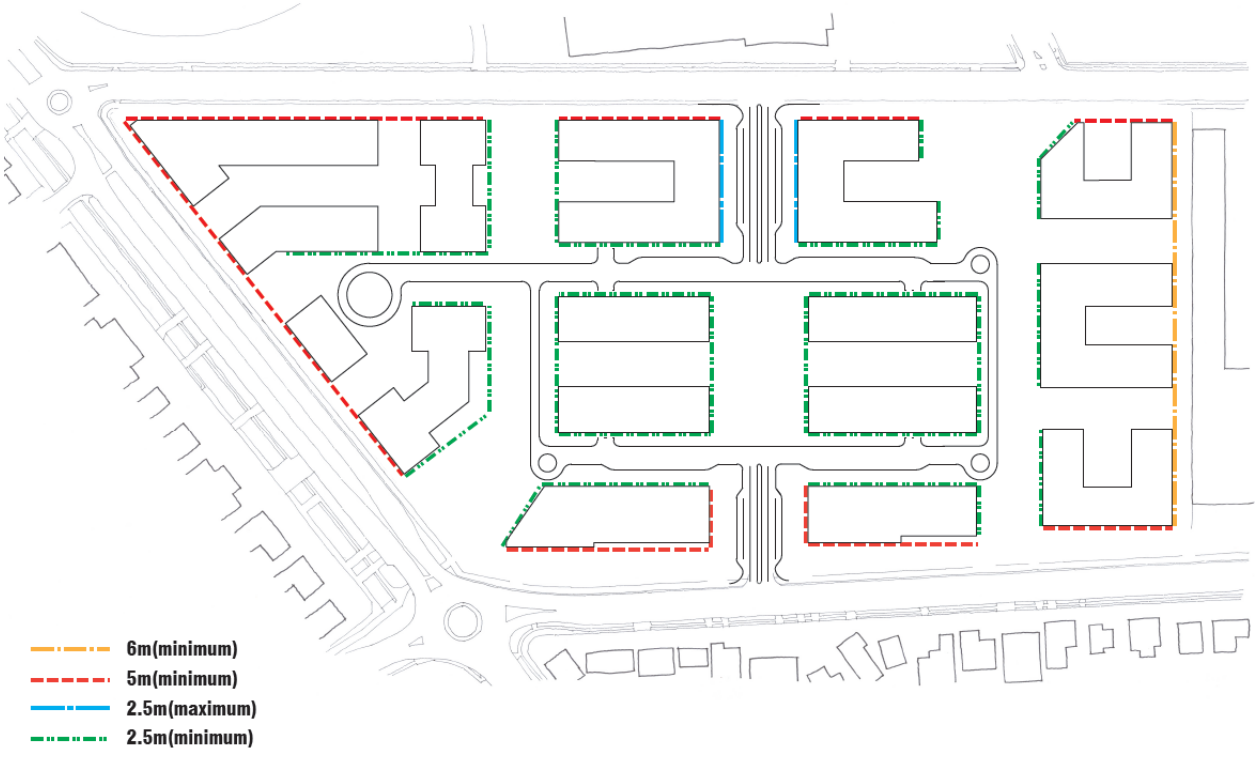
Five to eight storeys (approximately 25m):

- 18m between habitable rooms/balconies
- 12m between habitable and no-habitable rooms
- 9m between non-habitable rooms.

Nine storeys and above (over 25m):

- 24m between habitable rooms/balconies
- 18m between habitable and non-habitable rooms
- 12m between non-habitable rooms.

Figure 22: Built Form Frontages Setback Plan



4.4 Private Open Space

Private open space must be provided for residential units on the site for each building

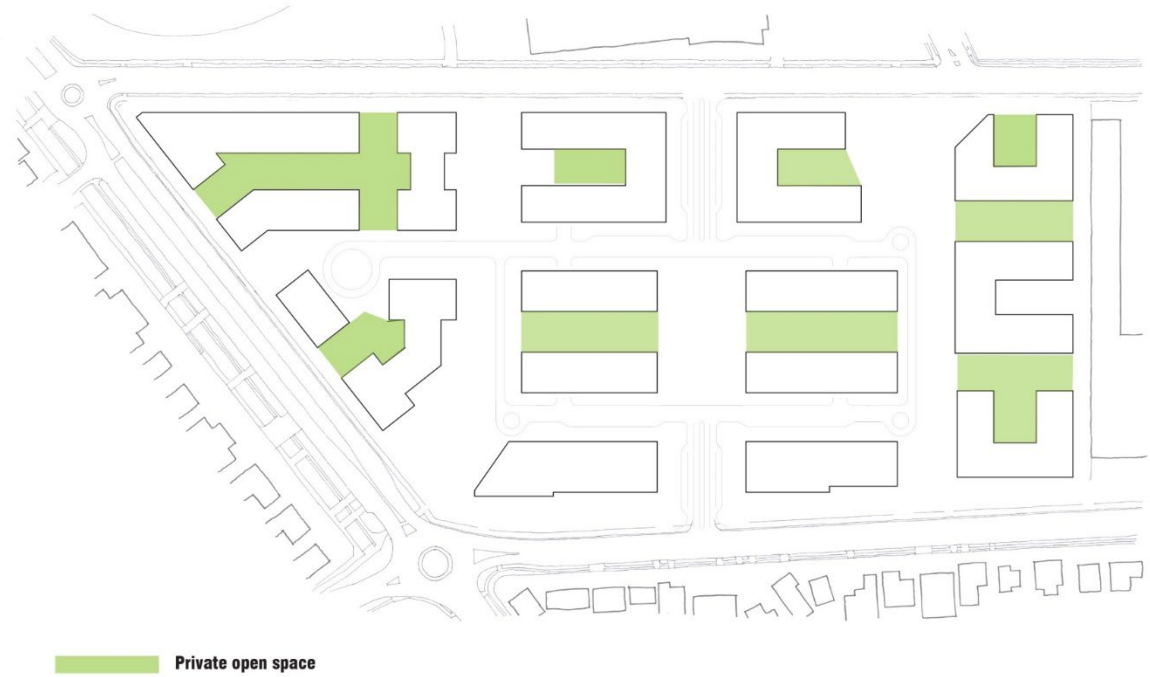
Objectives:

- Provide suitable private open space for future occupants of the site;
- Encourage the provision of rooftop private open space where possible.

Controls:

- Private open space to be provided within proximity of building envelopes within each site;
- Private open space is to be provided on the site via a combination of communal gardens, rooftop gardens and balconies;
- Private open space is to be provided in addition to the public open space within the site;
- Private open space is to be provided in accordance with SEPP 65 and Apartment Design Guideline provisions;
- Ground level public open space is to be provided in general accordance with Figure 23.

Figure 23: Indicative Ground Level Private/Communal Open Space Plan



4.5 Mixed Use Buildings

Objectives:

- Provide a number of mixed use buildings which provide localised retail and community uses;
- Provide localised services to meet the needs of future residents.

Controls:

- Provide a minimum of 1000 square metres of retail space surrounding the entry boulevard off Station Street as identified in Figure 24;
- Provide for other non-residential uses such as a child care centre within close proximity to the entry boulevard.

Figure 24: Indicative Ground Floor Retail and Childcare Centre Location

4.6 Housing Diversity

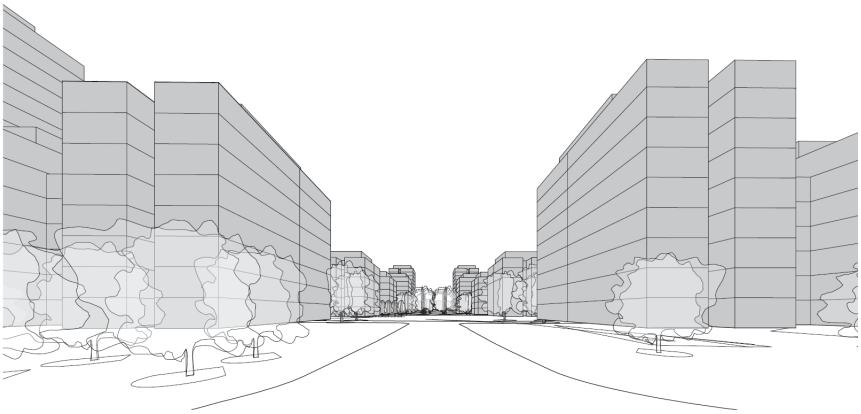
Objectives:

- A range of apartment sizes, types, forms and specifications are to be provided on the site.

Controls:
The following apartment mix will be achieved on the site:

- 1 Bedroom: 15-25%
- 2 Bedroom: 60-65%
- 3 Bedroom: 5 – 10%

Figure 25: Indicative Visualisation of Central Boulevard looking north-west demonstrating diversity of built form and through site thoroughfare



5 Environmental and Residential Amenity

5.1 Visual Privacy and Acoustic Amenity

Objectives:

- To ensure buildings are designed to achieve the highest possible levels of visual privacy, building quality and acoustic privacy;
- To protect visual privacy by reducing direct overlooking of habitable rooms and private open space (use provisions of blank walls for key buildings with public space interfaces); and
- To contain noise within dwellings and apartment buildings through appropriate design, use of building materials and minimise the intrusion of noise from outside sources.

Controls:

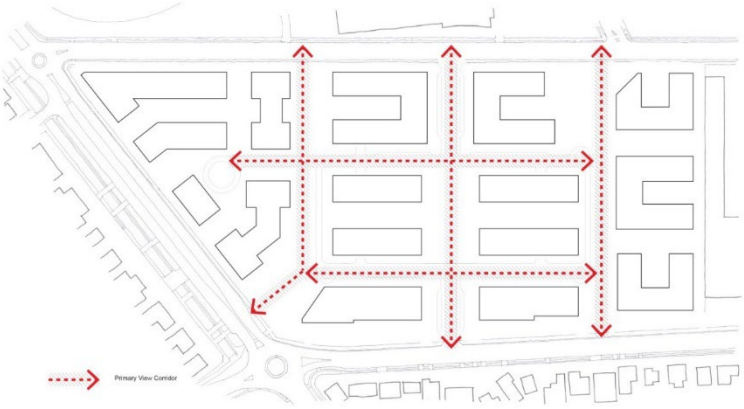
- Development Applications should address acoustic and visual amenity including both internal and external impacts;
- Buildings to comply with separation distances prescribed by SEPP 65 and the Apartment Design Guidelines.

5.2 View Corridors

Objectives:

- Maintain key view corridors through the site which provide enhanced views of areas of public open space and key thoroughfares;
- Enhance north south and east-west view corridors through the site to surrounding road networks as identified in Figure 26.
- Provide view corridors which support crime prevention through environmental design.

Figure 26: Primary View Corridors



6 Access, parking and servicing

6.1 Vehicle Access

Objectives:

- Minimise vehicular access across the site to improve pedestrian connections;
- Limit vehicular access and exits to the site to two primary intersections off Station Street and Woodriff Street;
- Limit service vehicular access around the site to areas identified in Figure 27.

Controls:

- Vehicular access and movements are to be predominantly undertaken within the basement;
- Above ground vehicle movements are to be predominantly used for basement access and service and emergency vehicles
- The vehicle movements identified in Figure 27 are indicative only and are subject to the outcomes of a traffic analysis and the satisfaction of Council.

6.2 Pedestrian Access and Mobility

Objectives:

- Create large pockets of public open space within the site to encourage pedestrian use of open space;
- Provide pedestrian access paths through the entire site to promote the movement of people within and across the site;
- Provide pedestrian access from all of the sites key frontages (Station Street, Woodriff Street and Jamison Road) to allow the distribution of people throughout the site
- Encourage the provision of a shared user path along the Station Street frontage of the site.

Controls:

- Pedestrian and bicycle access paths to be provided connecting the site to adjoining streets consistent with the indicative pedestrian movements identified in Figure 27;
- Provide clear pathways from hardscape public domain through to public open space to encourage community use.

Figure 27: Vehicle Access and Pedestrian Movement Plan

6.3 On-Street Parking Options

This section relates to the provision of on street parking arrangements for visitors, residents, taxis, retail uses and the general public.

Objectives

- Where possible encourage the provision of on-street parking to support the community;
- Encourage the use of on-street loading bays adjacent localised retail uses to be used for loading facilities outside of peak hours;
- Encourage the provision of residential visitor parking to be provided at ground level across the site.
- Provide short term parking for the public wishing to use the public open space provided on site.

Controls:

- All parking to be provided on site;
- Parking is to be provided in accordance with the parking rates within Table C10.2 of the Penrith Development Control Plan 2014.

6.4 Parking requirements for Residential Apartments

Controls:

- Parking is to be provided in accordance with the parking rates within Table C10.2 of the Penrith Development Control Plan 2014;
- Resident parking is to be provided in basement levels.

6.5 Service Roads and Emergency Vehicles

The site will provide service and emergency vehicles road access via two east-west laneways off the primary t-intersection roads. These shared pathways will be made available for emergency and service vehicle access.

Controls:

- East-West road access for emergency and service vehicles is to be provided as identified in Figure 27 and 28.

Figure 28: Service and Emergency Vehicle Access

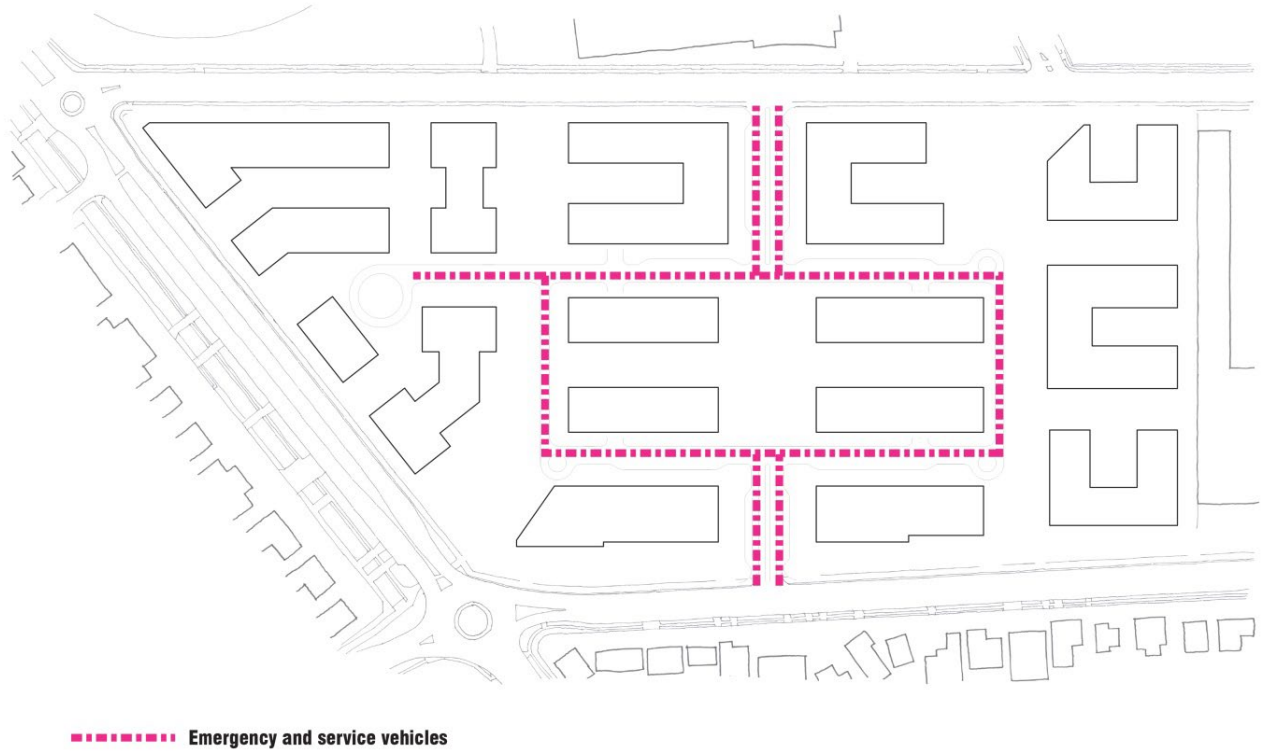


Table of Contents

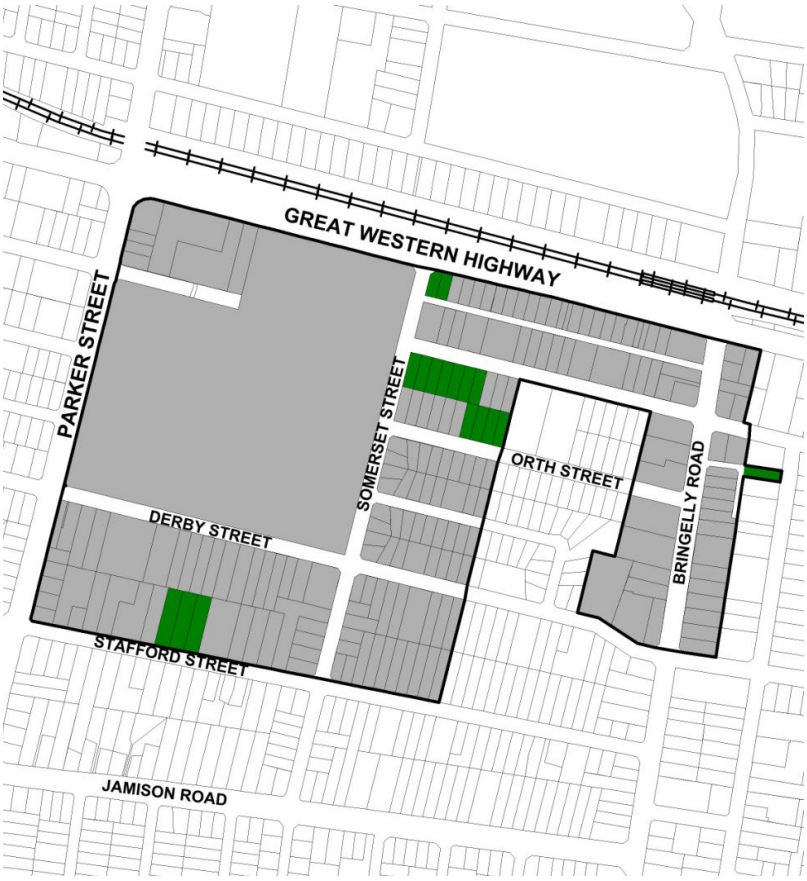
E12 Part A Hospital Precinct

12.1 Background

12.1.1 Area included within the Hospital Precinct

This section applies to development on land covered by the Hospital Precinct as shown in Figure E12.1. This section provides specific controls for the Hospital Precinct in addition to the general controls elsewhere in this DCP. In the event of any inconsistency between this section and the rest of the DCP, the requirements of this section prevail.

Figure E12.1 Land to which this section applies



12.1.2 Aims of the controls for the Hospital Precinct

The aim of the controls in this section of the DCP is to provide more detailed provisions for development in the Hospital Precinct that will:

a) Contribute to the growth and character of Kingswood as a specialised medical precinct;

b) Deliver a balanced social, economic and environmental outcome; and

c) Protect and enhance the public domain.

12.1.3 General Objectives

a) To facilitate the revitalisation of Kingswood by promoting redevelopment and urban sustainability;

b) To promote high quality urban design, architectural excellence and environmental sustainability in the planning, development and management of the Hospital Precinct;

c) To provide for mixed use, commercial and residential development within the Hospital Precinct which will provide high levels of amenity for occupants;

d) To encourage medical related uses and research and development opportunities between the Hospital and the University of Western Sydney;

e) To provide high levels of accessibility within the precinct, connecting significant activity nodes, public open space and surrounding residential areas;

f) To encourage development within the Hospital Precinct that prioritises the public domain and creates an attractive and vibrant centre;

g) To encourage integration of the residential and non-residential land uses and improved access to transport facilities;

h) To achieve an attractive and sustainable precinct; and

i) To ensure that development within the Hospital Precinct is consistent with the desired future character of each character area.

12.1.4 Character Areas

The Hospital Precinct is located in Kingswood, immediately east of, and in close proximity to, the Penrith City Centre. The location of the Nepean Hospital and the surrounding range of medical services and facilities within its boundaries make this area the primary medical centre for the Penrith LGA. The University of Western Sydney's Kingswood campus as well as TAFE NSW Nepean College is located within close proximity of the Precinct, with many of the services also catering to students of these tertiary institutions. The Hospital Precinct also enjoys good access by public transport, with the Kingswood Railway Station located north east of the Precinct.

The majority of the Hospital Precinct is zoned B4 Mixed Use under Penrith LEP 2010, which provides for an innovative mix of commercial and medical related uses as well as higher density housing to service the needs of medical patients, staff and students.

There are three precincts identified in the Hospital Precinct (see Figure E12.2), all with their own distinct characteristics. Generally, these activity precincts acknowledge and reinforce existing patterns of use in the area and have been identified as having potential to contribute to the precinct's demands for growth in health and medical related uses and the related demands for key worker and student accommodation in an accessible location, with close proximity to the Nepean Hospital, the University of Western Sydney, local services and public transport.

The intended character of each of these precincts is identified below and will be used to inform and guide future development.

A. Commercial Mixed Use

This precinct includes the existing shopping strip located adjacent to the Great Western Highway, Wainwright Lane located to the south and the northern end of Bringelly Road.

The location of the existing retail strip adjacent to the Great Western Highway offers businesses high visibility as well as strong public transport linkages as a result of the proximity to the Kingswood Railway station. There are existing pedestrian linkages from the station to the Nepean Hospital which will be reinforced to ensure pedestrian safety and comfort. Additional linkages will be encouraged to provide a more direct route for pedestrians and cyclists.

Development in this area will be required to respond to potential impacts to amenity caused by the proximity to major transport corridors through building design, layout and materials. Mixed use developments will provide active ground floor uses and high quality building and public domain design outcomes to create a comfortable pedestrian environment that reduces the noise and traffic impacts. The ground floor tenancies will accommodate retail businesses. The lot orientation of this area may require applicants to demonstrate adequate solar access can be provided to the public domain. Consistent landscape treatment will be provided along the Great Western Highway.

Bringelly Road will provide the second tier of development opportunities south of the primary commercial and retail strip. The reduced building heights and generous pedestrian verges in this part of the precinct will allow for a more human scale streetscape that is supportive of active uses that encourage the community to gather and enjoy the public domain. High order landscaping elements will be incorporated on the Bringelly Road/ Northern Road intersection to create an embellished eastern gateway to the Hospital Precinct.

Bringelly Road is largely developed with medium density residential dwellings in the form of residential flats and two storey townhouses. There is opportunity for this area to adopt a higher density residential form along Rodgers Street and Bringelly Road.

The north western part of the Commercial Precinct offers three frontages to the Great Western Highway, Parker Street and Barber Avenue and is a major gateway site to the whole Hospital Precinct. Development within this part of the precinct will be encouraged to incorporate high quality architectural design standards and landscaping, fitting for its location as the gateway to the Hospital Precinct.

B. Medical Mixed Use

This precinct is adjacent to the Nepean Hospital and offers the most dynamic environment to further develop the Hospital Precinct into a specialised medical precinct. This precinct encourages development that would support the operation of the hospital, such as medical offices, pharmacies, short-term accommodation, convenience stores and other forms of retail that will meet the needs of visitors and people using the medical services offered within the precinct.

Medium to high density development will be developed in a similar nature to the existing institutional scale development present within the precinct. Building heights will be 4-6 storeys and will incorporate ground floor active uses with commercial and residential uses located above. The western vista will be a key consideration when designing development within this Precinct.

Development along Somerset and Derby Street is encouraged to take advantage of the potential for these streets to offer a high quality entrance to the Hospital Precinct, with continuous landscaped themes and high quality architectural design. A high quality public realm will be achieved by providing generous pedestrian zones and activating ground floor frontages.

Orth Street should be treated as a major connector between the hospital and the main area of local community space located on Bringelly Road to the east. This connection will accommodate pedestrians and cyclists with a generous, landscaped southern verge.

C. Residential Edge

Development within this precinct should ensure there are pedestrian and cycle linkages from Stafford Street to Derby Street. The existing open space pocket on Stafford Street offers potential to be connected through to Derby Street which would add another public space in close proximity to the Hospital.

Development in this precinct will step down in bulk and scale to provide a transition to the surrounding residential areas located south and east of the Hospital Precinct and will ensure that impacts in terms of visual amenity and overshadowing are minimised.

Figure E12.2 Character areas

12.2 Land use controls

12.2.1 Mixed use development controls

A. Background

Mixed use developments can provide a variety of uses and activities, to ensure that the Hospital Precinct outside the working day, adding vibrancy and life to the streets. Different uses within the same building are encouraged with retail and commercial activity at ground level, and residential uses, requiring privacy and noise mitigation, located above street level. Residential developments overlooking street life provide active visual surveillance and contribute to a sense of security within an area.

The development of mixed use buildings within the Hospital Precinct, with active uses at the street frontage, is a significant strategy designed to revitalise the precinct and encourage medical related uses.

B. Objectives

a) To encourage a variety of mixed use developments in the Hospital Precinct;

b) To encourage medical based uses and facilities to locate in close proximity of the hospital;

c) To create additional jobs to support the hospital and local community;

d) To provide increased density to allow hospital workers to live close to work;

e) To create lively streets and public spaces night and day within the Hospital Precinct;

f) To increase the diversity and range of shopping and recreational activities for workers, residents and visitors;

g) To enhance public safety by increasing activity in the public domain outside business hours;

h) To minimise potential conflicts and achieve compatibility between different uses;

i) To ensure that the design of mixed use developments addresses residential amenity;

j) To create legible safe access and circulation in mixed use developments;

k) To ensure that mixed use developments address the public domain and the street; and

l) To ensure an appropriate scale between new development and street width, local context, adjacent buildings and public domain.

C. Controls

1) Mixed use developments are to provide flexible floor areas and layouts to both the ground and first floor of buildings to accommodate a range of commercial uses.

2) Standard floor to ceiling heights apply for mixed-use developments in accordance with the Building Code of Australia and the Residential Flat Design Code. However, where an applicant is seeking to take advantage of the additional building height incentives prescribed by LEP 2010, the following floor to ceiling heights apply:

    a) 3.5m on the ground and first floor; and

    b) 2.7m on the upper floors

    These floor to ceiling heights must be applied to the entire floor in order to be granted the height bonus.

    To demonstrate that 2.7m floor to ceiling heights can be achieved (allowing for recessed lighting) a minimum floor to floor height of 3.1m is to be provided.

3) Where it is proposed to vary the height of building controls to take advantage of the height incentives, applicants are to consult Council early in the design process.

4) The commercial and residential activities of the building are to have separate service provision, such as loading docks, lobbies and lift access, defined parking areas, garbage storage and servicing.

5) Mixed use developments are to provide commercial frontage (retail/business/office premises) as a part of the development as shown in Figure E12.3 for the ground and first floors. Variation may be considered to this control in order to provide adaptable housing.

6) The ground floor of a mixed use development is to provide a minimum of 75% commercial frontage.

7) A minimum site width of 24m is required for any mixed use development.

8) Residential entries shall be clearly marked and provide direct access to the street. Vehicular access is to be from rear lanes, where practicable and possible. Pedestrian entrances are to address the main streets.

9) Commercial and residential uses should have clearly separate entries and vertical circulation.

10) Security access controls must be provided to all entrances into private areas, including car parks and internal courtyards.

11) Buildings are to provide an active ground floor setback zone, free of columns, balustrades and other visual barriers to the primary streetfront.

12) Blank building walls at ground level are to be avoided.

Figure E12.3 Ground and first floor commercial

12.3. Built form controls

A. Background

Building form and character refers to the individual elements of building design that collectively contribute to the character and appearance of the built environment. Penrith LEP 2010 includes provisions for land use, building heights, floor space ratio, heritage provisions and design excellence. The controls in this section of the DCP encourage buildings that provide high quality design, innovation and creativity.

B. Objectives

a) To establish an appropriate scale, dimension, form and separation of buildings;

b) To achieve active street frontages with good physical and visual connections between buildings and the street;

c) To ensure there is consistency in the main street frontages of buildings by having a common alignment to reinforce the streetscape sense of enclosure;

d) To provide for pedestrian comfort and protection from weather conditions;

e) To define the public street to provide spaces that are clear in terms of public accessibility and safety, and are easy to maintain;

f) To ensure building depth and bulk is appropriate to the environmental setting and landform;

g) To achieve visual interest and a reduction in scale through building design and finishes;

h) To achieve design excellence;

i) To achieve a high quality public domain through innovative use of landscape and public domain upgrades

j) To achieve a high level of amenity throughout the Hospital Precinct and a sustainable urban environment; and

k) To ensure that buildings are responsive to the overall character of the Hospital Precinct.

12.3.1. Street alignment, building height and setbacks

A. Background

Well framed streets are an important characteristic of a town centre. Buildings within the Hospital Precinct should contribute to a strong definition of the street and public domain by providing an appropriate scale, proportion and sense of enclosure to streets that reflect the hierarchy of the street and the precinct's role as an important centre.

Building alignment and street setbacks establish the front building line. They help to create the proportions of the street reserve and the level of interaction of the building to the street. They can contribute to the public domain by enhancing streetscape character and continuity of street facades.

Street setbacks can also be used to enhance the building address and provide for landscape areas, entries to buildings and deep soil zones. Buildings align along the street with a common setback line to reinforce the urban character and improve pedestrian accessibility, amenity and activity at street level.

Street frontage heights refer to the height of the building at the street alignment including buildings with setbacks. Above the street setback height, upper levels of buildings should be setback further to maintain an appropriate scale for the area.

The built form for the Hospital Precinct should be expressed as mixed use developments comprising of commercial and retail on the lower floors with additional levels of dedicated residential set further back.

B. Objectives

In addition to the objectives for Built Form, the objectives of this section are to:

a) Establish consistent streetscapes through control of the built form visible from the public domain;

b) Provide street setbacks appropriate to building function and character;

c) Establish the desired spatial proportions of the street and define the street edge;

d) Provide for an appropriate transition in building heights from key public spaces;

e) Locate active uses closer to pedestrian activity areas;

f) Maximise solar access to the public domain;

g) Ensure an appropriate level of amenity for building occupants in terms of daylight access, outlook, view sharing, ventilation, wind mitigation, and privacy;

h) Achieve comfortable public domain environments for pedestrians in terms of scale, daylight access and wind mitigation as well as healthy environments for street trees; and

i) Provide building separation for visual and acoustic privacy.

C. Controls

1) Street building alignments are to be provided as specified in Figure E12.4.

2) Minor projections into front building lines and setbacks for sun shading devices, entry awnings and cornices are permissible.

3) Building height will generally be restricted to a maximum podium height of 2-4 storeys addressing the main streets, with any additional storeys set back.

4) Developments located within the Residential Edge Precinct must step down in height and demonstrate that the development does not adversely impact on the adjoining residential area in terms of visual amenity or overshadowing.

Figure E12.4 Street setbacks

12.3.2. Building Depth and Bulk

A. Background

Controlling the size of upper levels of taller buildings allows for good internal amenity, access to natural light and ventilation, and reduces potential adverse effects that tall and bulky buildings may have on the public domain.

B. Objectives

a) To provide viable and useable commercial floor space;

b) To ensure access to light, ventilation and outlook and minimise the dependence on artificial light;

c) To reduce the bulk of buildings by limiting depth;

d) To reduce the extent of overshadowing on neighbouring properties; and

e) To reduce the apparent bulk and scale of buildings by breaking up expanses of building wall with modulation of form.

C. Controls

1) Non-residential buildings greater than 12m in height are to have a maximum depth of 25m.

2) All points of an office floor should be no more than 10m from a source of daylight (e.g. window, atria or light wells).

3) Atria, light wells and courtyards are to be used to improve internal building amenity and achieve cross ventilation and/or stack effect ventilation.

4) Large unrelieved expanses of wall or building mass will not be supported and should be broken up by the use of suitable building articulation, fenestration or alternative architectural enhancements.

12.3.3. Boundary setbacks and building separation

A. Background

Setbacks define the spaces between buildings and the balance in a street between built form and landscape between the buildings. The setbacks between the buildings set the rhythm of the street and contribute to the character of the street (ie mixed use versus residential).

Separation in combination with setbacks contributes to amenity by creating privacy, and allowing ventilation, daylight access and view sharing. The degree of separation required for the side setback at the street will relate directly to the design of any apartment or commercial use facing that boundary. For example, if living areas and balconies have their primary orientation towards the side boundary then the separation distance will take precedence over the setback control.

Separation for mixed use development containing residential and commercial uses is to be in accordance with specified distances for each component use.

B. Objectives

In addition to the objectives for Built Form, the objectives of this section are to:

a) Ensure an appropriate level of amenity for building occupants in terms of daylight access, outlook, view sharing, ventilation, wind mitigation and privacy; and

b) Achieve usable and pleasant streets and public domain areas in terms of wind mitigation and daylight access.

C. Controls

1) The minimum side and rear building setbacks for non-residential uses are specified in Table E12.1.

2) If the specified setback distances cannot be achieved when an existing building is being refurbished or converted to another use, appropriate visual privacy levels are to be achieved through other means.

3) Minimum separation distances for buildings within a site and between adjoining sites for buildings are:

Up to four storeys (approximately 12m):

- 9m between habitable and non-habitable
- 6m between non-habitable

Five to eight storeys (approximately 25m)

- 12m between habitable and non-habitable
- 9m between non-habitable rooms

Table E12.1 Side and rear setback requirements

Building height and use	Minimum Side and Rear Setback
Non-residential uses:	
– up to 12m	0 m
– 12m to 24m	6 m

12.3.4. Site coverage and deep soil zones

A. Background

Limiting site coverage provides separation between buildings. This space may be public (accessible and useable by the general public), communal (shared by all occupants of a development) or private (for the exclusive use of a single dwelling or tenancy). Limiting site coverage improves amenity by providing daylight access, visual privacy and opportunities for recreation and social activities.

Deep soil zones are areas of natural ground retained within a development, uninhibited by artificial structures and with relatively natural soil profiles. Deep soil zones have important environmental benefits, including:

a) Promoting healthy growth of large trees with large canopies;

b) Protecting existing mature trees; and

c) Allowing infiltration of rainwater to the water table and reduction of stormwater runoff.

B. Objectives

In addition to the objectives for Built Form, the objectives of this section are to:

a) Provide an area on sites that enables soft landscaping and deep soil planting, permitting the retention and/or planting of trees that will grow to a large or medium size;

b) Limit building bulk on a site and improve the amenity of developments, allowing for good daylight access, ventilation and improved visual privacy; and

c) Provide passive and active recreational opportunities.

C. Controls

1) Open space must be provided equivalent to 25% of the total site area.

2) The maximum site cover and minimum deep soil zone for development is specified in Table E12.2:

Table E12.2 Maximum site cover and minimum deep soil zone

Character Area	Maximum Site Cover	Minimum Deep Soil Zone (% of Site Area)
Commercial Mixed Use and Medical Mixed Use	75%	10%
Residential Edge	50%	15%

Note: Council may consider 100% site coverage on land within the Commercial Mixed Use character area along the Great Western Highway only.

3) The deep soil zone is to be provided in one continuous block. If multiple deep soil zones are provided, they must have a minimum dimension (in any direction) of 6m.

4) Where non-residential developments result in full site coverage and there is no capacity for water infiltration, planting on roof tops or over basement carport structures can be provided as a component of the mixed use development. In such cases, compensatory stormwater management measures must be integrated within the development to minimise stormwater runoff.

5) Where deep soil zones are provided, they must be associated with any existing mature trees as well as allowing for the planting of additional trees and landscape.

6) No structures, works or excavations that may restrict vegetation growth are permitted in deep soil zones (including, but not limited to, car parking, hard paving, patios, decks and drying areas).

12.3.5 Building exteriors

A. Background

A town's streetscape and public domain is defined by its buildings, streets and public places. The maintenance and improvement of the public domain is dependent on a consistent approach to the design of new development including the articulation and finish of building exteriors.

B. Objectives

The objectives of this section are to ensure that buildings in the Hospital Precinct:

a) Contribute positively to the streetscape and public domain by means of high quality architecture and robust selection of materials and finishes;

b) Provide richness of detail and architectural interest especially at visually prominent parts of buildings, such as lower levels and roof tops;

c) Present appropriate design responses to nearby development that complement the streetscape;

d) Clearly define the adjoining streets, street corners and public spaces and avoid ambiguous external spaces with poor pedestrian amenity and security;

e) Maintain a pedestrian scale in the articulation and detailing of the lower levels of the building; and

f) Contribute to a visually interesting skyline.

C. Controls

1) Adjoining buildings are to be considered when designing new buildings and extensions to existing buildings in terms of:

   a) Appropriate alignment and street frontage heights;

   b) Setbacks above street frontage heights;

   c) Selection of appropriate materials and finishes;

   d) Facade proportions including horizontal or vertical emphasis; and

   e) Provision of enclosed corners at street intersections.

2) Balconies and terraces should be provided, particularly where buildings overlook parks and on low rise parts of buildings. Gardens on the top of setback areas of buildings and on roofs are encouraged.

3) Reliance on continuous balconies to create the main façade is not supported.

4) Building façades are to be articulated so that they address the street and add visual interest.

5) The design of the street and laneway facades should respond to the existing lot subdivision pattern in the vertical expression of the building.

6) External walls should be constructed of high quality and durable materials and finishes with ‘self-cleaning’ attributes, such as face brickwork, rendered brickwork, stone, concrete and glass. Use of painted render as the primary material is not encouraged.

7) To assist articulation and visual interest, large expanses of any single material are to be avoided.

8) Glazing for retail uses is to be maximised, but broken into sections to avoid large expanses of glass.

9) Highly reflective finishes and curtain wall glazing are not permitted above ground floor level.

10) A materials sample board and schedule are required to be submitted with applications for development over $1 million or for that part of any development built to the street edge.

11) The design of roof plant rooms and lift overruns is to be integrated into the overall architecture of the building, and in residential buildings, may be screened by roof pergolas.

12.3.6 Landscape design

A. Background

Landscape design includes the planning, design, construction and maintenance of all utility, open space and garden areas. Water sensitive urban design principles are encouraged and should be applied as much as possible. Good landscaping is fundamental to the amenity and quality of outside space for residential flats.

Where streets vary in scale and character, trees and plantings should be used to enhance and create a consistent character to each street and place. The design of parks and open space areas should reflect the function of the place, its existing or potential character, and its place in the overall structure and hierarchy of the public domain. The design of these spaces should also contribute to providing a good amount of public amenity within the Hospital Precinct.

B. Objectives

In addition to the objectives for Built Form, the objectives of this section are to:

a) Ensure that the use of potable water for landscaping irrigation is minimised;

b) Ensure landscaping is integrated into the design of development;

c) Add value and quality of life for residents and occupants within a development in terms of privacy, outlook, views and recreational opportunities;

d) Achieve a strong and distinctive landscape character for the precinct and contribute to the reduction of surface stormwater runoff;

e) Celebrate the symbolic interpretation with the landscape of regional parklands, the mountains and historic watercourses; and

f) Create an ongoing City ecology by using appropriate species for the area.

C. Controls

1) Recycled water should be used to irrigate landscaped areas.

2) Commercial and retail developments are to incorporate planting into accessible outdoor spaces.

3) Remnant vegetation must be maintained throughout the site, wherever practicable.

4) A long term landscape concept plan must be provided for all landscaped areas, including the deep soil zone, in accordance with the Landscape Design section of this DCP. The plan must outline how landscaped areas are to be maintained for the life of the development.

12.3.7 Planting on structures

A. Background

The following controls apply to planting on roof tops or over car park structures, particularly for communal open space required as a component of mixed use residential development, or in non-residential developments where the landscaping proposed is not on natural ground.

The plants in these areas are grown in total containment with artificial soils, drainage and irrigation and are subject to a range of environmental stresses that affect their health, and

ultimately their survival. Compliance with the controls in this section will help minimise health risks to plants and provide quality landscaped areas.

B. Objectives

In addition to the objectives for Built Form, the objectives of this section are to:

a) Contribute to the quality and amenity of open space on roof tops and internal courtyards;

b) Encourage the establishment and healthy growth of greening in urban areas; and

c) Minimise the use of potable water for irrigating planting on structures.

C. Controls

1) Planting should be designed for optimum conditions for plant growth by:
   a) Providing soil depth, soil volume and soil area appropriate to the size of the plants to be established;
   b) Providing appropriate soil conditions and irrigation methods; and
   c) Providing appropriate drainage.
2) Planters should be designed to support the appropriate soil depth and plant selection by:
   a) Ensuring planter proportions accommodate the largest volume of soil possible and soil depths to ensure tree growth; and
   b) Providing square or rectangular planting areas rather than narrow linear areas.
3) Minimum soil depths should be increased in accordance with:
   a) The mix of plants in a planter, for example, where trees are planted in association with shrubs, groundcovers and grass;
   b) The level of landscape management, particularly the frequency of irrigation;
   c) Anchorage requirements of large and medium trees; and
   d) Soil type and quality.

12.4. Other controls

12.4.1 Public domain

All public domain works within the Hospital Precinct shall be undertaken in accordance with the provisions of Penrith City Council's "Kingswood Public Domain Manual" (2013) and the other relevant parts of this DCP.

12.4.2 Pedestrian amenity

The pedestrian environment provides people with their primary experience of and interface with the public domain. This environment needs to be safe, functional and accessible to all. It should provide a wide variety of opportunities for social and cultural activities.

Pedestrian amenity incorporates all those elements of individual developments that directly affect the quality and character of the public domain. The pedestrian amenity provisions are intended to achieve a high quality of urban design and pedestrian comfort in the public spaces of the Hospital Precinct.

The controls in this section aim to increase the vitality, safety, security and amenity of the public domain by:

a) Encouraging future through site links at ground level;

b) Ensuring active street frontages and positive building address to the street;

c) Ensuring provision of awnings; and

d) Protecting significant views and vistas along streets.

12.4.2.1 Permeability

A. Background

Through site links provide access connections between the long sides of street blocks for pedestrian and vehicular access at street level. These links provide an important permeability function in the form of lanes, shared zones and pedestrian ways.

B. Objectives

a) To improve access in the Hospital Precinct by providing through site links as redevelopment occurs;

b) To retain and enhance existing through site links as redevelopment occurs;

c) To achieve activated links to increase safety and vitality;

d) To achieve a high quality pedestrian environment;

e) To retain or revitalise lanes as useful and interesting pedestrian connections as well as for service access; and

f) To improve the permeability of large sites when they are redeveloped for more intensive uses.

C. Controls

1) Through site links are to be provided as shown in Figure E12.6 with accessible paths of travel that are:

   a) A minimum width of 4m for its full length and clear of all obstructions including columns, stairs, building overhangs etc;

   b) Direct and publicly accessible thoroughfares for pedestrians;

   c) Open-air for its full length and have active frontages or a street address; and

   d) Activated by retail or commercial for a minimum of 70% of its length.

2) Existing dead end lanes are to be extended through to the next street as redevelopment occurs.

3) New through site links should be aligned and connected with existing and proposed through block lanes, shared zones and pedestrian ways and opposite other through site links.

4) Existing publicly and privately owned links are to be retained.

5) Signage is to be located at street entries indicating public access through the site as well as the street to which the link connects.

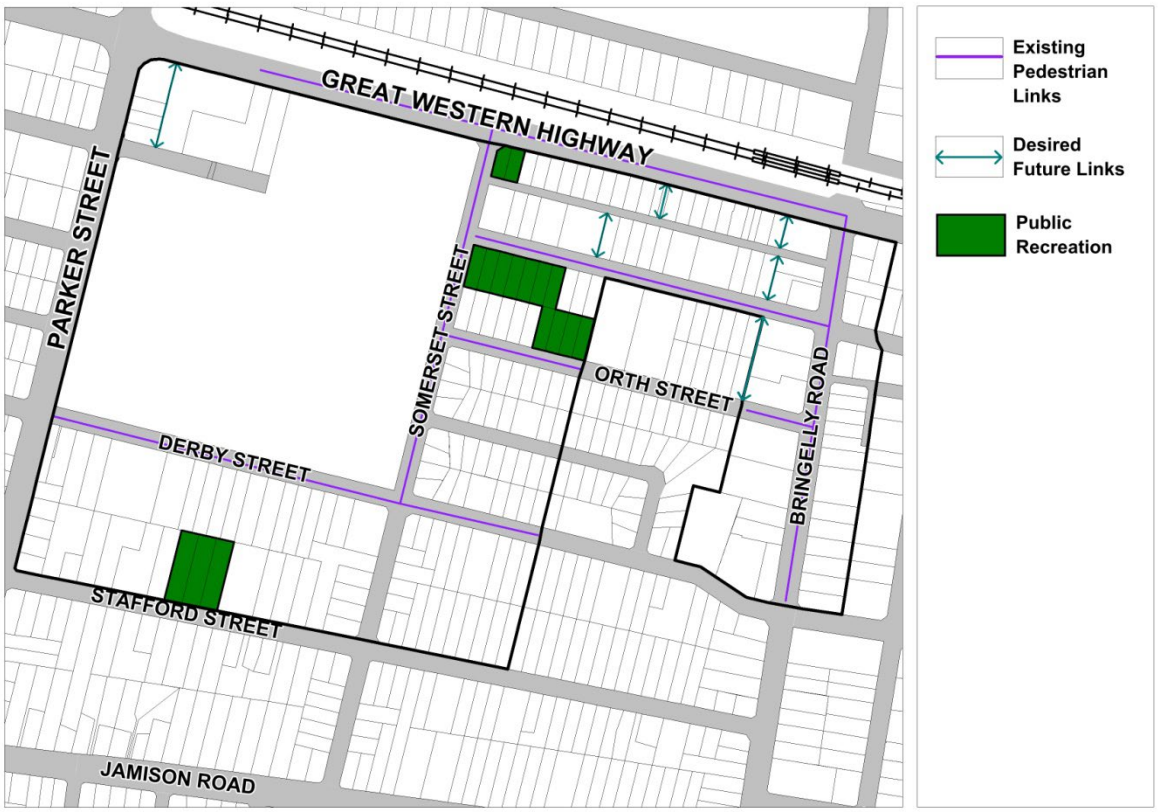
6) Lanes are to be designated pedestrian routes that are:

   a) Accessible paths of travel, with a minimum width of 6m for the full length, which is clear of all obstructions;

b) Designed, paved and well lit; and

c) Appropriately signposted indicating the street(s) to which the lane connects.

Figure E12.6 Existing and desired links



12.4.2.2 Active street frontages and address

A. Background

Active street frontages promote an interesting and safe pedestrian environment. Busy pedestrian areas and non-residential uses, such as shops, studios, offices, cafes, recreation and promenade opportunities, promote the most active street fronts.

Residential buildings contribute positively to the street by providing a clear street address, direct access from the street and direct outlook over the street.

B. Objectives

a) To promote pedestrian activity and safety in the public domain;

b) To maximise active street fronts in Hospital Precinct;

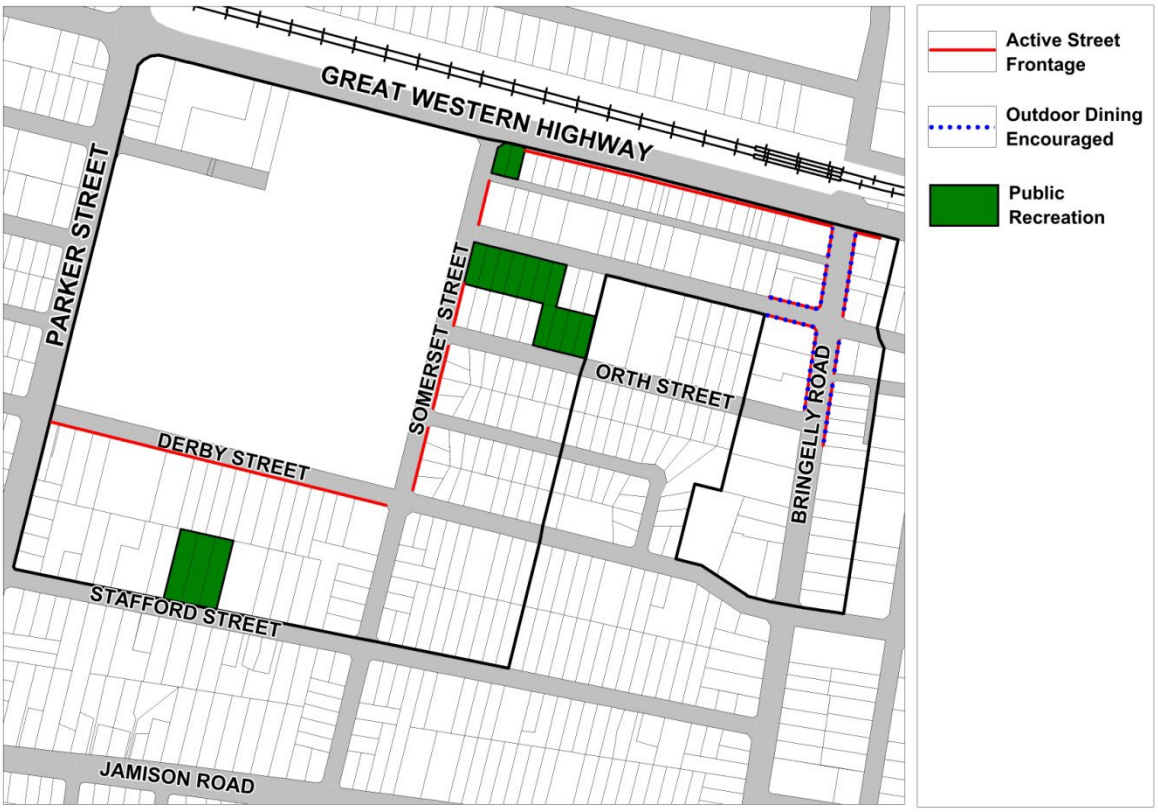
c) To define areas where active streets are required or outdoor dining is encouraged; and

d) To encourage an address to the street outside of areas where active street frontages are required.

C. Controls

1) Active frontage uses are defined as one or a combination of the following, at street level:
   a) An entrance to retail premises;
   b) A shop front;
   c) Glazed entries to commercial and residential lobbies occupying less than 50% of the street frontage, to a maximum of 12m frontage;
   d) A café or restaurant if accompanied by an entry from the street;
   e) Active office uses, such as a reception, if visible from the street; and
   f) A public building, if accompanied by an entry.
2) Active street fronts are to be located at the ground level of all buildings located in those areas as shown in Figure E12.7.
3) Ground floor active street frontage uses are to be at the same level as the adjoining footpath and must be directly accessible from the street.
4) Restaurants, cafes and the like are to consider providing openable shop fronts. A separate approval from Council is required under the *Roads Act* and *Local Government Act* for outdoor street dining.
5) Street address is defined as entries, lobbies, and habitable rooms with full height to a minimum of 2.1m clear glazing to the street.
6) Residential developments are to provide a clear street address and direct pedestrian access off the primary street front or laneway (if provided), and allow for residents to overlook all surrounding streets.
7) Commercial entries are to be separate to residential entries and are to address the primary street frontage.
8) Large developments should provide multiple entrances including an entrance on each street frontage leading to separate cores.
9) Residential buildings are to provide not less than 65% of the lot width as street address.

Figure E12.7 Active Street Frontages



12.4.2.3 Safety and security

A. Background

The design of buildings and public spaces has an impact on perceptions of safety and security, as well as actual opportunities for crime. A safe and secure environment encourages activity, vitality and viability, enabling a greater level of security.

B. Objectives

a) To minimise opportunities for crime by incorporating environmental design in the development;

b) To ensure developments are safe and secure for pedestrians;

c) To contribute to the safety of the public domain; and

d) To encourage a sense of ownership over public and communal open spaces.

C. Controls

1) For residential lobbies the lift is to be visible upon entry to the foyer.

2) The extent of corridors between the entry doors and the lift is to be minimised.

3) The minimum width of the corridor is to be at least 3m leading to the lift on the ground floor.

4) All residential lobbies are to be provided with a seating area and space for letterboxes.

5) Developments are to address the provisions of the Site Planning and Design Principles section of this DCP as it relates to Crime Prevention through Environmental Design (CPTED) principles.

6) Building design, particularly for higher density residential buildings, are to allow for passive surveillance of public and communal spaces, accessways, entries and driveways.

7) For large scale retail and commercial development with a gross floor area of over 5,000m^2, a 'safety by design' assessment by a qualified consultant, is to be provided in accordance with the CPTED principles.

8) Certain types of development will be referred to Council's Community Safety Officer and, where appropriate, NSW Police in accordance with the CPTED protocol between Penrith City Council and NSW Police.

12.4.2.4 Awnings

A. Background

Awnings increase the useability and amenity of public footpaths by protecting pedestrians from sun and rain. They encourage pedestrian activity along streets and, in conjunction with active edges such as retail frontages, support and enhance the vitality of the local area. Awnings, like building entries, provide a public presence and interface within the public domain and contribute to the identity of a development.

A separate approval to erect an awning over the road reserve including a footpath will be required under the *Roads Act* and the *Local Government Act*.

B. Objectives

a) To provide shelter from wind and rain for public streets where most pedestrian activity occurs;

b) To address the streetscape by providing a consistent street frontage in the Hospital Precinct; and

c) To provide a visually integrated streetscape.

C. Controls

1) Continuous street frontage awnings are to be provided for all new developments where active street frontages have been identified in Figure E12.7.

2) Awnings should generally:

   a) Be a minimum 2.8m deep where street trees are not required, otherwise a minimum 2.4m deep;

   b) Have a minimum soffit height of 3.2m and a maximum of 4m;

   c) Be stepped for design articulation or to accommodate sloping streets, integral with the building design and not exceed 700mm;

   d) Be low profile, with slim vertical fascias or eaves (generally not to exceed 300mm height); and

   e) Be setback from the kerb to allow for clearance of street furniture, trees, etc (minimum 600mm).

3) Awning design must match building facades and be complementary to those of adjoining buildings.

4) Awnings must wrap around corners for a minimum of 6m.

5) Under-awning lighting, recessed into the soffit of the awning or wall mounted onto the building, is to be provided to facilitate night use and to improve public safety.

6) One under-awning sign may be attached to the awning and must be 6m away from the sign of the adjoining property.

12.4.2.5 Vehicle footpath crossings

A. Background

Vehicle crossings over footpaths disrupt pedestrian movement and threaten safety. The design of vehicle access to buildings also influences the quality of the public domain. Overly wide and high vehicle access points detract from the streetscape and the active use of street frontages.

The design and location of vehicle access to developments should minimise both conflicts between pedestrians and vehicles on footpaths, particularly along pedestrian priority places, and visual intrusion and disruption of streetscape continuity.

B. Objectives

a) To make vehicle access to buildings more compatible with pedestrian movements;

b) To reduce the impact of vehicular access on the public domain; and

c) To ensure vehicle entry points are integrated into building design and contribute to the building design.

C. Controls

1) A maximum of one vehicle access point (including the access for service vehicles and parking for non-residential uses within mixed use development) will be permitted for each development.

2) Where practicable, vehicle access is to be from lanes and minor streets rather than primary street fronts or streets with major pedestrian activity.

3) Where practicable, adjoining buildings are to share or amalgamate vehicle access points. Internal on-site signal equipment is to be used to allow shared access. Where appropriate, new buildings should provide vehicle access points so that they are capable of shared access at a later date.

4) To ensure pedestrian safety, vehicle entry points should not be located adjacent to building entry points.

5) Vehicle access widths and grades are to comply with the Australian Standard.

6) Vehicle access ramps parallel to the street frontage will not be permitted.

7) Vehicle access ramps must be integrated into the building design and are not permitted as separate structures, Ramps must not be exposed along the side boundary.

8) Vehicle entry points are to be integrated into building design.

9) Doors to vehicle access points are to be roller shutters or tilting doors fitted behind the building facade.

10) Vehicle entries are to have high quality finishes to walls and ceilings as well as high standard detailing. No service ducts or pipes are to be visible from the street.

11) Porte cocheres disrupt pedestrian movement and do not contribute to active street frontage. They may only be permitted for hotels, medical use buildings and major tourist

venues subject to urban design, streetscape, heritage and pedestrian amenity considerations.

12) If justified, porte cocheres are to be internal to the building with one combined vehicle entry and exit point, or one entry and one exit point on two different street fronts of the development.

13) In exceptional circumstances for buildings with one street frontage only, an indented porte cochere with separate entry and exit points across the footpath may be permitted, as long as it is constructed entirely at the footpath level, provides an active frontage at its perimeter and provides for safe and clear pedestrian movement along the street.

12.4.3 Car Parking

A. Background

Most controls that relate to car parking are included in the Transport, Access and Parking section of this DCP. The following section provides some additional on-site car parking options for the Hospital Precinct.

B. Objectives

a) To facilitate an appropriate level of on-site parking provision to cater for a mix of development types;

b) To minimise the visual impact of on-site parking; and

c) To provide adequate space for parking and manoeuvring of vehicles.

C. Controls

1) Car parking above ground level is to have a minimum floor to ceiling height of 2.8m so it may be adapted to another use in the future.

2) Where possible, natural ventilation is to be provided to underground parking areas with ventilation grilles and structures that are:

   a) Integrated into the overall façade and landscape design of the development;

   b) Located away from the primary street façade; and

   c) Oriented away from windows of habitable rooms and private open space areas.

3) Proposals for basement parking areas are to be accompanied with a geotechnical report, prepared by an appropriately qualified professional, and any other supporting information.

4) Basement car parking should be located directly under building footprints to maximise opportunities for deep soil areas unless the structure can be designed to support mature plants and deep root plants.

5) The appearance of car parking is to be improved by locating parking so that it is not visually prominent from the street.

6) Car parking structures located above ground and viewed from the public domain are to be architecturally treated or where practical, sleeved with development.

7) Car parking layouts are to comply with the relevant Australian Standards.

12.4.4 Site Facilities and Services

A. Objectives

a) To ensure that the design and location of site facilities (such as clothes drying areas, mail boxes, etc.) are integrated within the development and are unobtrusive;

b) To ensure that site services and facilities are adequate for the nature and quantum of development; and

c) To establish appropriate access and location requirements for servicing.

B. Controls

1) Letterboxes should be integrated into a wall immediately adjacent to the building entrance(s). Where there are a number of entrances into the building, the letterboxes located at each entrance should service the tenancies that will utilise that building entrance.

2) Letterboxes shall be secure and large enough to accommodate articles such as newspapers.

3) Telecommunication infrastructure should be built into the development and predominantly below ground, incorporating the following services fundamental in the effective operation of businesses, home businesses and dwellings:

    a) Multiple telecom services including high speed internet (including broadband), voice and data systems; and

    b) Cabling from all telephone lines and cable TV.

4) Where a master antenna is provided, the antenna must be sited in a location that is least visible from surrounding public spaces/ open areas.

5) Air conditioning units, service vents and other associated structures should be:

    a) Located away from street frontages and lanes;

    b) Located in a position where the likely impact is minimised; and

    c) Adequately setback from the perimeter wall or roof edge of buildings.

6) Where they are to be located on the roof, they should be integrated into the roofscape design and in a position where such facilities do not become a feature in the skyline at the top of building(s).

7) Separate waste storage and collection areas are to be provided for domestic and commercial waste.

8) For developments comprising residential uses, a separate storage and collection area for bulky waste (such as cardboard boxes) and old or discarded furniture/appliances shall be provided.

9) Vehicular access to the waste collection areas should be from rear lanes, side streets and right of ways.

10) The responsibility for the ongoing management of waste facilities must be determined prior to work commencing on the development. Details of the management of waste by future tenants are to form part of the Waste Management Plan for the development. (See Appendix F3 for details on waste management plans).

11) Loading/unloading areas are to be:

    a) Integrated into the design of developments;

b) Separated from car parking and waste storage and collection areas;

c) Located away from the circulation path of other vehicles;

d) Designed for commercial vehicle circulation and access complying with AS2890.2; and

e) Vehicles are to enter and exit the site in a forward direction.

12) Separate loading/unloading areas are to be provided for commercial/retail and residential uses.

13) Generally, provision must be made for all emergency vehicles to enter and leave the site in a forward direction, particularly NSW Fire Brigade vehicles where:

a) NSW Fire Brigade cannot park their vehicles within the road reserve due to the distance of hydrants from the building or restricted vehicular access to hydrants; or

b) Otherwise required by the NSW Fire Brigade's Code of Practice – Building Construction – NSWFB Vehicle Requirements.

14) For developments where NSW Fire Brigade vehicle(s) are required to enter the site, the circulation path and access/egress provision is to comply with the NSW Fire Brigade's Code of Practice – Building Construction – NSWFB Vehicle Requirements.

12.5 Other Information

Please refer to Parts C and D of this DCP for other relevant controls that may apply to development within the Hospital Precinct.

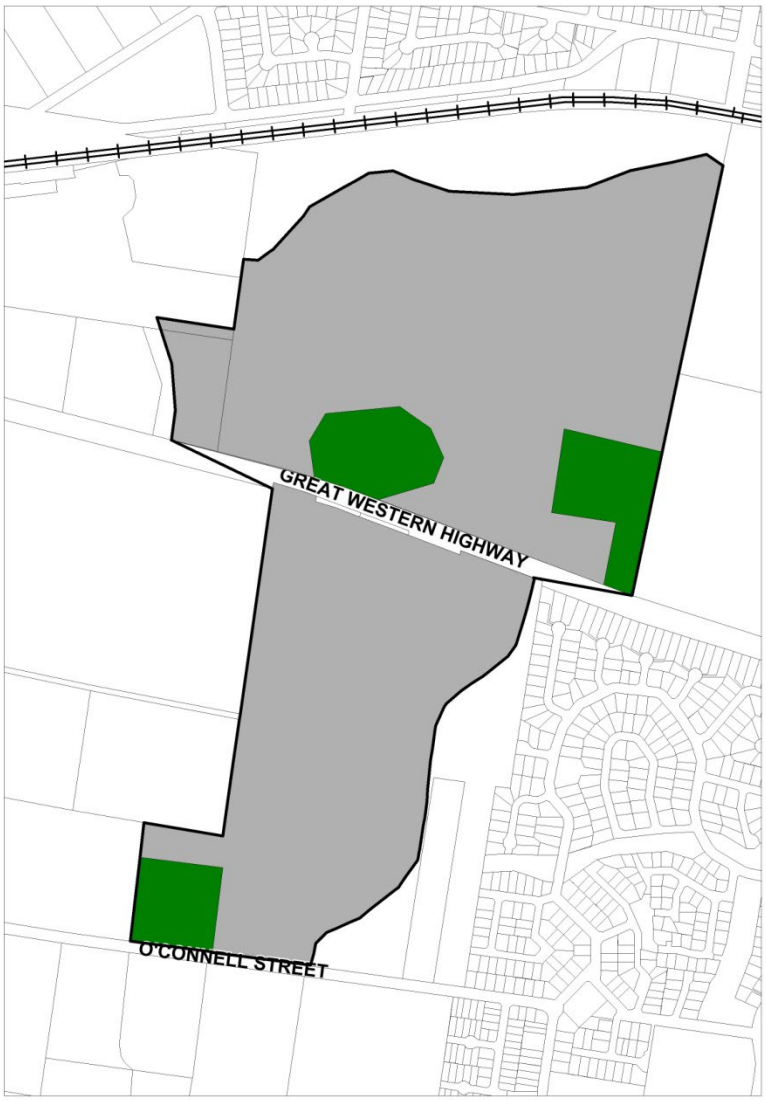
Table of Contents

E12 Part B Business Park Precinct

12.6 Introduction

12.6.1 Area included in the Business Park Precinct

This Section applies to development on land covered by the Business Park Precinct as shown in Figure E12.8. This Section provides specific controls for the Business Park Precinct in addition to the general controls elsewhere in this DCP. In the event of any inconsistency between this Section and the rest of the DCP, the requirements of this Section prevail.



12.6.2 General Objectives

a) To encourage development that promotes investment in the Business Park;

b) To provide a high quality environment for workers;

c) To promote quality urban design, architectural excellence and environmental sustainability in the planning and development, and long term use of the Business Park;

d) To encourage development in the Business Park that activates the public domain and creates an attractive and vibrant precinct;

e) To provide a framework that is flexible enough to accommodate a range of different and innovative uses;

f) To provide high levels of accessibility throughout the Business Park;

g) To provide clear connectivity through the Business Park and to the surrounding neighbourhoods; and

h) To provide the framework to facilitate and encourage the use of public transport, safe pedestrian and cycle movement, and vehicular movement.

12.6.3 Requirements for a Concept Plan

1) Council must not grant consent to development on land comprised within the Business Park unless:

   a) A Concept Plan has been prepared substantially in accordance with the requirements of this Section, submitted to Council and adopted by Council; and

   b) The development is consistent with the adopted Concept Plan.

2) Council may waive the requirement for a Concept Plan due to:

   a) The minor nature of a development;

   b) The adequacy of other planning controls; or

   c) Council's discretion.

12.6.4 Preparation of a Concept Plan

The Concept Plan shall address the following:

a) The existing physical and environmental features of the site;

b) The general indication of the phasing of development;

c) The proposed site layout including an indicative road layout;

d) The distribution of land uses across the site and within multi storey buildings;

e) An urban design and landscape strategy;

f) An infrastructure strategy;

g) A public art strategy;

h) Location of open space, its function and landscaping;

i) Design principles based on analysis of the site and its context;

j) Identification of gateway sites and corridors;

k) A street setback plan showing minimum front building setbacks and build-to boundary front setbacks;

l) Identification of active street frontages;

m) Pedestrian, vehicular and cycle road access and circulation networks and facilities;

n) Remediation of any site contamination;

o) Any other major infrastructure such as transmission lines, trunk sewage or water supply lines.

12.7 Built Form Controls

12.7.1 Street Alignment and Setbacks

Street setbacks and building alignments establish the front building line. They help to create the proportions of the street and can contribute to the public domain by enhancing streetscape character and continuity of street facades.

Street setbacks can also be used to enhance the setting and address for the building. They provide for landscape areas and entries to ground floor uses. Setbacks allow natural ventilation, daylight access and view sharing and increase privacy.

Above street frontage height, buildings should be set back to provide sunlight access to streets, pedestrian areas and lower levels of other buildings. These setbacks allow view corridors, an appropriate building scale for pedestrians, and good growing conditions for street trees.

A. Objectives

a) To establish consistent building alignments to the street;

b) To provide street setbacks appropriate to building function and character;

c) To establish the desired spatial proportions of the street and define the street edge;

d) To create a transition between public and private space;

e) To locate active uses closer to pedestrian activity areas;

f) To maximise solar access to the public domain;

g) To ensure an appropriate level of amenity for building occupants in terms of daylight access, outlook, view sharing, ventilation, wind mitigation, and privacy; and

h) To achieve useable and pleasant streets and public domain areas in terms of wind mitigation and daylight access.

B. Controls

1) Street setbacks are to be in accordance with the requirements specified in Table E12.2 or in accordance with an adopted Concept Plan for the Business Park. These setback areas are to be used for landscaping designed in accordance with the Landscape Design section of this DCP.

2) The minimum setback to the Great Western Highway is 20m.

3) Where appropriate, Landmark buildings are to be located on corner allotments to reinforce the intersections.

4) All buildings are to address the primary road.

5) A well designed urban landscaped entry plaza is to be developed on the frontage of all developments fronting primary roads.

6) Balconies may project up to 1m into front building setbacks, provided the cumulative width of all balconies at that particular level totals no more than 50% of the horizontal width of the building façade, measured at that level.

7) Minor projections into front building lines and setbacks for sun shading devices, entry awnings and cornices are permissible.

8) Basement car parking is not permitted to encroach into the setback area unless it can be demonstrated that the basement is designed to support significant mature trees and deep root planting.

9) Build to lines are to be adhered to however ground floor uses may be considered forward of the building line if these uses promote active street frontages.

10) The building setback areas are not to be used for the display or storage of goods/ materials.

Table E12.2: Minimum setback requirements

Road Classification	Minimum Setback
Primary Road	20m
Secondary Road	15m
All other	10m

Gateway Buildings

1) Gateway sites are to be nominated as part of future development applications. Special emphasis through architectural quality and detailing is required.

2) These buildings are to be iconic in form and will denote and provide emphasis to the street intersections.

3) Buildings are to address the corner condition with an emphasis on the higher order road.

12.7.2 Side and Rear Setbacks

Side and rear setback spaces provide a corridor of deep soil between sites. This area allows for the retention of existing mature trees, and future tree planting. Side and rear setbacks also provide opportunity to resolve changes in level between sites.

A. Objectives

a) To create a pattern of development that positively defines the streetscape;

b) To provide building separation for visual and acoustic privacy;

c) To provide deep soil zones, and maintain mature/significant vegetation; and

d) To contribute to the landscape character of the Business Park.

B. Controls

1) Buildings are to be set back 10m from the rear and 5m from side site boundaries.
2) Awnings, canopies, balconies, sun shading, and screening elements can project into the side or rear setback zones.
3) Basement car park structures should not encroach into the minimum required side or rear setback zone unless the structure can be designed to support mature trees and deep root planting.
4) Natural ground level is to be retained throughout side and rear setbacks, where possible.

12.7.3 Building Bulk

A. Objectives

a) To promote the design and development of sustainable buildings;
b) To achieve the development of working environments with good internal amenity and minimise the need for artificial heating, cooling and lighting;
c) To provide viable and useable commercial floor space;
d) To achieve useable and pleasant streets and public domain at ground level;
e) To achieve a skyline sympathetic to the topography and context;
f) To allow for view sharing and view corridors; and
g) To reduce the apparent bulk and scale of buildings by breaking up expanses of building wall with modulation of form.

B. Controls

1) All points of a habited floor should be no more than 12m from a source of daylight (e.g. window, atria, or light wells).
2) Use atria, light wells and courtyards to improve internal building amenity and achieve cross ventilation and/or stack effect ventilation.
3) Courtyards and atria are to be arranged to promote access to natural light, pedestrian links and slender building forms.
4) Large unrelieved expanses of wall or building mass will not be supported and should be broken up by the use of suitable building articulation, fenestration or alternative architectural enhancements.

12.7.4 Building Separation

A. Objectives

a) To allow solar access to buildings and communal areas;
b) To retain mature vegetation between buildings and allow for deep soil planting;

c) To provide a visual break between buildings and reduce the perceived bulk and scale of the built environment;

d) To provide visual privacy between buildings; and

e) To provide outlook from buildings.

B. Controls

1) A minimum 20m separation is to be provided between buildings facing one another within a site.

2) A minimum 10m separation is to be provided between buildings perpendicular to each other within a site. This reduced building separation control only applies where the width of the facing facades does not exceed 20m.

3) Building separation between sites is controlled by 12.7.2 Side and Rear Setback controls.

12.7.5 Site Coverage and Deep Soil Zones

Deep soil zones are areas of natural ground retained within a development, uninhibited by artificial structures and with relatively natural soil profiles. Deep soil zones have important environmental benefits, including:

a) Promoting healthy growth of large trees with large canopies;

b) Protecting existing mature trees; and

c) Allowing infiltration of rainwater to the water table and reduction of stormwater runoff.

A. Objectives

a) To provide developments with a high level of amenity and landscape character;

b) To retain existing mature trees and allow for future tree planting; and

c) To contribute to stormwater management and reduce runoff.

B. Controls

1) A minimum 20% of the site must be provided as deep soil area. The deep soil area will be included in the total landscaped area calculation for the site.

2) The deep soil zone is to be provided in one continuous block. If multiple deep soil zones are provided, they must have a minimum dimension (in any direction) of 6m.

3) Deep soil zones must accommodate existing mature trees as well as allowing for the planting of additional vegetation that will grow to be mature trees.

4) No structures, works or excavations that may restrict vegetation growth are permitted in deep soil zones (including, but not limited to, car parking and hard paving).

12.7.6 Architectural Excellence

This Section seeks to encourage urban design and architectural excellence as well as environmental sustainability in both the public and private domain. Architectural excellence is particularly important where the building is highly visible from the public domain either outside or within the Business Park.

Good building design should positively contribute to the overall architectural quality of the city and provide buildings appropriate to their context. In some circumstances, this

contribution may be as an iconic or landmark building, but more typically it is a well-mannered building that fits sensitively into the streetscape.

Architectural excellence should be achieved through careful consideration of:

a) Built form- how it relates to its context;

b) Quality of materials;

c) Integrity of the design concept; and

d) Its contribution to the public domain.

A. Objectives

a) To encourage a high level of design consideration;

b) To encourage that significant buildings achieve design excellence;

c) To provide buildings that contribute positively to the precinct character; and

d) To encourage the development of sustainable design.

B. Controls

1) All development applications are to include a comprehensive site analysis that informs the design of the building and its placement on the site.

2) All applications are to include a design report that explains the design concept including built form, context response and materials selection.

3) Design of buildings should ensure natural surveillance of pathways and open space around buildings is possible from within the building and/or from adjoining roads and open space areas.

4) Landmark and gateway buildings are to demonstrate architectural excellence in the following areas:

    a) How the building reinforces and enhances significant vistas and view corridors.

    b) How the building will enliven the public domain it adjoins.

5) The development must incorporate a variety of external finishes in terms of both colour and type of material used. The external finishes of the development are to be:

    a) Made from durable high quality, low maintenance, non reflective materials;

    b) Compatible with the overall design and form of the development;

    c) Selected for all built forms to ensure the entire development presents a homogenous form;

    d) Considered in association with proposed plantings and landscape treatment;

    e) Considered for their ability to provide visual relief in large wall surfaces and elevations; and

    f) Selected to ensure the development complements the surrounding built and natural environment.

6) Environmentally sustainable initiatives are to be incorporated into the design of all buildings.

7) Facades are to be composed with an appropriate scale, rhythm and proportion, which respond to building use and the desired character by:

a) Defining a base, middle and top related to the overall proportion of the building.

b) Articulating building entries with awnings, porticos, recesses, blade walls and projecting bays.

c) Incorporating architectural features which give human scale to the design of the building at street level. These can include entrance porches, awnings, pergolas and fences using recessed balconies and deep windows to create articulation and define shadows thereby adding visual depth to the façade.

8) Façade design is to reflect and respond to the orientation of the site using elements such as sun shading and environmental controls where appropriate.

9) Important corners are to be expressed by giving visual prominence to parts of the façade (e.g. a change in building articulation, material or colour, or roof expression).

10) Building services such as roof plant and parking ventilation are to be coordinated and integrated with the overall façade and building design, and screened from view. Roof forms, building services and screening elements are to occur within the overall height controls.

11) Ventilation louvers and car park entry doors are to be coordinated with the overall façade design.

12.7.7 Active Street Frontages

Active street frontages promote an interesting and safe pedestrian environment. Due to the size of the area, it is recognised that not all streets will develop as active pedestrian areas. Active frontages are to be identified where active ground level uses are to be consolidated, creating vibrant streetscapes in areas with high pedestrian traffic and possible located close to public transport and public open space.

Active uses include:

a) Shop fronts;

b) Retail and service facilities with a street entrance;

c) Café or restaurants with street entrance;

d) Community and civic uses with a street entrance; and

e) Recreation and leisure facilities with a street entrance.

A. Objectives

a) To promote pedestrian activity and safety in the public domain;

b) To create vibrant streetscapes around areas of high pedestrian traffic;

c) To encourage activity within the Business Park outside commercial business hours;

d) To provide a mix of uses to support an increasing employment and visitor population over time; and

e) To enhance pedestrian safety, security and amenity within the Business Park.

B. Controls

1) Entries to active frontage tenancies are to be accessible and at the same level as the adjacent footpath.

2) Vehicular access points should not, if possible, be located at primary active frontages.
3) Ground level uses at active frontage zones are to be located at or close to street level.
4) Transparency and openings to the street are to be maximised and blank walls, fire exits and building services elements are to be minimised.
5) The se of the footpath zone for outdoor seating areas is encouraged adjacent to active frontages.
6) Building entries are to address the primary road on corner sites.
7) All primary building entries should have entry canopies to emphasise the entry along the street.

12.7.8 Pedestrian Permeability

The design and function of pedestrian spaces delivers amenity to the people using these spaces. The ability for pedestrians to safely and efficiently access buildings, services and navigate through shopping areas is integral to good design. The equity and amenity of this access is also very important.

Pedestrian permeability is achieved by introducing through-site links which may be in the form of building separation, landscape dedications or setbacks.

A. Objectives

a) To ensure new development achieves appropriate pedestrian permeability;
b) To retain and enhance established and utilised through site links as redevelopment occurs;
c) To promote activation of through site links where possible;
d) To promote pedestrian circulation, amenity and safety;
e) To promote activation of the public domain by encouraging outdoor dining in appropriate locations; and
f) To retain and develop lanes as useful and interesting pedestrian connections as well as for service access.

B. Controls

1) Commercial developments must provide pedestrian through-site links, the location of which will be determined on a site-by-site basis. Requirements for the location of pedestrian through-site links are to be discussed with Council prior to lodging a Development Application.
2) Pedestrian through-site links are to be straight, with clear views from end to end.
3) Pedestrian through-site links are to be publicly accessible and universally accessible for all.
4) Where pedestrian through-site links are adjacent to a courtyard or public space, their design is to be integrated with design of the open space and access provided between the two.
5) Where pedestrian through-site links are provided between buildings, a high level of transparency is to be provided between the internal ground floor space of the building and the pedestrian link.
6) Active ground level uses are encouraged along pedestrian through-site links.

7) Public access should be provided during all business trading times.
8) Pedestrian through-site links are to be clearly signed to identify street entries and the street to which the through-site link connects.
9) Where practical, pedestrian through-site links should have access to natural light.

12.7.9 Awnings

Awnings increase the useability and pedestrian amenity of public footpaths by providing shelter and enclosure at a pedestrian scale. They encourage pedestrian activity along streets and, in conjunction with active street frontages, support and enhance the vitality of the local area. Awnings provide a public presence and interface within the public domain and contribute to the identity of the development.

A. Objectives

a) To unify the streetscape;
b) To provide continuous shelter from sun, wind and rain for public streets where most pedestrian activity occurs; and
c) To reinforce a consistent pedestrian scale through all business developments.

B. Controls

1) Continuous awnings must be provided where active street frontages have been identified within the Concept Plan.
2) Awnings should generally:
    a) Be a minimum 2.8m deep where street trees are not required, otherwise minimum 2.4m deep;
    b) Have a minimum soffit height of 3.2m and a maximum of 4m;
    c) Be stepped for design articulation or to accommodate sloping streets, integral with the building design and not exceed 700mm;
    d) Be low profile, with slim vertical fascias or eaves (generally not to exceed 300mm height);
    e) Be set back from the kerb to allow for clearance of street furniture, trees etc (minimum 600mm).
3) Awning design must match building façades and be complementary to those of adjoining buildings.
4) Awnings are to wrap around corners for a minimum for 6m to the secondary street frontage.
5) Vertical canvas drop blinds may be used along the outer edge of awnings along north-south streets.
6) Lighting is to be recessed into the soffit of the awning or wall-mounted onto the building to facilitate night use and to improve public safety.

12.7.10 Landscaping and Fencing

A. Objectives

a) To provide landscaping that is integrated into the design of the precinct and development sites;

b) To create well designed active and passive open space and recreation areas;

c) To provide landscapes that contribute to the amenity of streets;

d) To recognise urban air quality and biodiversity;

e) To encourage the use of recycled water for landscaping irrigation;

f) To incorporate Water Sensitive Urban Design principles and contribute to the reduction of stormwater runoff;

g) To improve the microclimate within the development; and

h) To ensure that fencing does not detract from the overall visual amenity and character of the Business Park.

B. Controls

1) A minimum 30% of the developable area of the site is to be provided as Landscaped Area.

2) Landscaped Area is the area of the site not occupied by any buildings which is landscaped by way of gardens, lawns, shrubs or trees and is available for use and enjoyment by the occupants of the building and excludes areas used for driveways or parking areas.

3) Water management principles are to be incorporated as per the Water Management section of this DCP.

4) Verge treatments are to be designed to reflect the intended use of the street activity and function.

5) New streets are to have a strong landscape character.

6) The landscape design within setbacks should consider the scale of the building and where appropriate, select and locate plants to help reduce the overall bulk and scale of the development.

7) All setback and car parking areas are to be regenerated and maintained to a high standard.

8) Outdoor staff break areas should be provided and integrated into landscaped areas. These areas are to be provided with shade and maintain a reasonable level of amenity.

9) Fencing should be constructed of natural materials and finishes that integrate into the landscape character of the Business Park.

10) No fencing, other than of a low ornamental type may be erected within the setback area to any road.

11) Fencing along rear boundaries adjacent to drainage or open space areas shall be integrated with the landscaping of the development.

12) All chain-wire fencing is to be black or dark green in colour.

13) Solid, metal sheet fencing is not permitted.

12.7.11 Water and Energy Efficient Design

A. Objectives

a) To promote sustainable development which uses energy efficiently and minimises non-renewable energy usage in the construction and use of buildings; and

b) To ensure that development contributes positively to an overall reduction in energy consumption and greenhouse gas emissions.

B. Controls

1) Development must aim to improve the control of mechanical space heating and cooling by designing heating/cooling systems to target only those spaces which require heating or cooling, not the whole building.

2) Developments should improve the efficiency of hot water systems by:

   a) Encouraging the use of solar powered hot water systems;

   b) Insulating hot water systems; and

   c) Installing water saving devices, such as flow regulators, 3 star Water Efficiency Labelling and Standards Scheme (WELS Scheme) rated shower heads, dual flush toilets and tap aerators.

3) Developments must aim to reduce reliance on artificial lighting and design lighting systems to target only those spaces which require lighting at any particular 'off-peak' time, not the whole building. A timing system should be incorporated to automatically control the use of lighting throughout the building.

4) All non-residential developments Class 5-9 must comply with the Building Code of Australia energy efficiency provisions.

5) An Energy Efficiency Report from a suitably qualified consultant that demonstrates a commitment to achieve no less than 4 stars under the Australian Building Greenhouse Rating Scheme or equivalent must be provided for all commercial and industrial development with a construction cost of over $5 million.

12.7.12 Traffic, Parking and Site Access

A. Objectives

a) To control traffic generation from the development so that it does not exceed agreed limits;

b) To integrate adequate car parking and servicing access without compromising street character, landscape or pedestrian amenity and safety;

c) To ensure adequate parking to serve development is provided on site;

d) To encourage shared use of parking;

e) To allow flexibility in parking rates to reflect shared use or best practice;

f) To provide parking structures that do not dominate the public domain; and

g) To control site entry points to encourage the active use of street frontages.

B. Controls

1) An appropriate Traffic Report should accompany development applications for major development proposals that assesses the impact of projected vehicular traffic associated with the proposal.

2) Where practicable, vehicle access is to be from secondary streets.
3) Potential pedestrian/vehicle conflict is to be minimised by:
    a) Limiting the width and number of vehicle access points;
    b) Ensuring clear site lines at pedestrian and vehicle crossings;
    c) Utilising traffic calming devices;
    d) Separating and clearly distinguishing between pedestrian and vehicular access ways.
4) The appearance of car parking and service vehicle entries is to be improved by locating or screening parking, garbage collection, loading and servicing areas visually away from the street.
5) Structured car parking that extends above ground, where viewed by the public domain, is to be architecturally treated or where possible sleeved by development.
6) Basement car parking should be located directly under building footprints to maximise opportunities for deep soil areas unless the structure can be designed to support mature plants and deep root plants.
7) Basement parking areas must not extend forward of the building line along a street.
8) Ventilation grills or screening devices or car park openings must be integrated into the overall design of the façade and landscape design of the development.

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Part C – South Werrington Urban Village

12.8 – South Werrington Urban Village

12.8.1 Preliminary

12.8.1.1 Background

South Werrington Urban Village (SWUV) comprises approximately 48 hectares of land that has been identified for urban development comprising residential and employment generating uses. SWUV will assist the delivery of housing and employment opportunities in Penrith and integrate with the existing Werrington community north and south of the Great Western Railway.

12.8.1.2 Land to which this section applies

This Section applies to development on land covered by the South Werrington Urban Village as shown in Figure E12.9. This section provides specific controls for the South Werrington Urban village in addition to the general controls elsewhere in this DCP. In the event of any inconsistency between this section and the rest of DCP 2014, the requirements of this section prevail.

Figure E12.9: Land to which this Chapter applies

12.8.1.3 Aims and General Objectives of this Section

The aims of this Section are to:

a) Support the objectives of Penrith Local Environmental Plan 2010; and

b) Facilitate the sustainable development of residential, employment and open space areas of the South Werrington Urban Village.

This Section seeks to achieve the following objectives:

A. General

a) To facilitate and promote the principles of the Werrington Enterprise Living and Learning (WELL) Precinct.

Transport and Accessibility

a) To integrate public transport opportunities into the planning process,

b) To respond to the existing and future arterial road network including the Werrington Sub-Arterial,

c) To provide a sub-arterial and collector road network that links with surrounding areas,

d) To ensure vehicular, pedestrian and cycle ways link efficiently within and between residential areas and employment areas,

e) To provide an inter-connective street system that links with the existing Werrington community,

f) To ensure the proposed land uses relate to regional access routes, public transport routes, the local road network and the open space network,

g) To provide an interconnected local road network that creates easy access, including truck access to employment areas and accommodates bus movements, and

h) To provide a logical and interconnected pedestrian and cycleway system linking with surrounding areas.

i) To ensure that there is adequate land set aside for the proposed east west link road within the land that is zoned for residential development.

Natural Environment

a) To recognise the natural land form in the design of the urban areas,

b) To conserve the biodiversity of the site by incorporating woodland areas into the open space system and protecting riparian corridors,

c) To reduce environmental impact by locating higher density housing closer to the railway station,

d) To design an integrated stormwater management system consistent with principles of water sensitive urban design, and

e) To reinforce the importance of the natural landscape settings and areas with heritage conservation values, by protecting views and vistas to and from Frogmore House.

Built Environment

a) To maximise opportunities for higher density residential development in proximity to Werrington Station,

b) To respond to the physical, cultural and urban heritage of the area with plans and designs that respect the landform, climate and patterns of land use,

c) To encourage a contemporary built form of well-designed buildings that consider the amenity of the occupants and neighbours, and

d) To ensure that the proposed development and built form comply with best practices in ESD and complies with the principles in Penrith Council's Water Action Plan 2005 and Penrith City Council's Green House Gas Reduction Plan.

Social

a) To provide diversity of housing choice, including affordable housing,

b) To provide places for recreation that will accommodate casual activities,

c) To encourage safety and security through passive surveillance of streets and open spaces,

d) To build on the existing sense of community by integrating with the existing community, and

e) To provide a range of passive open spaces that can act as meeting places for the existing and future communities.

Economic

a) To encourage the provision of employment opportunities that are compatible with the existing or desired future adjoining residential development,

b) To allow for the orderly and economic development of serviceable and accessible land, and

c) To ensure that employment development is delivered in a manner timely with the adjoining residential development.

12.8.1.4 Supporting Studies

Some additional sources of relevant information for South Werrington Urban Village include:

a) Community Facilities Study (BBC Consulting)

b) Archaeology and Heritage Assessment (HLA-Envirosciences Pty Ltd)

c) Employment Lands Paper (SGS Economics)

d) Flora and Fauna Assessment (Kevin Mills and Associates)

e) Assessment of Future Housing Needs and Population Characteristics (BBC Consulting)

f) Report of Land Capability (Douglas Partners)

g) Landscape Masterplan and Visual Assessment (Context Landscape Design)

h) Traffic and Transport Assessment (Traffix)

i) Bushfire Hazard Assessment (Holmes Fire and Safety and ABAC)

j) Contamination (Douglas Partners)

k) Stormwater and Servicing (Patterson Britton & Partners)

These documents are available for reference from Council.

12.8.1.5 Concept Plans

A Concept Plan setting out proposals for the development on each of the different development zones (i.e. Residential and Light Industry) is required to be lodged prior to, or

with, the first subdivision development application for each of the different development zones.

The Concept Plan must meet the objectives and controls of this section and demonstrate:

a) The proposed urban structure and public domain elements, including Landscape Masterplan.

b) The distribution of lot types and housing forms to suit a variety of lifestyles, household types and financial capacities for residential zones and consistent with the dwelling yield map in Figure E12.10 and Table E12.3.

c) The dwelling proportion numbers, types and location of affordable housing lots as required by Council's *Sustainability Blueprint for Urban Release Areas*. This is not necessary for the proportion of affordable housing for the estate delivered via another means such as a monetary contribution through a Voluntary Planning Agreement.

d) The proposed road hierarchy, sections and details.

e) The location and design of open spaces.

f) The location of pedestrian and cycle paths.

g) Development Staging.

h) Infrastructure Delivery Strategy.

12.8.2 Structure Plan

12.8.2.1 Vision

A vision for South Werrington Urban Village (SWUV) was established through the Werrington Enterprise Living and Learning Strategy 2004 which is as follows:

"Demonstrating a model for sustainable urban development, that captures its potential arising from proximity to transport linkages and tertiary educational facilities, the WELL precinct will be an internationally renowned destination of choice for business, residents and students. The synergies arising from the collective presence of these groups will energise the Precinct and represent a catalyst for the emergence of creativity and innovation demonstrated in the enterprise, living and learning activities undertaken within the Precinct. Whilst attracting and accommodating a diverse range of land use activities and people, the desirability of the place will be a function of the seamless integration of those people and activities and the cosmopolitan lifestyle choices it subsequently generates and offers."

The urban form within this Section is derived from the WELL Precinct Strategy including the adopted WELL Concept Plan 2006 and the studies informing this strategy.

12.8.2.2 Urban Structure

The South Werrington Urban Village Structure Plan establishes the structure and form for the planning and future development of the subject lands. The emerging urban structure of SWUV is illustrated at Figure E12.10 – South Werrington Urban Village Structure Plan and characterised by the following performance measures:

Access

a) The structure plan envisages the construction of the proposed Werrington Arterial. A new major collector road is proposed to link the Werrington Arterial to future employment development to the west. This new link road also provides a separation between the employment and residential land uses. The intersection of the new link road with the Werrington Arterial has been located and designed and can be constructed in stages if

required. The location of the new link road is as shown on the Structure Plan, and is located on the residential zoned land.

b) A minor north south road is proposed linking Werrington Station with the Great Western Highway and forming an edge between the employment precinct and the land that forms part of the Wollemi School.

c) The arterial and collector road system are proposed to be designed to accommodate buses and articulated vehicles.

d) Local streets are proposed to be generally inter-connective and link with existing streets in South Werrington.

e) A cycle system is proposed to provide movement through the area and linking with surrounding areas including the recreational areas to the east and St Marys. The system links with the proposed cycleway along the western side of the Werrington Arterial with the potential to extend northwards.

Land Use

a) Employment land is proposed south of the proposed east west collector road and extending to the Great Western Highway. It is proposed that this land would be used for a range of service and light industrial purposes.

b) Residential development is proposed with the density and form influenced by the topography, proximity to the station and the land use zoning of the existing residential area of South Werrington. Densities are to be consistent with Figure E12.11 and Table E12.3 relating to dwelling yields.

Open Space

a) Passive Open Space areas are located within SWUV and have been located having regard to a number of factors:

   i) the findings of the WELL Precinct studies in relation to the location of passive and active open space;

   ii) the present supply of passive open space in Werrington and the potential for passive parks to act as a meeting place;

   iii) the presence of woodland communities, predominantly along the northern boundary of the site and along the riparian corridor of Claremont Creek;

b) Active Open Space are located outside SWUV however will be provided in accordance with WELL wide open space planning principles and the adopted WELL Contributions Plan. Development within SWUV will contribute towards active open space requirements across the WELL Precinct.

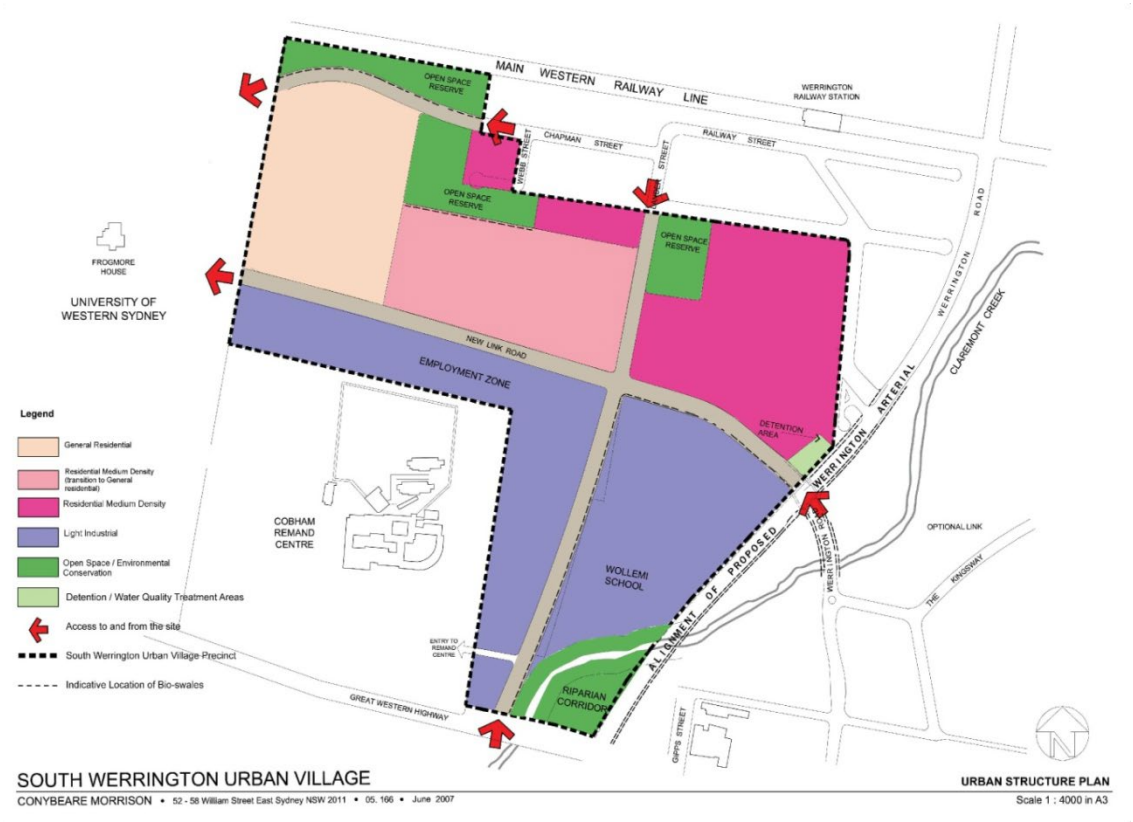
Stormwater Management

a) An integrated approach to stormwater management is proposed that considers the capacity of the existing system and water sensitive urban design that is compatible with the topography and soil types.

b) A range of measures are proposed to manage stormwater.

c) The design of Stormwater Management Facilities is to include a schedule of the long term maintenance and operation costs.

Figure E12.10: South Werrington Urban Village Structure Plan



12.8.2.3 Desired Future Character

There are three main character areas within SWUV and they include:

1) **General Residential:** General Residential allows for a range of housing types with the prominent housing type comprising detached housing on the lower sloped land leading up to Frogmore House. Streets are oriented north south to provide a layering of street trees and rear garden trees up the slope with lots sizes generous to allow glimpses to the ridge behind. The predominant character of the area shall be of low to mid rise roof form interspersed with vegetation. The height and bulk of development and vegetation will not obstruct views to or from Frogmore House.
2) **Multi Dwelling Housing:** Development closer to the railway station is proposed to be medium density consistent with metropolitan planning policies and Council's *Sustainability Blueprint for New Urban Areas*. Development in the form of townhouses and apartments is proposed with a strong built edge to the street and a preference for dwellings that address the streets. This type of development will transition to the general residential area.

3) **Employment Uses:** Development south of the proposed east west collector road is proposed for small lot industrial purposes that will not conflict with the existing and intended character and amenity of the residential areas to the north. Development in this location is to present high quality architectural design features with a strong built edge to the street with incorporated landscaping which contribute to the streetscape. The height of development and vegetation will not obstruct views to or from Frogmore House.

12.8.2.4 Dwelling Yields

A. Objectives

a) To provide a diverse range of housing forms and densities.

b) To promote a range of dwellings types to meet the needs of diverse age groups and family types.

c) To provide opportunities for affordable housing.

d) To provide a range of residential densities that respond to the topography and proximity to Werrington Station.

B. Development Controls

1) A minimum of 414 dwellings is to be delivered.

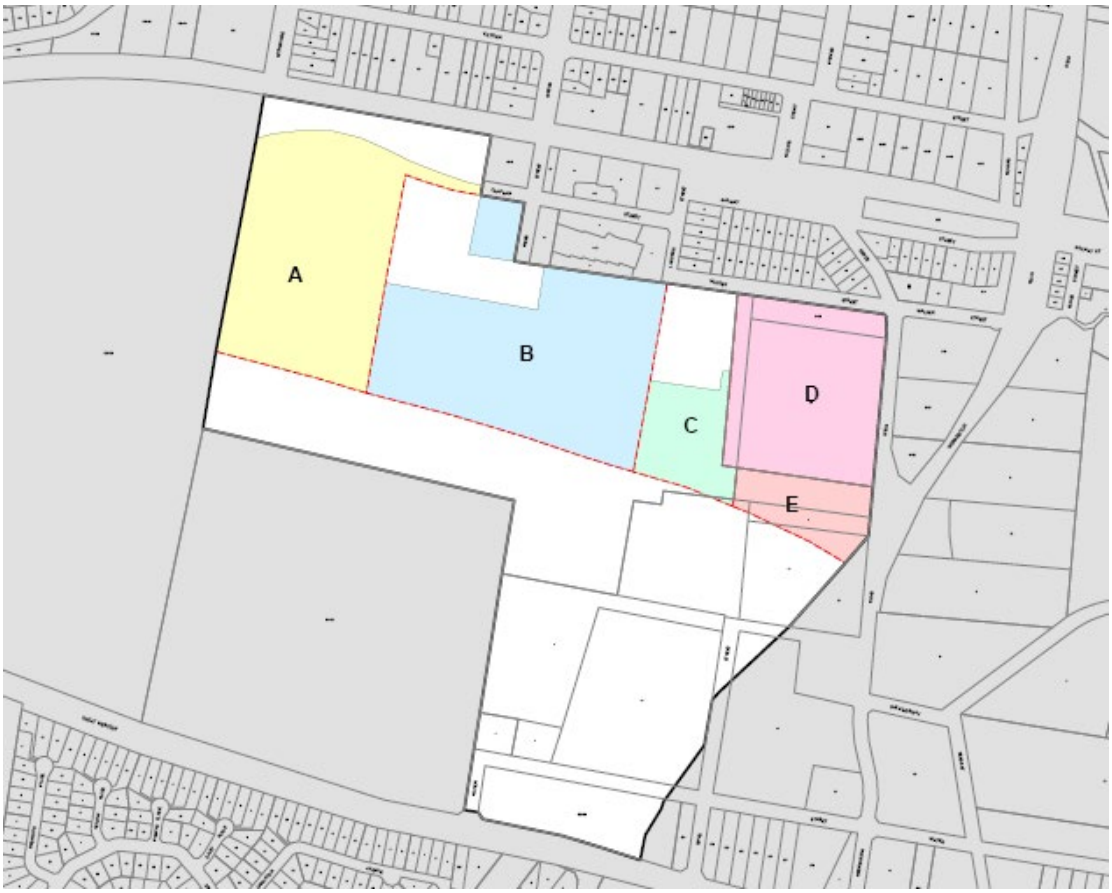
2) In order to ensure the minimum residential dwelling target is achieved, as part of a subdivision application, an applicant is to demonstrate to Council that the sub-precinct dwelling targets shown in Figure E12.11 and Table E12.3 will be achieved. Subject to agreement of Council and consultation with relevant landowners, dwelling yields may be 'traded' between sub-precincts as long as it meets overall targets and objectives of this DCP. The creation of a super lot or residual parcel is to specify the minimum dwelling yield which that lot is required to deliver.

3) Development proposals that seek densities above 414 dwellings must demonstrate that the site can accommodate the increased population with regard to issues including but not limited to potential traffic impacts, open space allocation and environmental constraints. It is recommended that applicants attend a pre-lodgement meeting with Council officers in these instances.

Table E12.3: Dwelling Yield

Sub-Precinct	Minimum dwelling yield
A	78
B	154
C	30
D	122
E	30
Totals	**414**

Figure E12.11 – Dwelling Yield



12.8.3 Public Domain

12.8.3.1 Responding to the Site's Natural Features

12.8.3.1.1 Riparian Corridors

A. Objectives

a) To conserve biodiversity by providing linkages between significant natural vegetation units within the City.

b) To protect, restore and enhance the environmental values and functions of watercourses and riparian corridors along Claremont Creek.

c) To ensure that important natural features inform the urban structure of the place.

d) To provide high amenity areas for residents.

e) To ensure the water quality from the development is maintained or improved.

f) To convey stormwater flows through the site in a safe manner.

B. Performance Measures

a) The natural drainage lines of Claremont Creek and its tributaries are conserved as healthy and naturally functioning riparian corridors.

b) Existing healthy remnant vegetation is retained within those corridors.

c) Significant revegetation of the riparian corridors occurs as part of development.

d) The corridors and other topographical features are represented as special places within the urban form.

e) A Corridor Management Plan shall be submitted and should identify how the corridor will be established is prepared developed and implemented on site as part of its development.

f) Native vegetation within the riparian corridor is protected and rehabilitated with local provenance species at a density that would naturally occur.

g) Water quality and water detention infrastructure should not be located within the Core Riparian Zone of the riparian corridor, and may be located in the Vegetated Buffer if:

   i) No alternative location outside the Vegetated Buffer can be found, and

   ii) The basin only occupies limited areas; and

   iii) The basin can be designed in such a way that they will not reduce the function of the adjacent Core Riparian Zone.

h) The management of the riparian corridor is to consider the long term maintenance and operation costs.

C. Controls

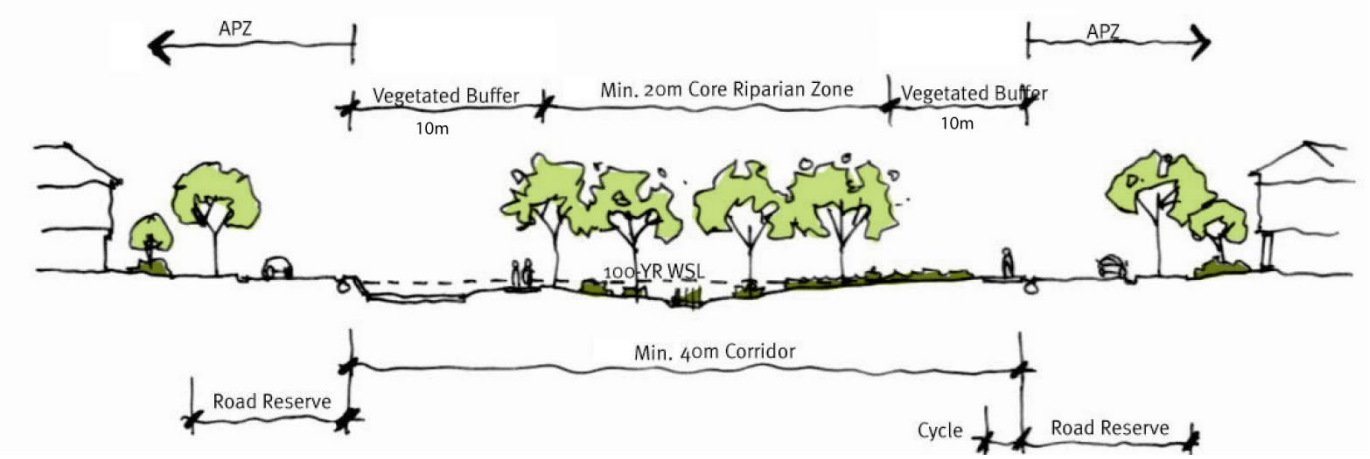
1) A minimum corridor width of 40m is to be provided along the Claremont Creek Corridor with 20m being core corridor.

2) The profile of the riparian corridor is to be generally consistent with that represented at Figure E12.13 – Corridor Profile Section.

3) Asset Protection Zones are to be located outside the Core Riparian Zone and the Vegetated Buffer and any requirements for bushfire Asset Protection Zones (APZ) are not to compromise in any way the extent, form or function of the riparian corridor.

4) Any pathways adjacent or adjoining Riparian Corridors are to be consistent with the Department of Water and Energy " Design and Construction of Paths, Cycleways and Accessways along Watercourses and Riparian Area Guidelines (Version 3, April 2007)"

Figure E12.13: Corridor Profile Section



12.8.3.1.2 Water Management

A. Objectives

a) To maintain the stability and integrity of the finished creek profile.

b) To ensure the quality of water leaving the urban areas does not adversely impact upon the health of Claremont Creek.

c) To provide for stormwater detention.

d) Reduce the peak flow rate of stormwater run-off from the site for all storms up to the 100 year ARI.

B. Performance Measures

a) Trunk drainage works are provided as an initial stage of development of the release area.

b) Stormwater management shall incorporate various strategies and devices and should demonstrate best management practices and may include (but not limited to); pit inserts, underground pollutant traps, bio-retention swales, rain-gardens and educational programs to improve the quality of urban runoff before enters the creek channels.

c) Stormwater Management Plans for Claremont Creek catchment that identify how the quantity and quality of urban runoff from the site will be managed are prepared and implemented on site as part of its development.

d) A water quality plan and maintenance plan shall be submitted to Council with applications for subdivision. This plan shall cover all elements of the proposed drainage system that will ultimately be transferred to Council, and shall outline the maintenance schedule to ensure that the system operates at the required standard.

e) Consideration should be given to evaluating the opportunities for the integration of water supply and re-use of stormwater, grey water and treated effluent.

f) Reference is to be made to Section 12.8.3.1.5 Salinity in relation to the construction and location of stormwater management devices.

g) The design of the stormwater infrastructure is to include a schedule of the maintenance and operation costs of the facilities lifecycle.

C. Controls

1) Developments must achieve Council's downstream water quality objectives and measures outlined in the Water Management section of this DCP.

12.8.3.1.3 Flood Management

A. Objectives

a) To manage the risk to life and property assets from flooding events up to PMF.

b) To allow the riparian corridor to function as a naturally occurring waterway.

c) To manage flood waters within the site in a safe manner.

B. Performance Measures

1) Appropriate areas of land are provided outside the Core Riparian Zone for detention and storage of flood waters.

2) Flood waters are safely managed within the riparian corridor.

3) A Stormwater Management Plan for Claremont Creek that identifies how the flood waters will be managed is prepared and implemented on site as part of it development.

4) Refer to the Water Management section of this DCP for further details.

C. Development Controls

1) Stormwater detention is to be provided to reduce post development flows to pre development levels for all storm events and durations.

2) Overland flow paths and floodways are to be sized and designed to safely convey flood waters.

12.8.3.1.4 Vegetation

A. Objectives

a) To protect and embellish local vegetation and habitat.

b) To integrate significant trees within the landscape of the new urban area.

B. Performance Measures

1) Existing mature trees are conserved for their natural functions and aesthetic value.

2) Open space is co-located with existing tree copses, where practicable.

3) Significant trees located within developable areas are able to be conserved on site, where practicable, as part of the landscaped area of future development.

4) No disturbance to existing ground levels occurs within the drip line of existing significant trees.

12.8.3.1.5 Salinity

A. Objectives

a) To ensure that saline soils, groundwater levels and salinity processes are identified, prior to finalisation of development form.

b) To ensure that appropriate measures are taken to protect buildings, infrastructure and the natural environment from deterioration associated with salt attack.

B. Performance Measures

a) Development applications for subdivision shall include a preliminary site investigation, which identifies areas of potential salinity.

b) A remedial action plan is to be submitted with a development application on land where there is an identified salinity hazard.

c) Salt and drought tolerant plant species must be used in the landscaping within the site and should be identified in any landscape plans for the site. This also includes appropriate hard landscaping materials and practice.

d) Detailed designs for stormwater management devices is required to ensure level of excavation and the impact of excavation will have on potential salinity on the site.

e) Further investigation of the land as well as additional work during construction will be required and may include (but not necessarily limited to):

   i) Installation of groundwater bores well in advance of construction and monitoring/sampling/analysis before, during and after construction, to assess changes in soil water quality as a result of the proposed development. The bores would be strategically located at exit points from the site into the Claremont Creek System.

   ii) Routine inspections and earthwork monitoring during construction

   iii) Detailed geotechnical investigations on a stage-by-stage basis for determination of pavement thickness designs and lot classifications.

C. Controls

1) Public and private infrastructure is to be designed and constructed in accordance with the recommendations of the salinity investigation.

12.8.3.1.6 Contamination

A. Objectives

a) To ensure that contaminated land is identified, prior to finalisation of development form.

b) To ensure that a remedial action plan is prepared for any identified areas of contamination.

B. Controls

1) Development applications for subdivision shall include an assessment of possible contamination prepared by a suitably qualified person which covers the following:

   a) Likelihood of contamination over the subject area, based on previous land uses.

   b) Assessments of the nature and extent of contamination in areas identified as likely to be contaminated

2) Reference is to be made to the particular requirements of SEPP 55-Contaminated Land in relation to contamination and remedial action plans, if required.

12.8.3.2 Transport and Accessibility

12.8.3.2.1 Road Network

A. Objectives

a) To provide a clear urban framework for the entire release area that informs the location of land uses.

b) To identify a clear hierarchy for movement within the subject lands and adjacent urban areas.

c) To provide a safe and efficient movement network for all users.

d) To promote public and active transport options.

B. Performance Measures

a) The street network is a modified grid that facilitates walking and cycling for access to daily activities; and also enables direct local vehicle trips within the neighbourhood and to local activity points.

b) The suburb has a coherent urban system of compact walkable neighbourhoods which cluster to form a suburb with a high degree of street connectivity.

c) Neighbourhood identity is reinforced by the location open space areas at focal points within convenient walking distance for residents.

d) The vehicle, cyclists and pedestrian networks and lot density assist in reducing local vehicle trips, travel distances and speeds, maximising public transport effectiveness, and encouraging walking and cycling to daily activities.

12.8.3.2.2 Vehicular Movement

A. Objectives

a) To create a legible road hierarchy.

b) To provide a high degree of connectivity within the site and between the site and the adjoining areas.

c) To minimise the negative impacts of through traffic.

B. Performance Measures

a) A hierarchy of streets should reflect the function and traffic load of each street in a network, minimise travel distances, maximise access to facilities and services and assist people find their way.

b) The street network connects with adjacent collector routes and neighbouring streets to maximise movement efficiency and social connection.

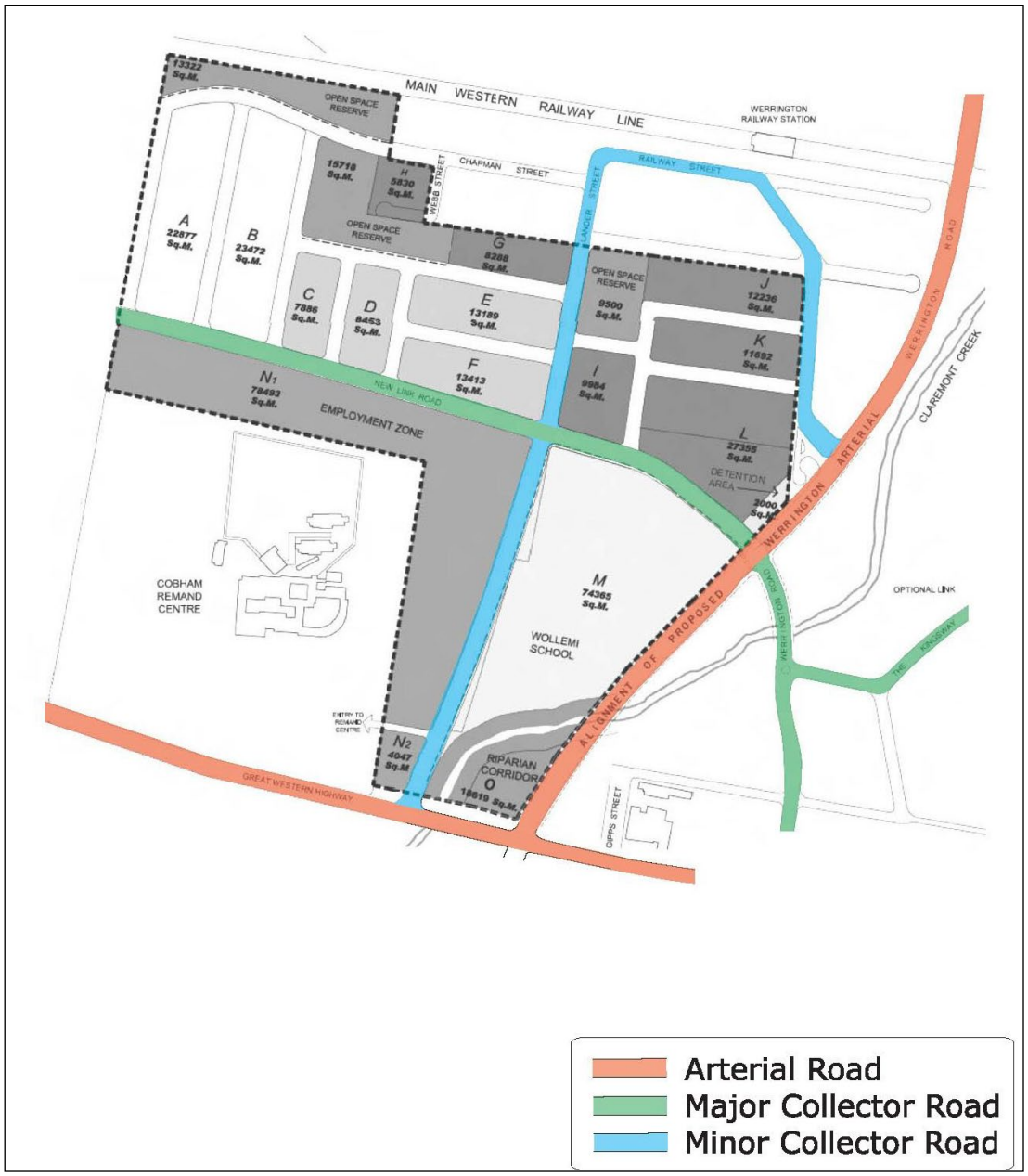
c) The street network takes account of the topography and vegetation and respects any existing or potential site assets.

d) The street network allows all development to address the street.

C. Controls

1) Street blocks are to have a maximum length of 200m and maximum depth of 90m.

Figure E12.14: Road Network Hierarchy



12.8.3.2.3 Public Transport

A. Objectives

a) To increase opportunities for use of public transport.

b) To enable the efficient operation of bus routes on designated roads.

c) To encourage the early introduction of bus services within the estate.

B. Performance Measures

a) The bus route facilitates connections between the Precincts, the existing residential estates and key facilities adjoining the subject lands, local facilities and the Penrith CBD.

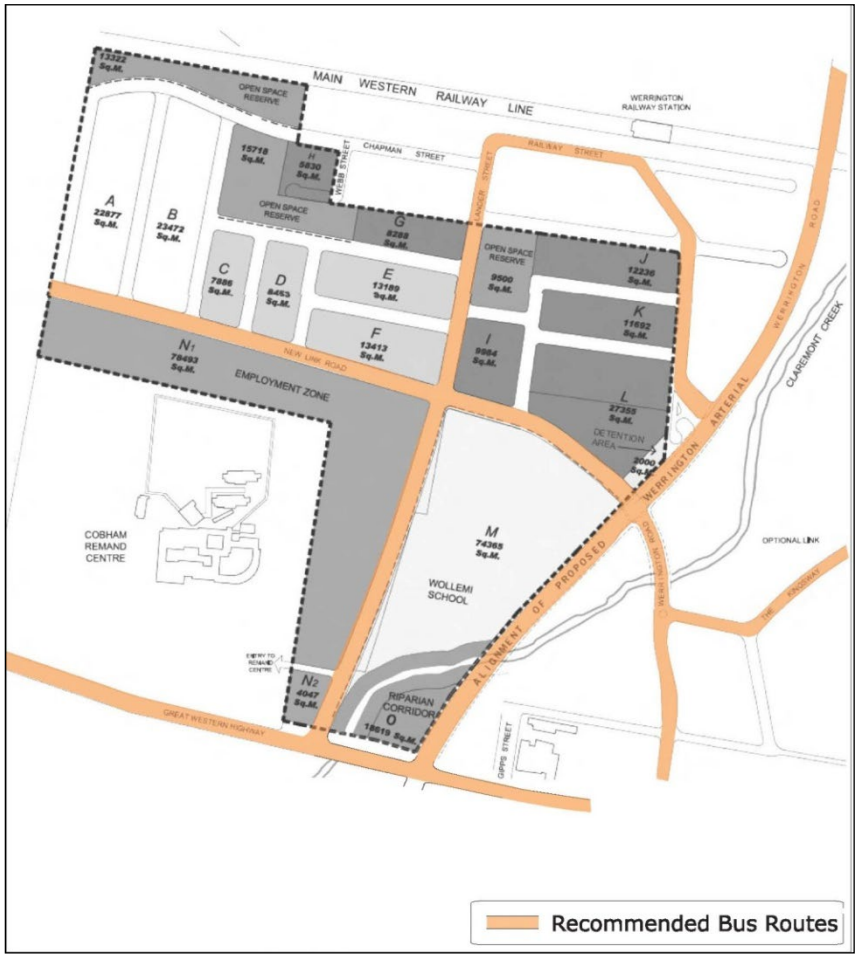
b) Bus routes and sheltered bus stops are designed, constructed and clearly marked.

c) The early delivery of bus services as the community grows.

C. Development Controls

1) All dwellings within the release area are within 400m distance from a designated bus route as shown on Figure E12.15 Recommended Bus Route.

2) The bus route will be designed and constructed in accordance with the road profiles identified at Section 12.8.3.2 – Road Sections.



12.8.3.2.4 Pedestrians and Bicycles

A. Objectives

a) To promote active transport options by providing safe and convenient routes to and from key focal points within the release area.

b) To promote an active and healthy lifestyle.

c) To promote casual social interaction among neighbours.

d) To promote Universal Design principles in all new facilities.

B. Performance Measures

a) Footpaths are an integrated element of the normal street network.

b) The cycle network is a combination of on street and dedicated pathways that link the main points of attraction and significant natural features.

c) Separate pathway will operate within parks and open spaces areas as well as the locations identified at Figure E12.16 – Pedestrian and Cycle Network.

d) Pathways in open spaces are aligned approximately parallel with its interface to the street to take advantage of the street lighting and allow for casual surveillance by residents and drivers.

e) Pathways are designed and constructed wherever possible and practical to be of appropriate width, longitudinal gradient and, sight distance.

f) Kerb details cater for all users, including aged people, people with prams and in wheelchairs, and people with disabilities, and take account of Universal Design principles.

g) Street landscaping is provided to enhance the appearance of the street and pedestrian environment, including providing protection from the sun.

h) A primary pathway network is designed, constructed and clearly marked in accordance with Figure E12.16 – Pedestrian and Cycle Network.

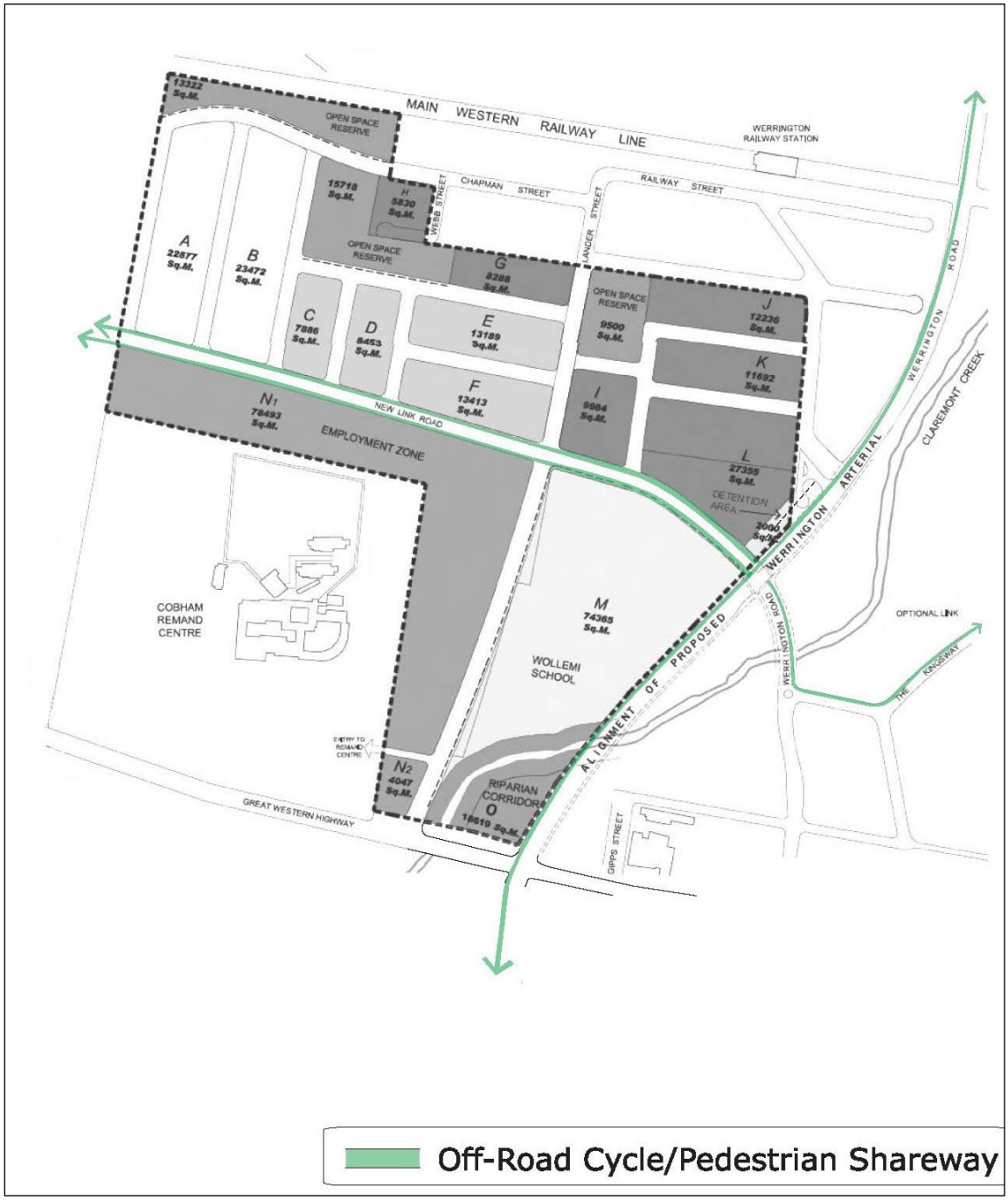
C. Development Controls

1) All Pathways will be a minimum of 1.5m and be provided to both sides of the road.

2) Pathways that form part of the open space network are to be a minimum width of 2.5m.

3) Where the pathway aligns with the street network, as identified at Figure E12.16 – Pedestrian and Cycle Network, the road reserve will be widened by 1.3m where it aligns with a local road or minor local road and 1.0m where it aligns with a collector road as determined by Section 12.8.3.3.2 Road Sections, to ensure a 2.5m pathway can be provided.

Figure E12.16: Pedestrian and Cycle Network



12.8.3.3 Streetscapes

12.8.3.3.1 Landscape Character

A. Objectives

a) To provide an attractive and sustainable residential community.

b) To ensure development contributes to cohesive streetscape and desirable pedestrian environments.

c) To provide safe and secure environments for pedestrians and cyclists.

d) To promote casual social interaction among neighbours.

e) To encourage an active and healthy and active lifestyle.

f) To ensure street layouts provide well distributed public open spaces that contribute to the legibility and character of the development.

g) To promote landscape treatments that are appropriate to the character and constraints of each locality.

h) To ensure that landscaping is maintained and enhanced as a major element in the streetscape.

B. Performance Measures

a) The release area landscape includes streets lined with tall tree species.

b) Streets are designed to establish or enhance the unique character of the precinct by responding to its topography, desirable views or local features.

c) Street vistas are terminated with views to open spaces, parks and items of significance.

d) The carriageway is visually contained to promote steady, predictable traffic speeds by:

   i) Clearly defining the boundary between pedestrian and vehicle zones.

   ii) Providing on-street parking.

   iii) Planting street trees at regular spacing.

e) Boundaries between street verges and private front yards are clearly defined and houses are designed to encourage passive surveillance.

f) Landscaping helps define boundaries, create continuity and provide shade.

g) Water sensitive urban design elements are integrated into street verges and shall be designed in such a way that they do not occupy the same zone required for street planting.

h) On-street parking is provided at a rate appropriate to the anticipated demand while ensuring the landscape character and street function is not compromised.

i) Design details such as footpath and driveway cross-overs are uniformly applied to make the street character more consistent.

j) Street signage is designed to be complementary to the overall streetscape design and character and signage clutter is avoided.

k) Existing mature trees are retained and native street tree plantings, are provided to enhance the appearance of the street and pedestrian environment, including providing protection from the sun.

C. Development Controls

1) Street trees are to be provided at a rate of one tree for every 10m of site frontage.
2) Street trees are to be provided at minimum size of 75 litres and fitted with tree guards.
3) Species selection is to be appropriate to the character and constraints of the locality.
4) Footpath verges are to be increased adjacent lots which have building setbacks less than 4.5m and where large street tree planting is proposed.

12.8.3.3.2 Road Sections

A. Objectives

a) To provide a functional road network which allows good connections with the surrounding areas and encourages safe and convenient access into and through the site,
b) To provide a safe and efficient movement network for all users.
c) To encourage responsible driving behaviour, particularly safe travel speeds on residential streets.
d) To cater for the efficient provision of public utilities.
e) To incorporate the natural features of the site including the movement of stormwater, existing and new trees.

B. Performance Measures

a) Streets are designed to ensure vehicle speeds can be controlled and it is clear where vehicles can be parked, cyclists can ride and where pedestrians should walk or cross.
b) Opportunities for walking and cycling are well provided for.
c) The materials, line marking and landscaping of the streets clearly delineate the travel lanes from the parking “lanes”.
d) Where the provision of parking “lanes” is included in the street reserve width, they are landscaped as parking bays and defined by means of line marking and/or built tree planting bays.
e) Parking on the grassed verge or on parks is restricted.
f) Intersections are designed for the safe and convenient passage of vehicles, pedestrians and cyclists.
g) The road layout and design should discourage high speeds and incorporate “traffic calming” devices as required.
h) The road design shall make provision for the needs of cyclists.
i) The road layout and design should allow for the safe access of commercial and articulated vehicles to the employment areas.
j) Upright kerbs are used throughout the suburb.
k) Development occurs in accordance with the road hierarchy demonstrated at Figure E12.14 – Road Network Hierarchy.

East West Road and North South Road

A. Performance Measures

a) Direct vehicular access to development occurs only where topography and site distances allow safe entry and exit.

b) Provide for dedicated cycle lane on carriageway.

c) Provide high accessibility for all road users throughout the release area.

d) Have a clear lane width able to handle local bus services.

e) Are of a scale consistent with the higher order role these roads will play in the overall movement network the release area.

f) Integrate footpaths and establish pedestrian amenity that reflect the linking role these streets will play in the urban fabric.

g) Be designed to provide safe pedestrian crossing points and lighting in accordance with the relevant Australian Standard.

h) Are able to comfortably accommodate the co-location of bus shelters and pathways.

i) Include treatment of intersection of North South road with the East West road.

Local Roads

A. Performance Measures

a) Provide accessibility between the link road and services the immediate residential lots.

b) Roads are designed to allow a reasonable free flow of traffic and discourage high speeds.

c) Speed controls are provided as integrated element of the streetscape and road design and provision is made for the needs of cyclists.

Minor Local Road

A. Performance Measures

a) Provide limited vehicle access for through traffic look to access or exit the local road network

b) Regular, minor delays or the need for driver co-operation due to vehicles parking on local roads is an acceptable, traffic calming outcomes.

c) Maintaining high levels of permeability for non-vehicle road users

d) Roads are designed to ensure a low speed traffic environment

e) Informal on street parking constrains traffic movement

Laneways

A. Performance Measures

a) Lanes are shared zones allowing vehicular traffic for access to rear loaded garages only.

b) Are to incorporate a change in materials and/or kerb cuts to provide differentiation to other vehicular streets.

c) Are constructed in plain concrete pavement.

d) No parking is permitted in Lane Ways.

e) Designed with a central invert for drainage where topography allows

f) Studio units built above or adjacent to garages will be encouraged to provide surveillance.

g) Laneway provide distinctive plantings at lane entry areas.

B. Controls (All road types)

1) Roads are to be constructed in accordance with the dimensions identified at Figure E12.17a – E12.17e as per the road hierarchy.

2) Any entry and exit to the employment areas must not adversely affect traffic movements on the road network.

3) Widening of road may be required where topographical or road curve circumstances dictate.

4) Any medians proposed within any road are to be in addition to the road widths detailed in Figures E12.17a – E12.17c.

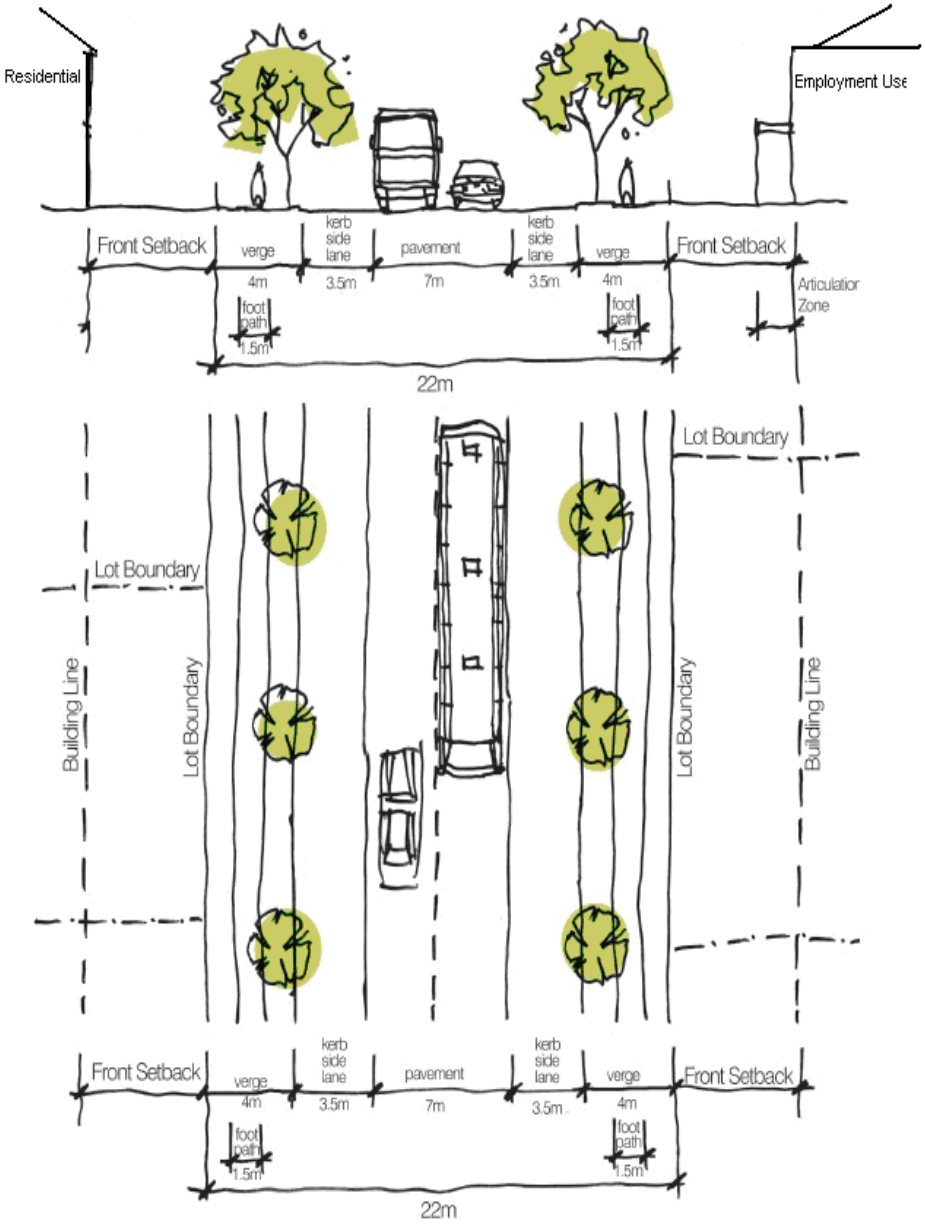

Residential
Employment Use
Front Setback
verge
4m
kerb side lane
3.5m
pavement
7m
kerb side lane
3.5m
verge
4m
Front Setback
Articulation Zone
foot path
1.5m
foot path
1.5m
22m
Lot Boundary
Building Line
Lot Boundary
Lot Boundary
Building Line
Front Setback
verge
4m
kerb side lane
3.5m
pavement
7m
kerb side lane
3.5m
verge
4m
Front Setback
foot path
1.5m
foot path
1.5m
22m

Figure E12.17b: North South Road

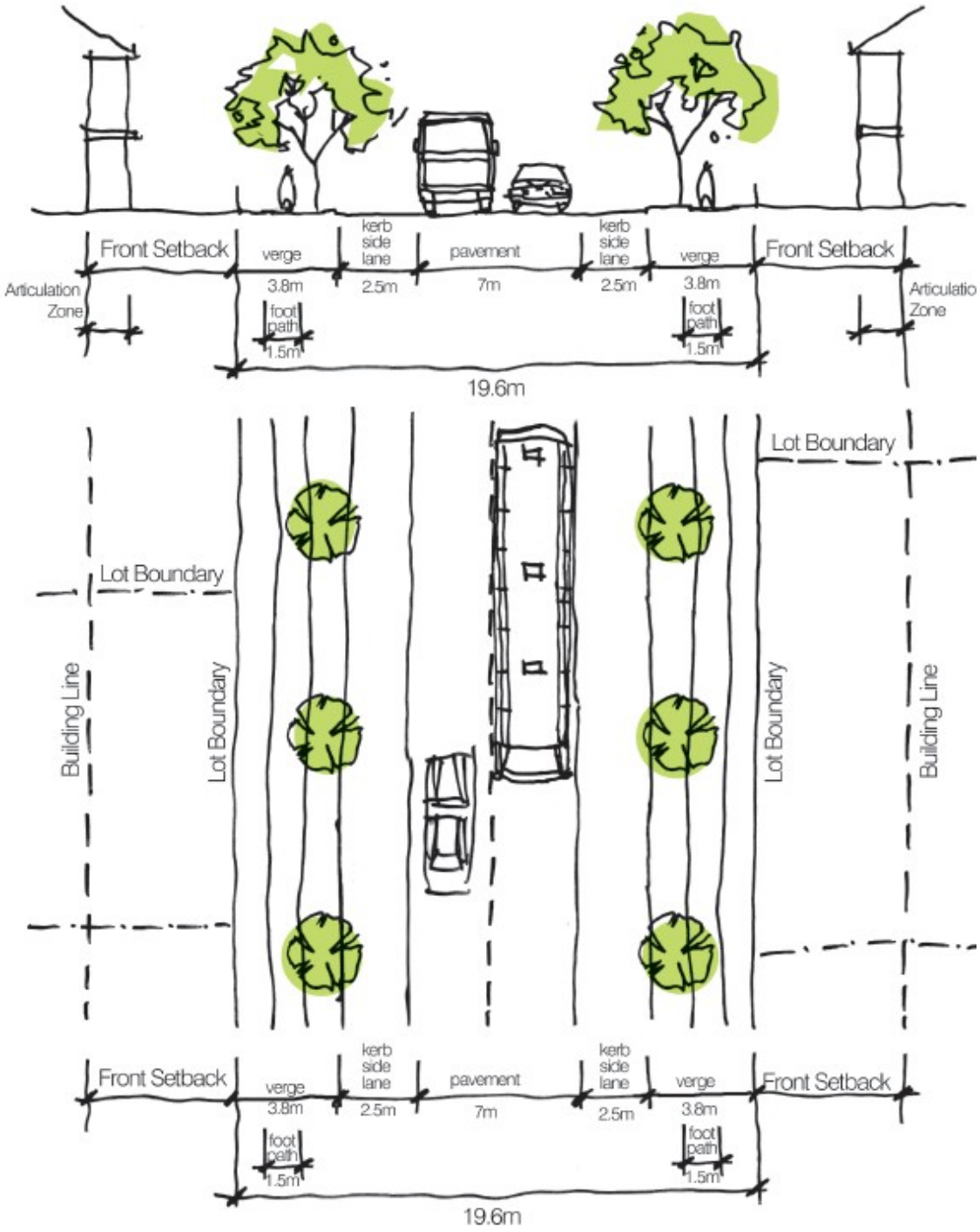


Figure E12.17c: Local Road

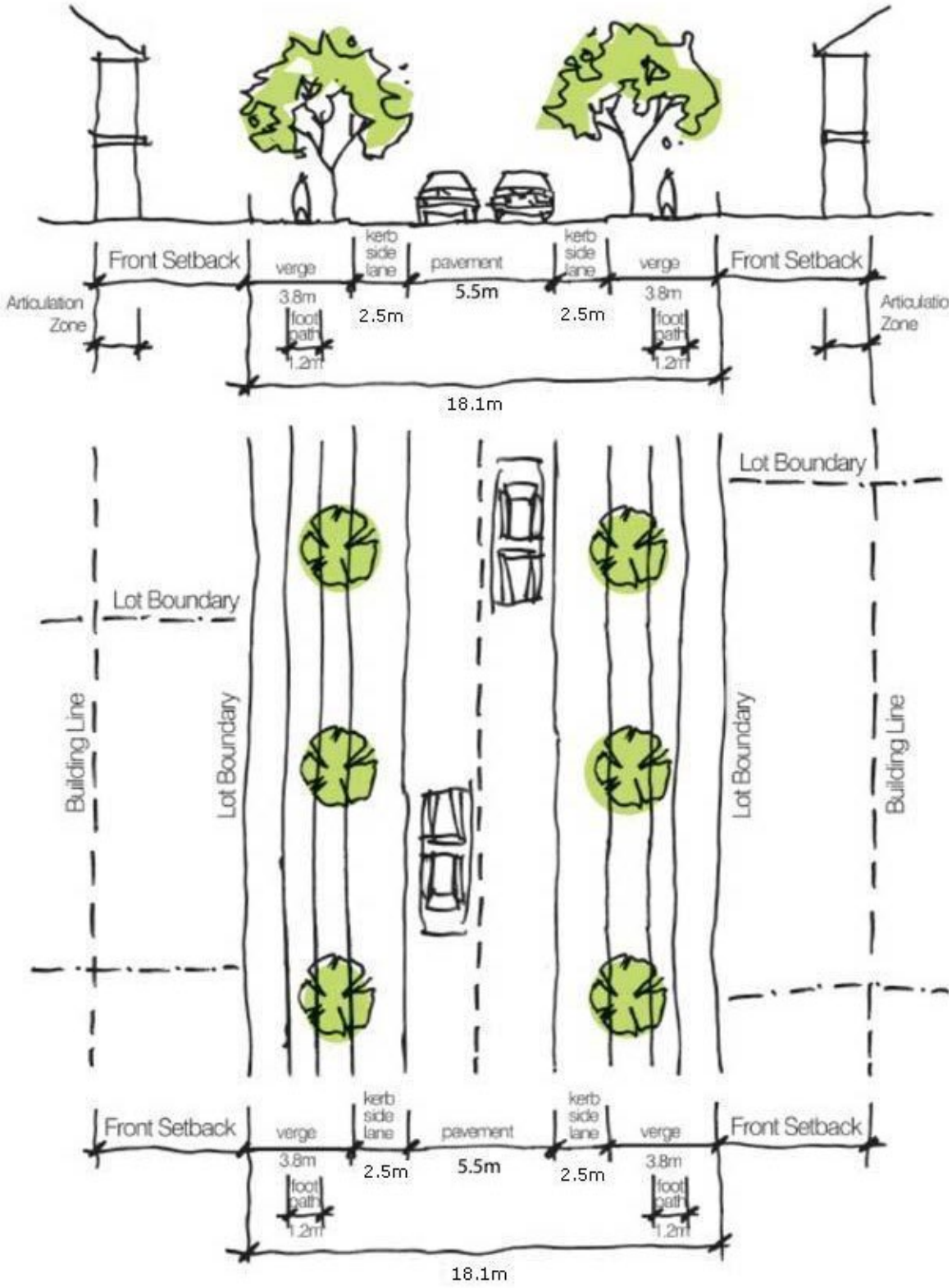


Figure E12.17d: Minor Local Road

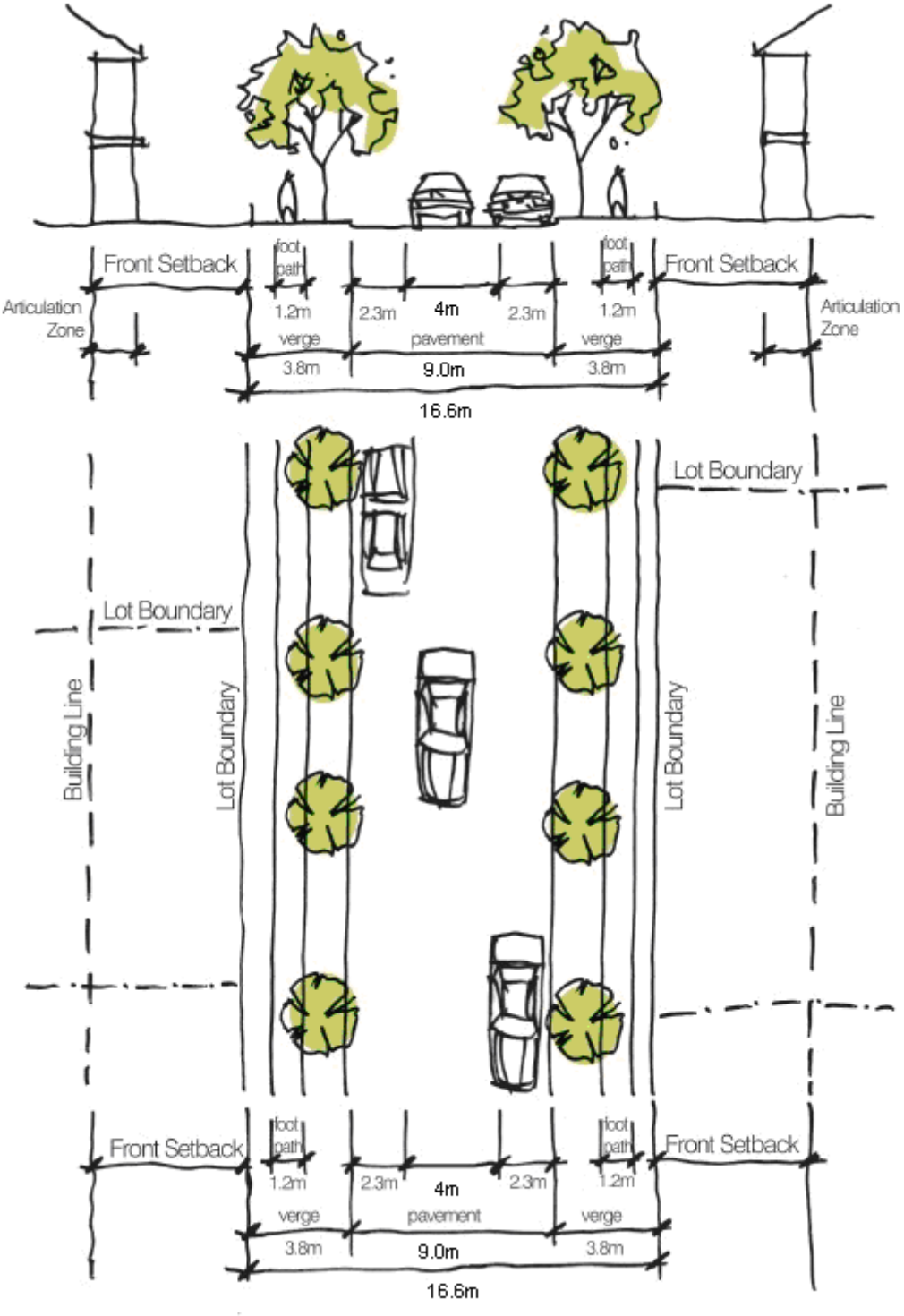
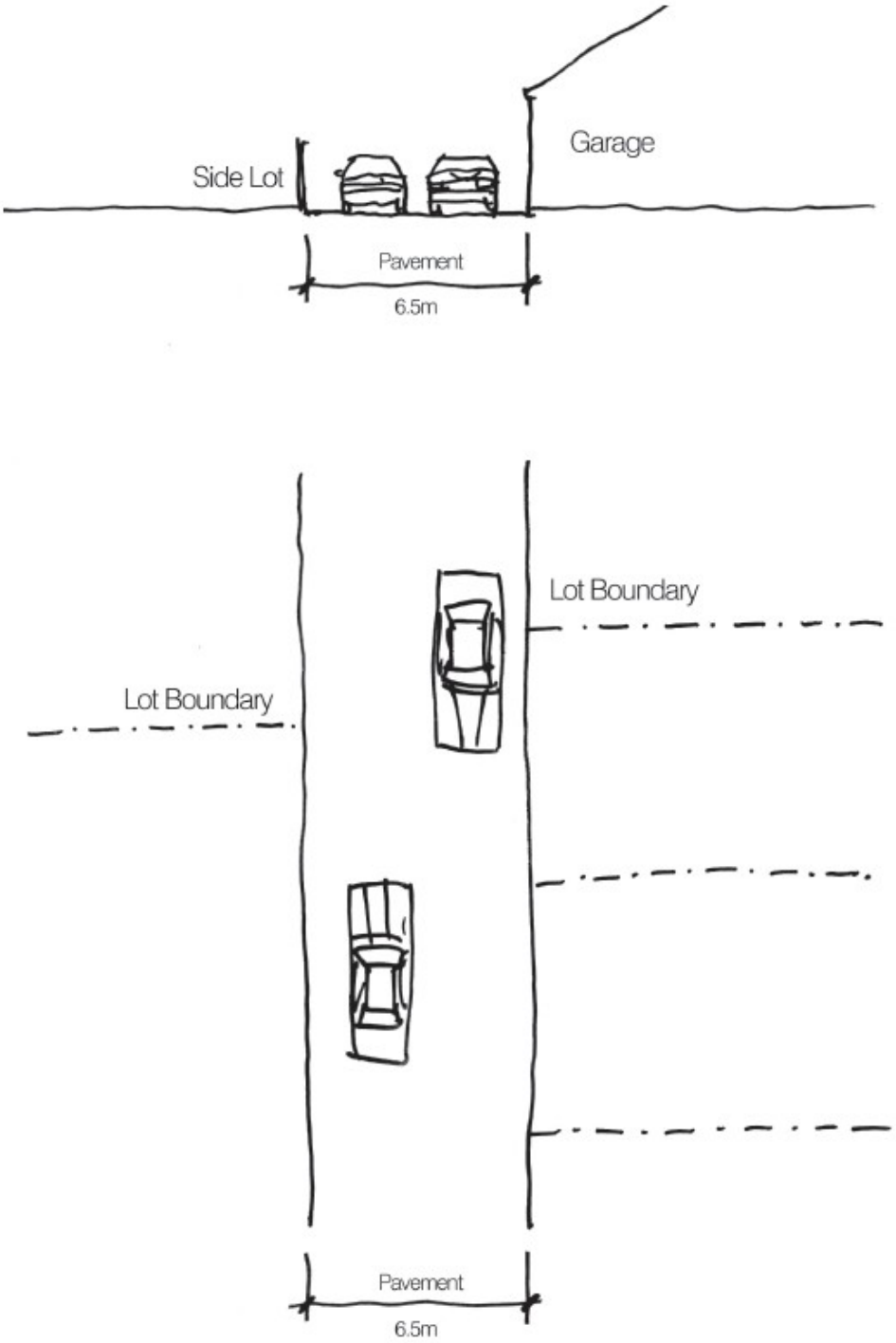


Figure E12.17e: Laneways



12.8.3.4 Passive Open Space and Environmental Conservation Areas

A. Objectives

a) To encourage community interaction by creating desirable gathering spaces, using parks as local meeting places providing a range of passive recreation activities.

b) To conserve and appreciate remnant woodland areas including biodiversity and native fauna habitat.

c) To provide high amenity areas for adjacent residential development.

B. Performance Measures

a) Existing vegetation is retained and enhanced by additional complementary plantings.

b) Parks create a precinct focus for the surrounding neighbourhood.

c) Parks are generally bounded by streets with buildings oriented towards the open space providing outlook and passive surveillance.

d) There are no back fences of development facing public open space.

e) The parks provide linkages between the broader pedestrian and bicycle networks.

f) Playground facilities are provided within the parks.

g) Seating and shade opportunities are provided within the parks.

C. Development Controls

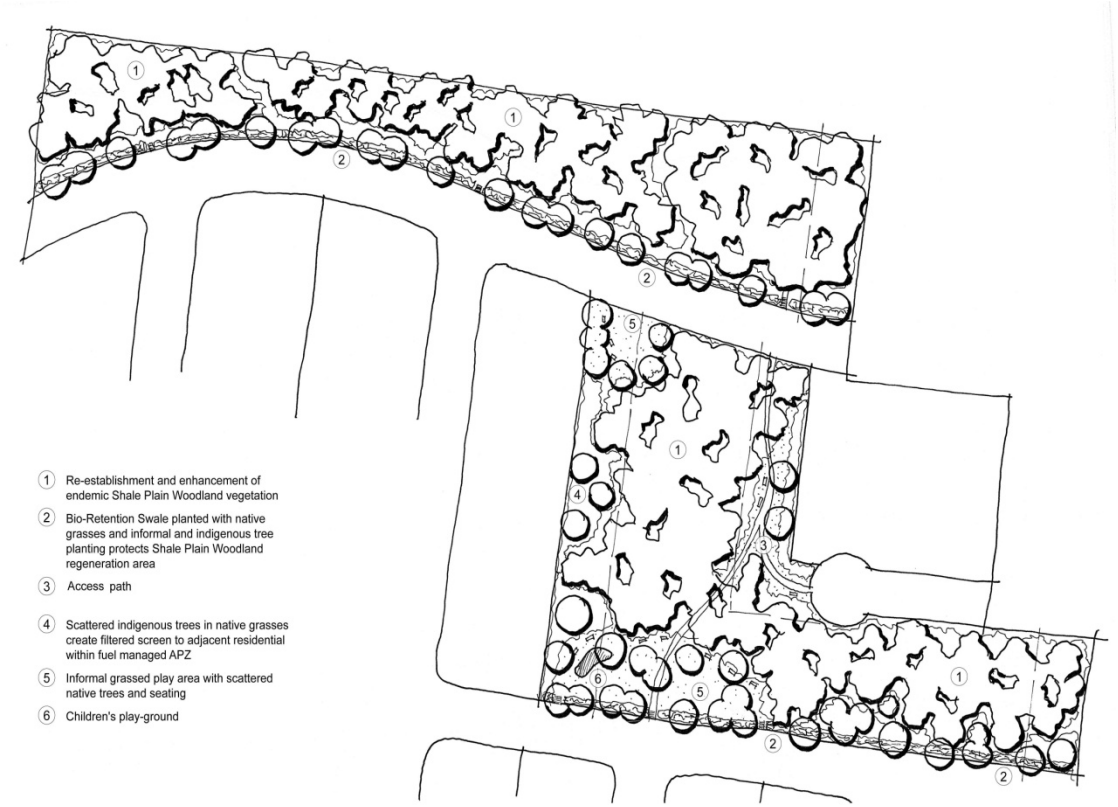
1) The indicative location of neighbourhood parks and environmental conservation areas are indicated on the Structure Plan (Figure E12.10 – South Werrington Urban Village Structure Plan).

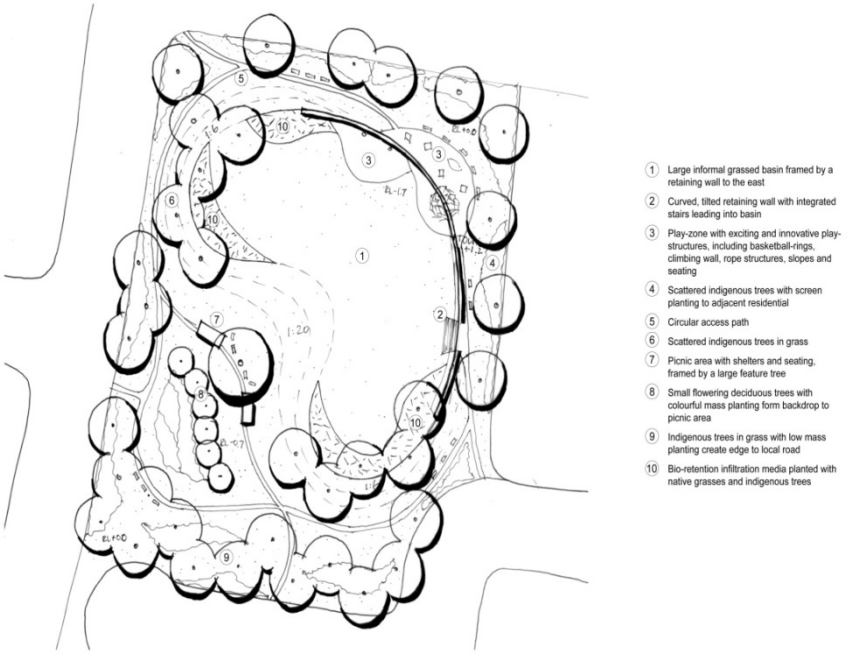
2) The design of the parks is to be in accordance with the concept landscape plans indicated in Figures E12.18a and E12.18b.

3) Lighting shall conform with the Australian Standards including AS1158, AS1680 and AS2890.

4) Development applications that include the creation of open space areas must be accompanied with a Vegetation Management Plan for those areas and shall outline procedures for such matters as (but not limited to); identifying revegetated areas, bushfire control, weed control, public access control, fencing and treatment of ‘edge’ zones.

Figure E12.18a: Western Local Park Concept Plan





12.8.3.5 Public Facilities

A. Objective

a) To ensure that facilities to be provided in the public domain can be effectively managed and maintained.

B. Controls

a) The nature of facilities to be provided in the public domain shall include (but not limited to):

   i) Seating

   ii) Bins

   iii) Lighting

   iv) Signage

   v) Drainage facilities

   vi) Shade structures

   vii) Public art

   viii) Fencing

b) Development applications shall include detailed designs and a management and maintenance plan for all facilities proposed for the public domain. The plan shall include suggested maintenance schedule, outlining the nature and frequency of works required. The purpose of the maintenance plan is to enable Council to properly assess the future maintenance requirements of proposed public domain infrastructure.

12.8.4. Private Domain

12.8.4.1 Subdivision

A. Objectives

a) To provide block sizes that maximise access to solar orientation.

b) To provide a subdivision pattern that accommodates a range of dwelling densities and lot sizes.

c) To provide lot sizes and shape that reflects the broader urban structure.

d) To promote the most appropriate locations for higher density housing forms.

e) To ensure development responds to site topography and natural constraints and opportunities.

f) To ensure lots have total areas and dimensions that allow dwellings, ancillary buildings, private outdoor open space, landscaped areas, vehicle access and parking to be located and constructed appropriately.

B. Performance Measures

a) Lots are designed to maximise efficiency in house plans and useable external areas by having a regular shape.

b) Lots are oriented to facilitate siting of dwellings and private open space to take advantage of winter solar access and summer sun deflection.

c) Lots identified to accommodate higher density housing forms will be around open space areas.

d) Larger lots frontages provided on street corners to allow development to address both street frontages.

e) Lot sizes and dimensions take into account site topography and reduce the need for earthworks and retaining wall construction.

f) Lot sizes and dimensions allow for retention of existing trees as part of subsequent site development.

g) Lots front streets and overlook open spaces to provide passive surveillance of those areas.

C. Controls

1) Minimum lot dimensions for residential development are identified in Section 12.8.5-Residential Development Types.

2) Single dwelling lots are to be a minimum of 25m deep.

3) North-south oriented lots shall vary in depth to provide longer, narrower lots on the south side of the street and shorter, wider lots on the north side.

4) Lots with an east-west axis shall have a minimum width of 12m, unless they are intended for use by attached dwellings.

5) On north-south roads, allotments may need to be widened to provide for solar access and prevent overshadowing of dwellings and private open space.

6) Where land slopes are generally greater than 5%, road and allotment design should provide for dwellings to be generally parallel with the contours to minimise earthworks. Special care should also be taken in the configuration of roads and allotments to:

   a) minimise boundary retaining walls, particularly associated with building to boundary

   b) minimise potential overlooking

   c) maintain solar access, where slopes face south. A greater distance between dwellings will generally be required to achieve the same solar access as on level sites or north facing slopes.

7) Excavations associated with a cut and fill platform for all single dwellings, single dwelling additions and Class 10 buildings are limited to a maximum of 1m.

8) Construction on sloping sites where the combined cut and fill will exceed 1m shall incorporate raised floor or split level type construction.

9) Lots are to be designed to meet dwelling yields detailed in Table E12.3 and Figure E12.11.

12.8.4.2 Site Planning

12.8.4.2.1 Principal Private Open Space

A. Objectives

a) To provide a high level of residential amenity with opportunities for outdoor living within the property.

b) To enhance the spatial quality, outlook, and usability of private open space.

c) To optimise solar access to the living areas and private open spaces of the dwelling.

B. Performance Measures

a) Principal private open spaces are the primary organising element of site planning and dwelling design.

b) Private open spaces should be located at ground level in rear yard areas that maximise opportunities to obtain solar access for all dwelling types other than apartments.

c) Development with a northern orientation provides secondary private open spaces area at the street frontages through the use of courtyards and balconies.

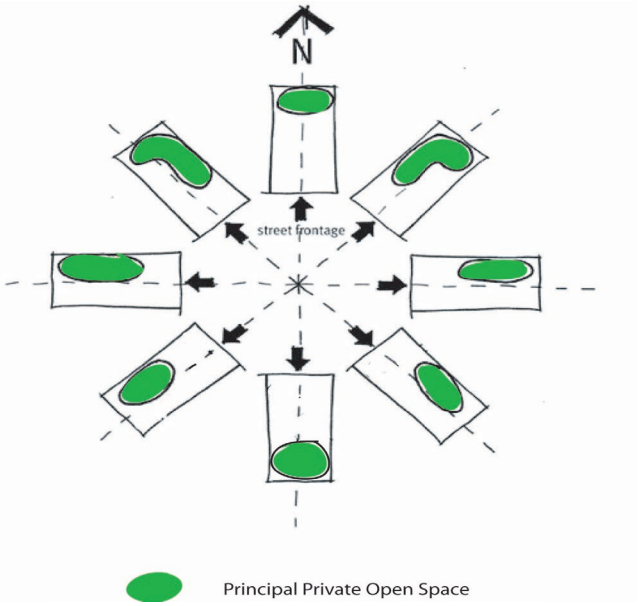
d) The principal private open spaces should have a direct interface with primary internal living area of its dwelling.

e) Development should achieve the preferred location for open space location as demonstrated at Figure E12.19 – Private Open Space Siting.

C. Development Control

1) Dwellings will achieve the minimum standards for Principal Private Open Space as identified at Section 12.8.5 – Residential Development Forms.

Figure E12.19: Private Open Space Siting



12.8.4.2.2 Garages and Parking

A. Objectives

a) To provide sufficient and convenient parking for residents and visitors.

b) To reduce the visual impact of garages, carports, and parking areas on the streetscape and improve dwelling presentation.

c) To promote safe public domain areas.

B. Performance Measures

a) Garages provide flexible accommodation for vehicles, storage, and covered areas for outdoor recreation.

b) Studios are provided over garages to rear lanes to provide surveillance, work from home or residential accommodation opportunities.

C. Controls

1) Front garages are to be setback behind the front most element of the house and integrated as part of the dwelling façade.
2) Garages are to be constructed in materials and colours which blend the garage doors into the main building.
3) Double garages are the maximum garage size allowed for single dwelling houses.
4) Where a dwelling provides vehicular access to the street the garage will be setback a minimum of 5.5m from the front boundary.
5) Stacked parking is an acceptable outcome provided it is accommodated entirely within the property.
6) Vehicle crossings between the street and front boundary shall be constructed in plain concrete only.
7) Garages are to be provided per AS 2890.1 Off Street Parking, for full door opening including:
   a) Minimum widths of 3.2m for single garages.
   b) Minimum width of 5.8m for double garages.

12.8.4.2.3 Building Footprints

A. Objectives

a) To provide a variety of streetscapes that reflects the character of different precincts.
b) To create an attractive and cohesive streetscape within local precincts.
c) To maximise provision of solar access to dwellings.
d) To minimise the impacts of development on neighbouring properties in regard to view, privacy, and overshadowing.
e) To encourage the efficient and sustainable use of land.
f) To allow for landscaped rear yard areas.
g) To promote public safety of public domain areas.
h) To manage risk from bushfire events.

B. Performance Measures

Front Setbacks

a) Front setbacks are site responsive and will be determined for individual lots as part of the Subdivision Approval process given consideration to the following matters:
   i) Future dwelling type.
   ii) Orientation of lots.
   iii) Provision of front yard open space and associated fencing.
   iv) Availability of direct vehicle access to the street.
   v) Relevant role of street in local road hierarchy.

vi) Proximity to open space areas.

vii) Location within Neighbourhood Centre.

viii) Requirements to provide Asset Protection Zone.

Rear Setbacks

a) Landscaping provision that allows trees in the rear yard area to provide a vegetated backdrop to the development.

C. Development Controls

Front Setbacks

1) Front setbacks are identified in Section 12.8.5 – Residential Development Forms, for each dwelling type.

Side Setbacks

1) The width of the lot will determine the ability of the site to provide zero lot lines.

2) Where only one side of a lot can provide a zero lot line, then Figure E12.20 – Zero Lot Lines will be used to determine which of those boundaries accommodates that zero lot line.

3) A maintenance easement of at least 900 millimetres is to be provided on the boundary adjacent to the zero lot line.

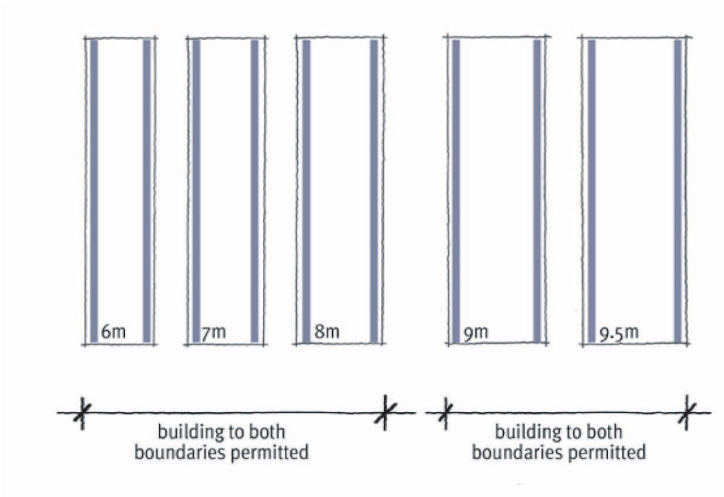
4) All other side setbacks will be a minimum of 900mm.

5) Fascias, gutters, downpipes, eaves (up to 450 millimetres wide) and chimneys flues may encroach into the side setback.

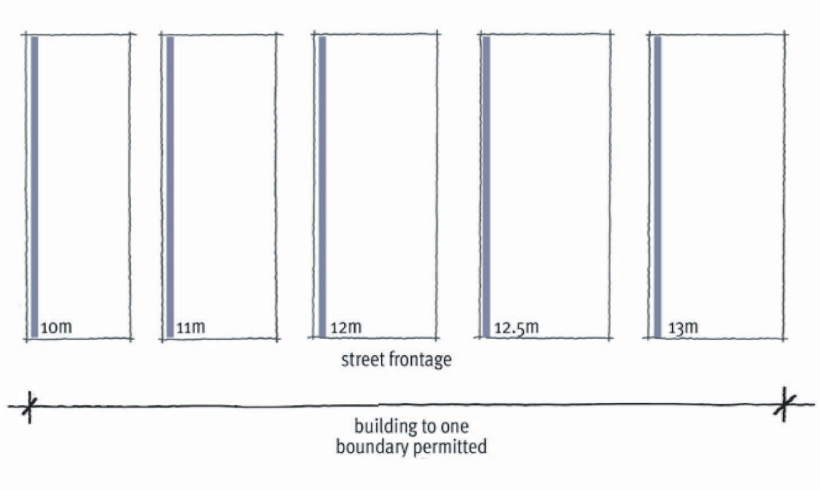
6) No windows are provided in zero lot line walls.

Figure E12.20: Zero Lot Lines (all 3 figures below)

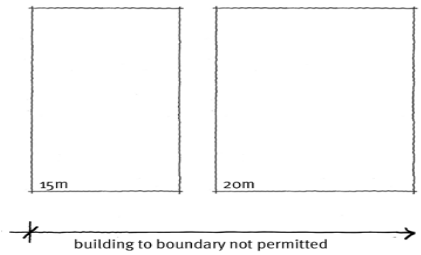
Attached dwellings



Semi Detached dwellings



Detached dwellings



12.8.4.3 Building Envelope

A. Objectives

a) To ensure development is appropriately scaled to suit the dwellings local context.

b) To ensure building heights achieve built form outcomes that reinforce quality urban and building design.

c) To protect reasonable amenity expectations of neighbouring sites.

B. Performance Measures

a) Building heights are site responsive and will be determined for individual lots as part of the Subdivision Approval process given consideration to the following matters:

i) Future dwelling type.

ii) Orientation of lots.

iii) Relevant role of street in local road hierarchy.

iv) Site topography.

v) Key street intersections.

C. Development Controls

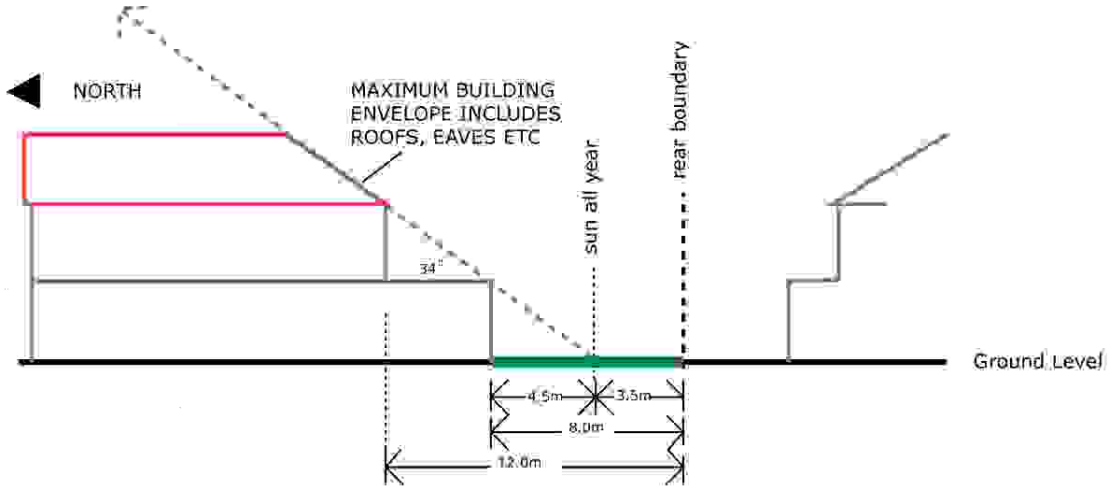
1) Areas of Principal Private Open Space should achieve at least 3 hours of sunlight to 50% of the required private open space area between 9am and 3pm on 21 June.

2) Buildings should be designed to ensure that 40% of the Principal Private Open Space area of adjoining dwellings sites receives a minimum of 3 hours of sunlight between 9.00am and 3.00pm on 21 June.

3) Dwellings with a northern orientation that share a rear boundary with residential development will achieve the building height envelope as identified at Figure E12.21 – Building Envelope from Rear Boundaries.

4) Dwellings that share a rear boundary with a private driveway or rear lane is not required to achieve the building envelope.

Figure E12.21: Building Envelope from Rear Boundaries



12.8.4.4 Dwelling Design

A. Objectives

a) To provide simple and articulated building forms.

b) To provide a high quality and cohesive streetscape.

c) To promote an architectural style that is contemporary and innovative.

d) To promote a safe public domain area.

e) To promote energy efficient and sustainable development.

f) To reduce the dominance of garages on the streetscape.

g) To identify appropriate design responses for corner lots.

B. Performance Measures

a) All development addresses the street and is provided with a clear, legible and well lit pedestrian entry.

b) The street elevation is well articulated by the use of awnings, verandahs, balconies and feature elements on the front facades of dwellings.

c) Development achieves the principle of three layers of rear setbacks as illustrated at Figure E12.21 Building Envelope from Rear Boundaries.

d) The finished ground level of development is raised above the street level to improve the outlook and enhance visual privacy from within the dwelling and front verandahs.

e) Garages will be recessed or capped by overhanging elements that provide shading over the garage opening.

f) Dwellings orientate living spaces to the north, sleeping areas to the east or south and utility areas to the west or south.

g) Dwellings provide shading of north, east and west facing windows with pergolas and awnings.

h) Buildings are to be designed to allow cross ventilation by positioning windows and doors opposite each other within rooms.

i) Material and external finishes of buildings in bushfire hazard areas comprise appropriate construction standards for those areas.

j) Built forms on corners provide important place making and way finding elements in the streetscape.

k) Corner sites provide a frontage to both streets and articulate their corner location with an architectural feature such as, but not limited to a wraparound verandah, bay window, corner entry or roof feature.

l) Dwellings provide adaptable house floor plans for the inclusion of a home office/business activity area.

C. Development Controls

1) Building elements (Verandahs, awnings, etc.) may project forward of the front building setback line by a maximum of 1.5m, as demonstrated in Figure E12.22 – Setbacks and Articulation.

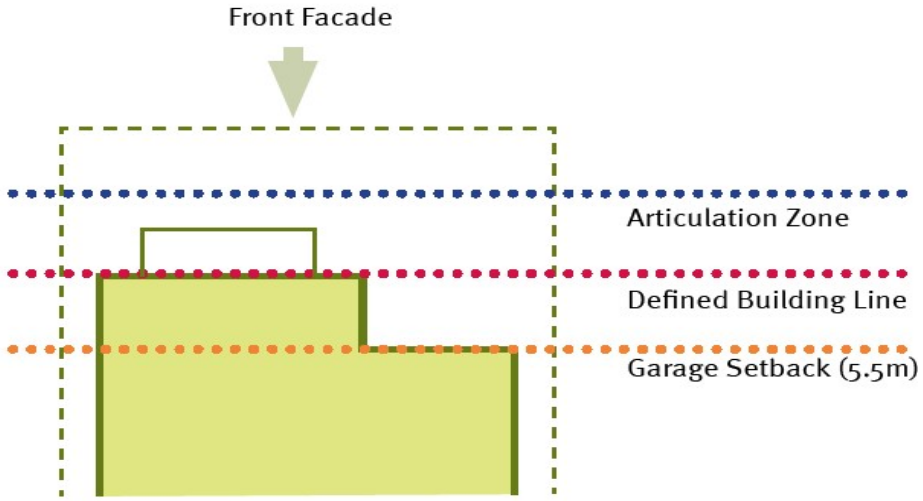
2) Building elements projecting forward of the front building setback are limited to a maximum of 60% of the dwelling width.

3) Eaves are required over all walls except those on zero lot lines.

4) External building materials/finishes are to be varied across front elevations of buildings.

5) Retaining walls are to be constructed with appropriate masonry materials.

Figure E12.22: Setbacks and Articulation



12.8.4.5 Visual and Acoustic Privacy

A. Objectives

a) Ensure buildings are designed to achieve the highest possible levels of visual and acoustic privacy.

b) Protect visual privacy by minimising direct overlooking of habitable rooms and private open space.

c) Contain noise within dwellings and minimise the intrusion of noise from outdoor areas.

d) Ensure that noise generated by adjoining land use such as the proposed Werrington Arterial and Great Western Railway line are adequately addressed in the design and construction of development on the site

B. Performance Measures

a) Windows to upper storeys are located on front or rear facades where possible.

b) Offset second storey windows of living areas that face directly to windows, balconies or private open space of adjoining properties.

c) First floor balconies or living room windows do not directly overlook private open space of adjoining dwellings unless suitable screening is provided.

d) The design of attached dwellings minimises the opportunity for sound transmission through the building structure, with particular attention given to protection bedrooms and living areas.

e) Living areas and service equipment are located away from bedrooms of neighbouring dwellings.

f) Noise sensitive areas are located away from the noise emitting sources.

C. Development Controls

1) Habitable room windows with a direct sight line to habitable room windows in adjacent dwellings are to be avoided, however within 9.0m must be obscured by fencing, screens, or sufficient landscaping;

2) A screening device is to have a maximum of 25% permeability to be considered effective.

3) In attached dwellings, bedrooms of one dwelling are not to share walls with living spaces or garages of adjoining dwellings, unless it is demonstrated that the shared walls and floors meet the noise transmission and insulation requirements of the Building Code of Australia.

4) Residential development adjacent the proposed Werrington Arterial and the Main Western Railway will consider the relevant provisions in the Infrastructure SEPP.

12.8.4.6 Fencing

A. Objectives

a) Creates a clear distinction between public and private domain areas.

b) To ensure front fences contribute to the streetscape.

c) Maintain safety in the public domain.

d) Rear and side fencing provide privacy to open space areas.

B. Performance Measures

a) Delineation of front property boundaries is achieved through use of landscaping, low fences or changes of site level.

b) Front fences are open in style or “see through” construction (eg picket fence).

c) Side property fences in front of the building line shall be treated as the front fence.

d) Side property fences are terminated at the front building line and returned to finish against the building.

C. Development Controls

1) Fences to the street frontage:

   a) are to be a maximum of 900mm in height.

   b) may be a maximum of 1.2m in height where they define the primary open space of a dwelling.

2) Side property fences are to be a maximum of 1.8m high.

3) Fences to corner lots that accommodate single dwelling houses are to be a maximum 900mm high on both the primary street frontage and secondary street frontage to a point 10m from the dwelling frontage where it may then increase to 1.8m in height.

4) Solid front fences at 1.8m in height are to provide for a1.2m landscape strip in front of the fence for its entire length.

5) Fences to corner lots that accommodate multi-unit housing forms are to be a maximum of 900mm on the primary street frontage and 900mm in height along the secondary street frontage in areas in front of the built form or 1.2m if they define the primary open space areas.

6) Front fencing shall have a minimum opening ratio of 50%.

7) Where solid fences are required to satisfy acoustic abatement, these fences shall not exceed 8.0m in length without some articulation or detailing to and must be softened on the street side with a landscaping strip of 1.2m minimum.

8) Prefabricated metal fencing is not permitted to the street frontage.

12.8.4.7 Site Facilities

A. Objectives

a) To ensure that adequate provision is made for site facilities.

b) To ensure that site facilities are functional and accessible to all residents and are easy to maintain.

c) To ensure that site facilities are thoughtfully integrated into development and are unobtrusive.

B. Performance Measures

a) Development demonstrates that the design takes into account garbage bin storage and collection without reducing the amenity of the dwelling or neighbouring lots.

b) Garbage bin storage and mail box structures are to be integrated with the overall design of buildings and/or landscaping and are not visible from the street or rear lane way.

c) External clothes drying areas are to be provided for all residential development.

12.8.5 Residential Development Forms

12.8.5.1 All Housing Types

A. Performance Measures

a) Dwellings are designed to incorporate the option of ‘live-work’ activities (home-based businesses).

b) To encourage quality designed dwellings that make a positive contribution to the streetscape and amenity of the neighbourhood.

c) To provide definition of public domain by ensuring development addresses the streets and open spaces.

d) To promote housing choice, variety and affordability.

12.8.5.2 Integrated Housing

A. Performance Measures

a) Proposals where development includes subdivision which results in 3 or more dwellings on separate lots creating lots smaller than the minimum lot size for that type of development is to be considered as an Integrated Housing proposal.

b) Any proposal for integrated housing shall be designed by an architect registered with The NSW Architects Registration Board.

12.8.5.3 Apartments

A. Performance Measures

a) Provide more urban orientated development and encourage higher density development in walking distance to Werrington Station.

b) Be compatible in scale with the future mass and character of adjacent buildings.

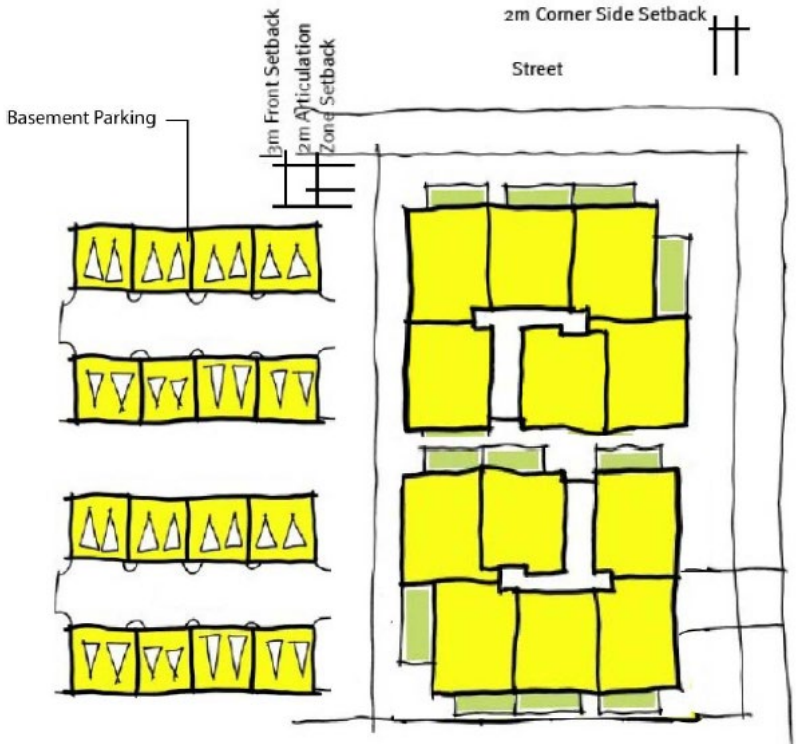
c) Provide parking on site and underground where possible.

B. Controls

Lot Dimensions	
Minimum Lot Size	650m^2
Minimum Lot Frontage	25m
Private Open Space	
Ground floor private open space	
Minimum Area	20m^2
Minimum Dimension	2.5m
Upper floor private open space	
Minimum Area	10m^2
Minimum Dimension	2m
Communal open space	
Per 10 dwellings	10m^2
Building setbacks	
Front	3m
Secondary Frontage	2m
Side	• 1.5m without opening to a habitable room • 3m opening to a habitable room
Rear	5m
Garage to rear lane/secondary frontage	0m

Other requirements	
Built Form	Development must utilise multiple entries and circulation cores in buildings with a length greater than 15m.
Adaptable Dwellings	10% of dwellings shall be adaptable per AS1428.1-1998- Design for Access and Mobility.
Vehicle Manoeuvring	Provide turning movements per AS 2890.1-2004.

Figure E12.23: Apartment Design Principles



12.8.5.4 Attached Dwellings

A. Performance Measures

a) Provide for parking with a rear loaded garage accessed from a rear lane or shared driveway.

b) Integrate studio units located above a ground level garage are at ground level, located at the rear of the site in some locations.

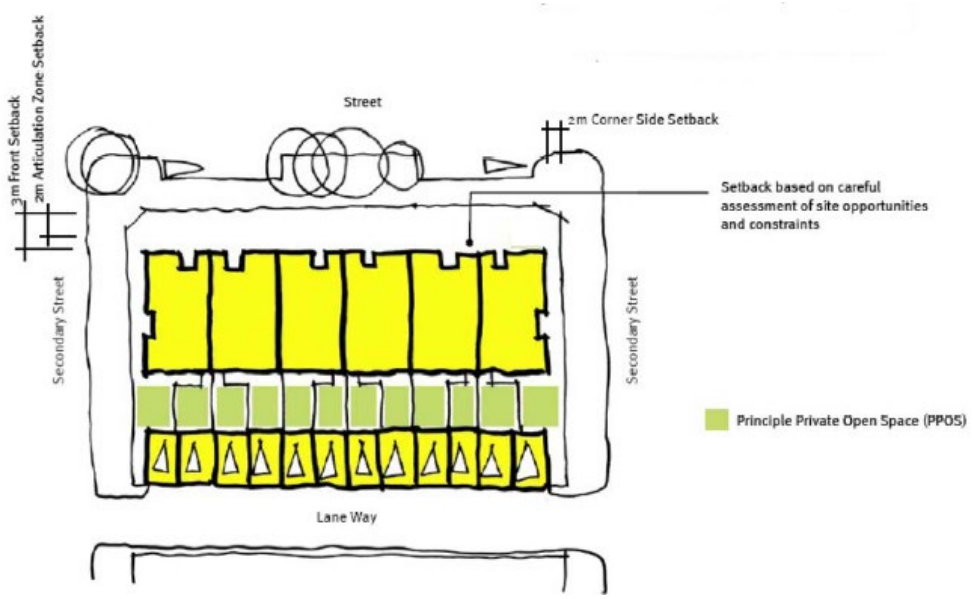
c) To encourage medium density development in close proximity to the railway station.

B. Controls

Lot Dimensions	
Minimum Lot Size	195m^2 – 230m^2
Minimum Lot Frontage	6m – 9.5m
Private Open Space	
Minimum Area	20m^2
Minimum Dimension	4m
Landscaping Site Coverage**	40%
Building setbacks	
Front	3m
Secondary Frontage	2m
Side	0m
Rear	
Lots with a northern orientation All other lots: - Ground floor - Upper floor	8m 4m 6m
Garage to rear lane/secondary frontage	0m

** Any landscaped area having a dimension less than 2m shall not be included in the calculations of landscaped areas.

Figure E12.24: Attached Dwelling Design Principles



12.8.5.5 Semi Detached Dwellings

A. Performance Measures

a) Have the appearance of a larger home, but comprise of 2 dwellings on separate Titles.

b) When located on corner lots, semi-detached dwellings should provide distinct entries for each unit usually located on different street frontages.

c) Dwellings have an adaptable design which can incorporate options for home-based business activities.

d) When located at a corner provide vehicle access is to be provided off different street frontages.

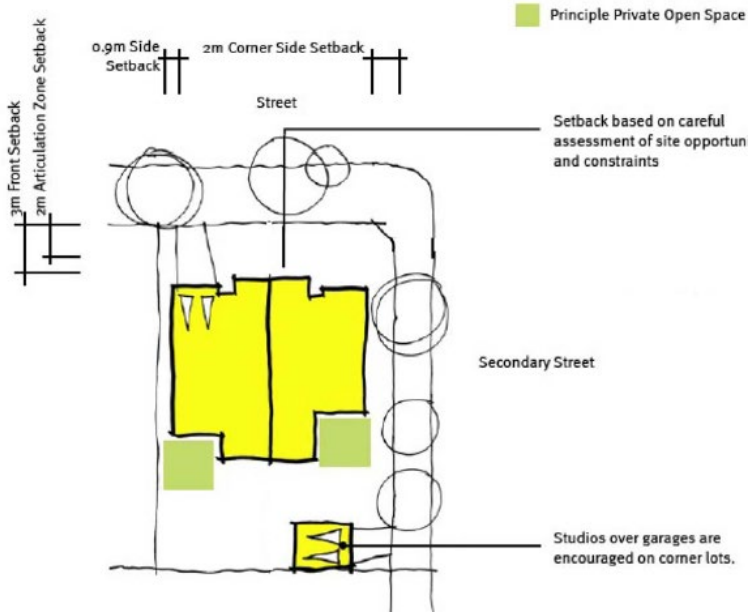
B. Controls

Lot Dimensions	
Minimum Lot Size	230m^2 – 450m^2
Minimum Lot Frontage	12m – 15m
Private Open Space	
Minimum Area	30m^2
Minimum Dimension	4m
Landscaping Site Coverage**	40% of total site area

Building setbacks	
Front	3m
Secondary Frontage	2m
Side	0m (defined boundary) 0.9m
Rear	
Lots with a northern orientation	8m
All other lots:	
- Ground floor	4m
- Upper floor	6m
Garage to rear lane/secondary frontage	0m

** Any landscaped area having a dimension less than 2m shall not be included in the calculations of landscaped areas.

Figure E12.25 Semi Detached Design Principles



12.8.5.6 Studios

A. Performance Measures

a) Be located above garages that are accessed from rear lanes or shared driveways.

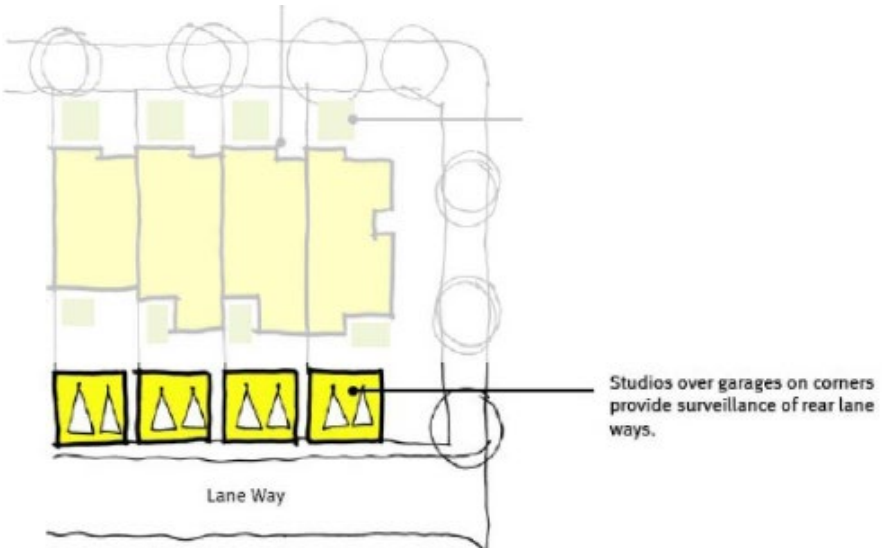
b) Provide their own sleeping, living, kitchen and bathroom areas.

c) Provide casual surveillance over rear lanes or shared driveways.

d) Windows and private open spaces do not overlook the private space of any adjacent dwellings.

e) Do not overshadow the private open space of living space of any adjacent dwelling.

f) Balconies or verandahs do not overhang vehicle access areas.



12.8.5.7 Detached Dwellings

A. Performance Measures

a) Allow for landscaped side setbacks to provide visual separation between dwellings and a more spacious streetscape environment.

b) To provide for more detached dwellings in the general residential zone which transitions to the medium density zone.

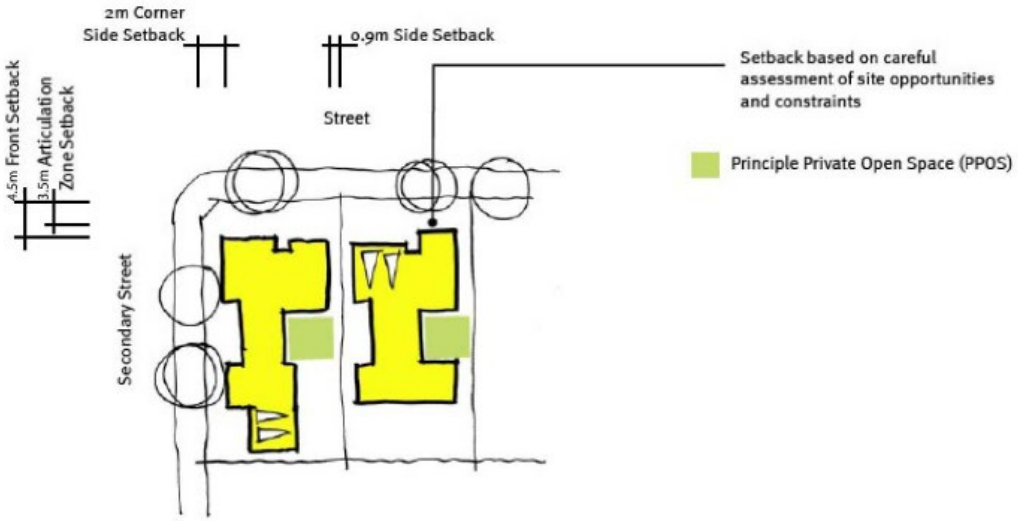
B. Controls

Lot Dimensions	
Minimum Lot Size	450m^2
Minimum Lot Frontage	15m – 18m
Private Open Space	
Minimum Area	50m^2
Minimum Dimension	4m
Landscaping Site Coverage**	40% of total site area

Building setbacks	
Front	4.5m
Secondary Frontage	2m
Side	0.9m
Rear	
Lots with a northern orientation - Ground floor - Upper floor All other lots: - Ground floor - Upper floor	 8m 12m 4m 6m
Garage Frontage	5.5m
Garage to rear lane/secondary frontage	0m

** Any landscaped area having a dimension less than 2m shall not be included in the calculations of landscaped areas.

Figure E12.27 Detached Dwelling Design Principles



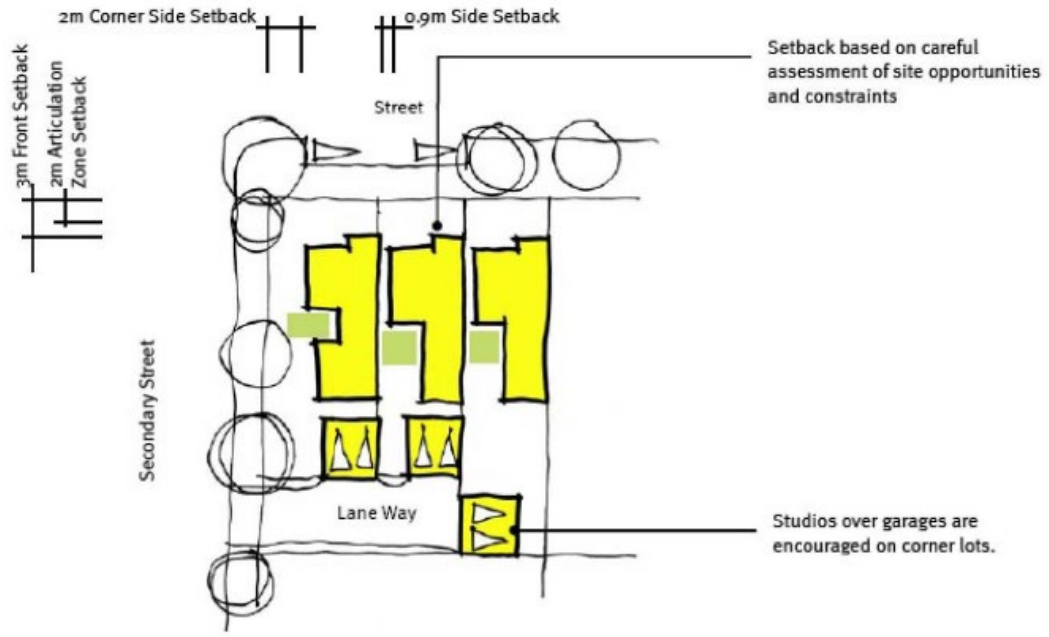
12.8.5.8 Built to Boundary Dwellings

A. Controls

Lot Dimensions	
Minimum Lot Size	230m^2 – 450m^2
Minimum Lot Frontage	9.5m – 15m
Private Open Space	
Minimum Area	40m^2
Minimum Dimension	4m
Landscaping Site Coverage**	50% of total site area
Building setbacks	
Front	4.5m
Secondary Frontage	2m
Side	0m (defined boundary) 0.9m
Rear	
Lots with a northern orientation	8m
All other lots:	
- Ground floor	4m
- Upper floor	6m
Garage to rear lane/secondary frontage	0m

** Any landscaped area having a dimension less than 2m shall not be included in the calculations of landscaped areas.

Figure E12.28 Built to Boundary Design Principles



12.8.6 Development for Employment Purposes

A. Performance Measures

a) Development for employment purposes should be planned and designed to be compatible with the existing and intended desired character of the locality.

b) Development for employment purposes shall consider views and vistas to and from Frogmore House.

c) Particular attention is paid to:

i) The development site including setbacks,

ii) Urban form including:

- traditional building design features
- Building design to incorporate articulation and interest to street frontages and should be of a contemporary and innovative design
- provide landscaped frontages to the street.
- orientation of building entrances.
- continuously occupied rooms facing the street.
- detailed consideration of significant townscapes or landscapes.
- Signs.

iii) driveways and parking including:

- provision of on-site parking appropriate to the proposed use, and in accordance with the Access and Parking section of this DCP, the RMS or Australian standards.

- minimise site coverage by paved areas.
- conceal garages from views available from public parks and streets.
- locate driveways and parking areas away from any neighbouring residential development.
- Shared driveways between developments within the employment zones are encouraged
- All vehicles to enter and leave in a forward direction.

iv) building envelope and setbacks:

- to achieve a two storey appearance.
- to provide for effective landscaped separation from adjacent developments.

v) protect the privacy of adjacent properties.

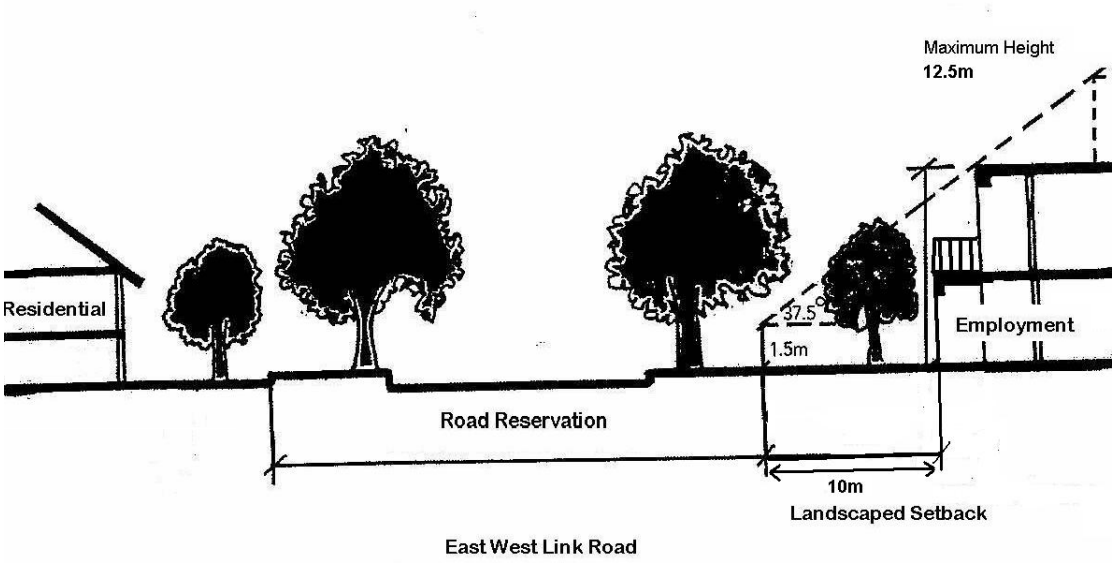
vi) sufficient areas are provided for storage and building services to meet requirements generated by the proposed development and located to protect the amenity of adjacent developments. These storage areas are to be suitably screened from nearby streets and the Great Western Highway.

vii) provision is made for on-site stormwater detention and treatment.

B. Controls

Minimum Lot Size	2,000m^2
Minimum Lot	25m
Minimum Front Building Setbacks	10m
Council may consider a minor variation to the front setback but only where the proposal demonstrates a high level of architectural treatment plus an improved landscaping outcome.	
Height	Development will be carried out within the building height plane demonstrated in Figure E12.29 – Building Height Plan (Cross Section) to a maximum of 12.5m.

Figure E12.29: Building Height Plane - Cross Section of Employment development to Residential Development through proposed East West Link Road



Landscaping

1) A detailed landscape plan shall be submitted in accordance with the Landscape Design section of this DCP.
2) Landscaping within all setback areas shall be of a similar scale to the buildings on the site.
3) All unbuilt areas of the site not required for loading, car parking, or vehicle access should be landscaped.
4) 60% of any landscaped area shall provide for trees that grow to a height that exceeds the building height on the site and where possible be endemic to the area.

Drainage

1) On site stormwater detention systems are to be implemented to control the rate of runoff from the site to limit or reduce the rate of runoff to existing conditions or better.
2) A preliminary stormwater drainage plan is to be submitted with a development application for industrial uses on the site.
3) The onsite stormwater detention system must be designed, constructed and maintained in accordance with requirement of Councils OSD technical specifications.
4) Rainwater tanks are not to be located in the front setback and shall be integrated into the design of the building.

Fencing

1) No front fencing is permitted forward of the building line.
2) Security measures are to be integrated into the building design to avoid use of security fencing.
3) Should any fencing be required it is to be integrated into the landscaping theme to minimise visual impacts while providing associated site security. Chain wire, untreated metal, prefabricated metal and wooden fencing is not permitted.

Design

1) Architectural features shall be included in the design of the industrial buildings to provide for a more visually interesting industrial area that does not detrimentally affect the amenity and visual character of the locality or adjoining residential properties. Such features shall include:
   a) Distinctive parapets or roof forms,
   b) Visually interesting facades
   c) Architectural emphasis on built form,
   d) Variety of window patterns,
   e) Variation in unit design within building group
   f) Entrance areas to be visually prominent within the overall building form
2) Additional design features can also include (but not limited to):
   a) Balcony
   b) Canopy
   c) Awnings
   d) Entrances
   e) Recesses
   f) Consideration of external materials and finishes
3) Roofing is to be constructed of non-reflective pre-painted metal with mid-tone colouring.
4) Buildings located on corner lots need to address both street frontages and reinforce the corner by massing and façade orientation.

Access

1) Development fronting the proposed East West Link road shall provide access to the western side of the property to reduce the impacts of cut into the site.
2) No parking spaces are to be provided within the front building setback.
3) Onsite parking and manoeuvring areas are to be in accordance with AS 2890.1 and AS2890.2. Lots greater than 2,000m^2 shall cater for articulated vehicles.

Part D – Werrington Mixed-Use Area

12.9 – Werrington Mixed-Use Area

12.9.1 Preliminary

12.9.1.1 Land to which this section applies

The Werrington Mixed-Use Area covers land bounded by:

- The Main Western Railway Line to the north;
- The Great Western Highway to the south;
- French Street and existing residential development to the west and;
- The University of Western Sydney (North Campus) to the east.

This Section does not apply to land zoned B7 Business Park.

12.9.1.2 Aims of this Section

a) To create an urban environment that optimises residential and employment opportunities that will act as a catalyst for future development for the area, and provides a mix of residential and employment generating land uses.

b) To optimise employment opportunities on the site presented by its proximity to the Great Western Highway and the University of Western Sydney (UWS).

c) To optimise the potential for use of public transport by residents, employees and visitors to the site.

d) To provide a high degree of accessibility that is safe and direct both within the site and between the site and the surrounding residential areas and educational institutions.

e) To provide a permeable and interconnected street system, with direct access denied to and from the Great Western Highway and a network of public thoroughfares (street and car parking areas), that accommodate the needs of vehicles, bicycles and pedestrians for efficient, convenient and safe access to all areas.

f) To promote active and vibrant street frontages with a high degree of surveillance, particularly along prominent access routes, streets and or boulevards in both residential and employment areas.

g) To ensure buildings have a high level of environmental performance consistent with Penrith City Council requirements, particularly with regard to energy efficiency, water management and the control of noise and emissions.

h) To retain and protect areas of high conservation value and commemorate past uses of the site.

i) To promote development that achieves best practice in ecologically sustainable development and enhances the natural values of the site.

j) To require the consideration of social and economic aspects of sustainable development.

k) To provide a public domain with a high aesthetic quality and appropriate landscaping.

l) To require the preparation for a Concept Plan for each zone on the site and provide details on the information to be included in that plan.

12.9.2 Concept Plans

12.9.2.1 Requirements for a Concept Plan

Separate Concept Plans may be prepared for each of the zones. Concept Plans can be prepared, considered and adopted independently of one another, provided each demonstrates an appropriate integration and suitable interface between the zones and activities. Each Concept Plan must also demonstrate that development of the site will satisfy the requirements of this Section.

Council must not grant consent to development on land to which this plan applies unless:

a) a Concept Plan covering the land to be developed has been prepared; and

b) the development is consistent with the amended DCP;

except in the case where the Council has waived the requirement for a Concept Plan or where the development is exempt from the Concept Plan requirement. Where this occurs, Council will provide the applicant with written notice of the waiver or exemption. In the case of a waiver or exemption, Council must assess development with regard to the provisions of this DCP, and development applications must meet the requirements for Concept Plans as specified in this Section.

Council may waive the requirement for a Concept Plan at its discretion, or where:

a) the development is of a minor nature and not inconsistent with the provisions of the LEP and this Section; or

b) development is for a purpose listed in the Penrith LEP 2010.

A Concept Plan is to address, illustrate and explain the matters that the council determines are relevant to the future residential development of the land, and must include the following:

a) urban design principles derived from analysis of the property and the character of its surroundings;
b) conservation of cultural heritage and compatibility with the character of established neighbourhoods in Penrith City;
c) conservation of natural features and biodiversity;
d) protection of natural hazards, including flooding, bushfire and ground salinity;
e) distribution of land uses and open space;
f) provision of access for pedestrians, cyclists, road vehicles and public transport;
g) controls for private landscapes and built form;
h) safety and amenity of residential areas and the public domain;
i) provision of on-site car parking;
j) provision of service infrastructure;
k) provision of public facilities;
l) landscaping and improvements to the public domain;
m) management of stormwater drainage and minimisation of water quality impacts;
n) contribution to energy efficiency;
o) staging of future development; and
p) proposed patterns of subdivision.

12.9.2.2 Concept Plan Strategies

The Concept Plan(s) must include and be based on the following strategies, prepared for the uses proposed in the relevant zone:

1) A transport management plan for the site, which promotes the use of public transport and pedestrian activity and recognises the site's context and surrounds. This study shall include:
    a) an assessment of the adequacy of the current French Street/Great Western Highway intersection to deal with the traffic volumes which will result from development of the site; and
    b) development of any necessary traffic measures for O'Connell Street and Second Avenue to address the impacts of traffic interruptions due to greater pedestrian movements in the area.
2) An environmental management plan for the site, which promotes the enhancement and protection of the environmental qualities of watercourses, riparian land, remnant bushland and biological corridor linkages in accordance with best practice ecologically sustainable development.
3) An integrated economic strategy for the site, that promotes the optimisation of employment opportunities, particularly high technology developments.
4) A social plan for the site, which promotes the effective delivery of community facilities, services, and recreation opportunities and provides for community safety.
5) An implementation strategy to ensure that the provisions and measures proposed in the Concept Plan can be achieved.

12.9.2.3 Adoption of a Concept Plan

Concept Plans are required to be adopted by Council. Council must not adopt a Concept Plan unless:

a) The Concept Plan is consistent with the provisions and objectives of this Section and it addresses all matters outlined by this Section.

Council may consider a future application to amend an approved Concept Plan:

a) Subject to the Penrith LEP 2010, and the provisions of this Section; and
b) Submitted in the form of a development application or amendment to this Section.

Minor amendments only may be submitted in the form of a development application.

12.9.2.4 Form of a Concept Plan

Concept Plans are to be adopted and will be assessed against the provisions of this Section. Accordingly, it is important that the information is presented in a form that can be easily checked against and assimilated into the structure of this Section.

Concept Plans shall describe details of the design, implementation and management of future development. Those details shall be consistent with the provisions and the sections in this DCP, being:

a) Urban Design;
b) Sustainability;
c) Site Features;
d) Infrastructure Services; and
e) The relevant zones.

This Section specifies the information to be provided in the Concept Plan and the provisions that must be complied with. A table will be required to be submitted with the Concept Plan

which lists each requirement contained in this plan and indicates where it is addressed in the Concept Plan. If any provision is considered not relevant to a Concept Plan, the table must indicate why it is not relevant and how the principles covered by the provision will be met (e.g. in a different Concept Plan, at Development Application stage etc.).

Concept Plans must include clear strategies for implementation and monitoring.

The use of tables, diagrams, and maps is encouraged to ensure information is clearly conveyed.

12.9.3 Urban Design

12.9.3.1 Land use and Activities

A. Objective

a) To ensure that the land uses and activities proposed in each zone comply with the provisions of the relevant planning instruments, and that any negative impacts arising from these activities are minimised.

B. Controls

The following elements are required to be incorporated in a Concept Plan:

1) a scaled map of the site demonstrating that the R1 General Residential zone has a minimum area of 6ha;
2) pictorial depiction of the division of each zone into specified activities, generally in accordance with the proposed land use layout shown in Map 1;
3) the nature of specified activities, with reference to likely environmental effects, including (where relevant) information on:
    a) resident population and number of employees;
    b) hours of operation;
    c) likely visitation;
    d) traffic generation; and
    e) noise generation.
4) compatibility of each activity with neighbouring activities, both on this site and on neighbouring properties;
5) measures to achieve an appropriate interface between adjacent precincts and land uses, both on this site and on neighbouring land, including boundaries, buffers and gateways;
6) visibility and accessibility of business / retail floor-space; and
7) important heritage values identified by any relevant heritage studies.

12.9.3.2 Pattern of Streets, Open Spaces and Community Facilities

A. Objective

a) To ensure that the design of public areas, including streets, open space and community facilities, considers the needs of future residents and visitors in terms of accessibility, pedestrian movement, public transport use, safety and amenity.

B. Controls

The following elements are required to be incorporated in a Concept Plan:

1) details of access networks for vehicles, pedestrians and cyclists which are appropriate and effective, and cater for likely pedestrian routes around and through the site, including between the station and the UWS and TAFE campuses;
2) provision of a hierarchical structure of open spaces and meeting places;
3) provision of a 'central park' which provides meaningful passive and active recreation opportunities;
4) walking distances to key destinations, including UWS and TAFE;
5) bus routes, bus and taxi set-downs;
6) road-safety elements requiring detailed design treatment;
7) vistas to key landmarks or features within the future development and beyond;
8) interpretation and / or commemoration of particular items of historic or heritage significance;
9) location of open spaces and community facilities, and the basis for this;
10) any options presented by the site for innovative approaches to the implementation, ownership and management of required "public" infrastructure; and
11) a draft management plan prepared in accordance with the Local Government Act for all open space which is proposed to be dedicated to Council.

12.9.3.3 Pattern of Street-Blocks and Subdivision

A. Objectives

a) To ensure residential density standards can be met.
b) To ensure design and layout of the site considers principles of ESD, safety and amenity.

B. Controls

The following elements are required to be incorporated in a Concept Plan:

1) Overall dimensions and net area of each street block;
2) The climatic orientation of each block, optimising winter solar access;
3) Compatibility with accepted principles of planning for safety;
4) The identification and reinforcement of significant vistas; and
5) Reinforcement of the gateways to the site, in particular at principal road intersections.

12.9.3.4 Pattern of Built Form and Landscaped Areas

A. Objectives

a) To ensure Concept Plans provide sufficient detailed information on proposed uses of the site to allow Council, the community and other stakeholders to develop an accurate picture of the site's future.
b) To ensure relevant aspects of urban design are considered in planning the design and layout of the site.

B. Controls

The following elements are required to be incorporated in a Concept Plan:

1) Indicative range of building types;
2) Indicative building envelopes expressed in terms of:
   a) footprint;
   b) height and rise in storeys;
   c) overall frontage to the street;
   d) orientation;
   e) setbacks;
   f) articulation and variation of forms;
   g) articulation and variation of garden areas;
   h) private open space provision;
3) Projections of residential population and / or employment floor space;
4) Car parking shall be:
   a) provided in accordance with the Parking section of this DCP for residential development unless otherwise indicated in the Infrastructure Services part of this Section;
   b) located appropriately for residents, employees, visitors and/or loading and unloading.
5) Landscaping strategy, in accordance with the proposed open space network shown in Figure 12.31 and the provisions of this plan; and
6) Recommendations for location, orientation and detailed design of dwellings, buildings, private and public open space that are necessary to meet the solar access provisions of this plan.

12.9.3.5 Public Domain

A. Objective

a) To ensure that the safety, functionality, and amenity of the public domain is considered in the design and layout of the site.

B. Controls

The following elements are required to be incorporated in a Concept Plan:

1) Location of each activity relative to the public domain;
2) Location of on-site parking relative to the public domain and neighbouring occupancies;
3) Measures to maximise public domain safety, including accepted Crime Prevention Through Environmental Design (CPTED) principles;
4) Integrated design of landscapes and buildings;
5) Design responses to the character of surrounding development and heritage items;
6) Design responses to achieve an individual character for each precinct;

7) Planning and design principles that achieve architectural variation within each street block, particularly with regard to the shape and style of facades and the selection of materials;

8) Planning and design principles for landscaping of private areas and the public domain, including:

   a) vegetation,

   b) paving,

   c) lighting,

   d) signage; and

   e) street furniture.

Figure 12.30: Map 1 – Proposed Land Use Layout

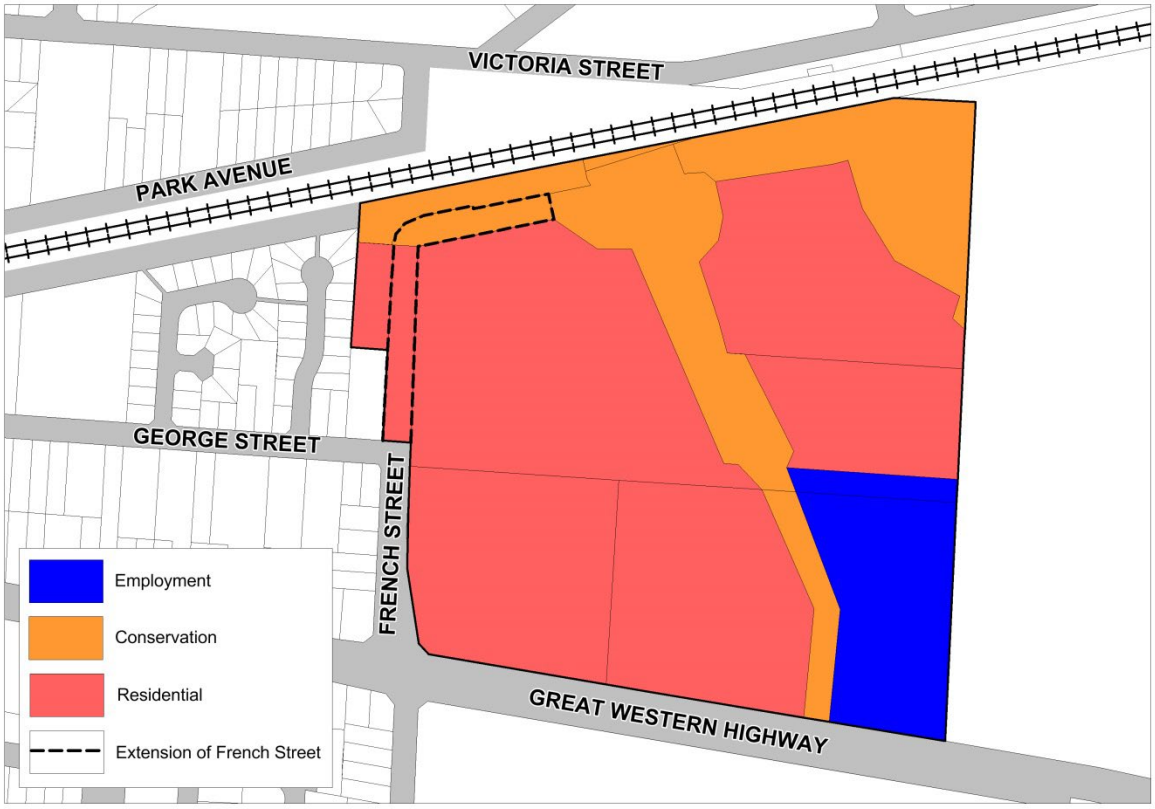


Figure 12.31: Map 2 – Proposed Open Space Layout

12.9.4 Sustainability

Sustainability generally refers to the protection of ecosystems and biodiversity for the benefit of current and future generations as well as in terms of social and economic issues, so that it encapsulates all aspects of community life and wellbeing. This 'triple bottom-line' of environmental, social and economic considerations must be considered together if our community is to achieve true sustainability.

Given its location and nature, the Werrington Mixed-Use site presents a unique opportunity to achieve a development with a higher level of sustainability than is generally achieved in Penrith. The implementation of Environmentally Sustainable Development principles is a fundamental tenet for development within the Werrington site. The provisions of this Section of this DCP are designed to maximise this opportunity.

12.9.4.1 Social and Economic

A. Objectives

a) To ensure that plans for development of the site consider social implications for both future occupants and surrounding residents, and

b) To optimise the economic contribution development of the site can make, given its location and relationship with surrounding uses, particularly the University of Western Sydney.

B. Controls

The following elements are required to be incorporated in a Concept Plan:

1) Demonstrate that the social needs of future occupants of the site have been considered in the context of the overall development, with particular reference to the social plan required by Concept Plan Strategies of this Part.

2) The initiatives developed in the economic plan required under Concept Plan Strategies of this Part are to be incorporated into the overall development plan for the site.

12.9.4.2 Biodiversity: Flora and Fauna

Indigenous vegetation and habitat on the site has been substantially modified by past use. Despite this, remnant native vegetation on the site provides biodiversity and habitat value and should be preserved, including vegetation which has been identified as Cumberland Plain Woodland.

Cumberland Plain Woodland is an endangered ecological community and occurs within the subject lands. The Cumberland Plain Woodland should be viewed as an ecological constraint to development of the site and must be retained and protected. There are additional small pockets of woodland in the south-western part of the site. When designing the layout of the employment area, consideration should be given to preserving these stands and protecting their long-term viability.

A. Objectives

a) To conserve wildlife habitat and indigenous plant species;

b) To ensure that development adjacent to areas of existing vegetation identified for preservation is designed to minimise impact; and

c) To retain indigenous vegetation and wildlife habitat and ensure appropriate buffer zone edge treatment between any development and any adjacent Cumberland Plain Woodland.

B. Controls

The following elements are required to be incorporated in a Concept Plan:

1) Demonstrate what measures will be taken to enhance the biodiversity and habitat value of the site.

2) Identify those parts of the site that should not be disturbed and detail strategies to ensure they are protected;

3) Include a rehabilitation plan which details measures and strategies for protecting the long-term viability of remnant Cumberland Plain Woodland;

4) Identify and demonstrate appropriate edge treatments, including buffer zones, to minimise the impact of development on the Cumberland Plain Woodland present on the site;

5) Include a biodiversity strategy for the site which:

   a) Preserves mature trees within public reserves;

   b) Preserves the mature stand of trees in the footpath reserves, building setbacks and on-site car parking areas;

   c) Expands available habitat into corridors or blocks of appropriate configuration;

   d) Employs predominantly indigenous plant species in site landscaping themes;

6) Minimise the number of separate vehicular and pedestrian crossings of the riparian corridor.

7) Good quality, durable physical barriers shall be installed (complying with a National Parks and Wildlife Service specification) to prevent vehicular access and discourage pedestrian access into woodland areas;

8) Development practices for the site shall provide for the storage and reuse of excavated soils that are not affected by chemical or other contamination, to promote growth of indigenous species; and

9) A Management Plan for all native vegetation on the site outlining the ongoing measures needed to properly manage areas required to be conserved.

12.9.4.3 Water Cycle

The Werrington Mixed-Use site drains to South Creek. Studies by the Environment Protection Authority (EPA) and Sydney Water have demonstrated that the water quality in South Creek is significantly impacted by urban runoff. Minimising the pollution contained in urban runoff from this site will have a beneficial impact on the water quality in South Creek and ultimately the Hawkesbury River.

A. Objectives

a) To achieve an integrated approach to water cycle management on the site;

b) To control the quantity and quality of runoff from the site to maximise the improvements to downstream receiving waters and minimise the impact on the downstream catchment;

c) To investigate innovative approaches to water supply to minimise water wastage and reduce the demand for potable water; and

d) To maximise the ecological, visual and recreational benefits gained from the riparian corridor.

B. Controls

The following elements are required to be incorporated in a Concept Plan:

1) Demonstration that future development will not generate undesirable environmental impacts on receiving waters;

2) Identification and incorporation of best management practices to control runoff quantity and quality from the site;

3) Provision of information on existing salinity levels on site, including soil and ground water testing, and indicates measures to be taken to ensure that development does not adversely impact on those levels;

4) Provision of a stormwater management plan which demonstrates conformity with the EPA guidelines – Managing Urban Stormwater and Penrith City Council applicable development guidelines and the Storm Water Management Plans for South Creek; and

5) Incorporation of sufficient runoff detention on the site to ensure peak flow rates do not exceed existing rates for all storm events.

6) Adoption of an integrated approach to the management of wastewater, which is consistent with:

   a) the objectives for a medium-density development incorporating water-sensitive urban design practices;

   b) capacity of site soils to absorb run-off;

   c) existing levels of soil salinity;

   d) the scale and desired density of future development, and the associated cost-benefits of dual supply for irrigation of open spaces and gardens;

   e) local climate and likely rates of evaporation from open ponds;

f) potential cost-benefits associated with nutrient polishing for stormwater and treated sewage effluent.

7) A surface drainage design shall be prepared, which is designed:
   a) includes any runoff detention and water quality control ponds, swales and channels;
   b) minimises land-take, consistent with the desired character of future development while still incorporating all major trees and riparian vegetation;
   c) takes the form of a naturalistic channel with water on the surface;
   d) limits disturbance to the ground whenever possible;
   e) utilises landscaped, open space and passive recreational features;
   f) ensures engineered structures are integrated with the configuration and character of the wider development and its public domain; and
   g) incorporates ecological habitats in a riparian corridor.
8) Requirements for development proposals for the site to evaluate opportunities for the integration of water supply and re-use of stormwater, Greywater and treated effluent:
   a) in consultation with authorities such as Sydney Water, NSW EPA, NSW Department of Health, and Penrith City Council;
   b) A thorough investigation of opportunities for the reuse on-site of Greywater and treated effluent and recycled stormwater, noting:
      i) rainfall patterns and the assimilative capacity of the site's soils;
      ii) landscaped areas available for irrigation with treated effluent;
      iii) impacts of irrigation on existing soil salinity; and
      iv) cost and feasibility of dual supply and storage of treated effluent for non-potable purposes.
9) Requirement for development proposals for the site to investigate and employ a package of measures that effectively reduces demand for potable water through re-use, including:
   a) dual potable and non-potable supplies; and / or
   b) appropriate landscape design and selection of species; and / or
   c) rain-water tanks; and / or
   d) use of site stormwater; and / or
   e) the use of AAA rated plumbing fittings and appliances, including shower heads, water tap outlets, toilet cisterns, dishwashers and washing machines. Plumbing fittings shall achieve the following standards:
      i) shower heads – 9 litres or less per minute,
      ii) water tap outlets – 9 litres or less per minute,
      iii) toilet cisterns – 6/3 litre dual flush or equivalent, and
      iv) separate hot and cold taps in basins and sinks.

12.9.4.4 Air Quality

A. Objectives

a) To ensure that development does not have an undue adverse effect on air quality; and

b) To identify appropriate compensatory measures that can be taken to help improve air quality in general.

B. Controls

The following elements are required to be incorporated in a Concept Plan:

1) Stationary pollution sources are to comply with EPA licensing standards;
2) Prohibition of the use of solid fuel heaters on the site;
3) Identification and promotion of the use of compensatory measures such as the provision of green corridors; and
4) Optimisation of the proportion of the site available for soft landscaping.

12.9.5 Public Transport

A. Objectives

a) To reduce the demand for use of private motor vehicles and maximise the use of public transport through integrated planning of land uses and transportation, and
b) To provide a dense and interconnected mixture of land uses which include residential, recreational, employment, retail and business services.

B. Controls

The following elements are required to be incorporated in a Concept Plan:

1) The principles developed in the transport management plan required by Concept Plan Strategies of this Part have been incorporated into the overall development of the site; and
2) A safe and convenient pedestrian network formed by a closely spaced grid of streets interconnected with public open spaces.

12.9.6 Site Features

12.9.6.1 Topography and Soils

A. Objective

a) To protect the site's landscape character, and minimise any environmental effects likely to arise from future development.

B. Controls

The following elements are required to be incorporated in a Concept Plan:

1) Information is to be provided on the soil characteristics of the site and surrounding areas, including salinity and erodability;
2) Concept Plans shall demonstrate how this information has been considered in site planning;
3) The development layout of the site shall minimise the need for reconfiguration of existing topography, particularly in areas surrounding any mature trees which are to be preserved and in the vicinity of identified Aboriginal sites and artefacts.

12.9.7 Infrastructure Services

12.9.7.1 Street Networks

The network and design of streets has a fundamental influence upon the form and character of development, and the environmental amenity of neighbourhoods. Streets have several roles. They provide:

a) safe and convenient access for pedestrians and cyclists;

b) effective distribution and circulation of vehicles;

c) visitor parking;

d) routes for reticulated services;

e) boundaries and separation between dissimilar land uses;

f) landscaped corridors which contribute to the character of neighbourhoods and overall townscape;

g) view corridors and vistas to landmarks within the site and beyond;

h) a public address for dwellings, commercial and employment activities;

i) establish an appropriate solar orientation for allotments and dwellings;

j) routing for trunk services; and

k) overland drainage paths.

A. Objectives

Design a street network that:

a) is appropriate to environmental design objectives;

b) is economically efficient;

c) generates a distinctive character; and

d) provides high standards of amenity.

B. Controls

The following elements are required to be incorporated in a Concept Plan:

1) The road network shall be designed to accommodate multiple purposes, including:

   a) safe and efficient access for pedestrians (including alternative forms of pedestrian activity), cyclists and vehicles;

   b) underground routing of service infrastructure;

   c) contribution to traditional townscape character;

   d) provision of vistas to landmarks within the site and beyond;

   e) establishment of appropriate solar access for allotments, open spaces, buildings and dwellings; and

   f) alternative means of emergency access, for example: during flood events.

12.9.7.2 Principal and Secondary Site Roads

The site is situated on the edge of established residential suburbs, with frontages to a main road and the University site. An initial assessment of traffic impacts supports the following configuration for this site's major roads:

a) hierarchical network which separates residential and employment traffic;

b) major entrance from French Street.

A. Objectives

a) To consider multiple objectives for roads including access and circulation, the character of townscape and market appeal of future development; and

b) To provide safe and effective access to individual properties, contribute to a distinctive neighbourhood character and provide high standards of amenity.

B. Controls

The following elements are required to be incorporated in a Concept Plan:

1) The design and layout of principle and secondary site roads shall:
   a) be in accordance with relevant Council policy and design standards and be based on forecast traffic flows;
   b) provide efficient access and circulation for buses and taxis;
   c) facilitate a configuration of neighbourhood streets appropriate to the desired solar orientation of dwellings;
   d) provide safe pedestrian access, and vistas towards landmarks and central destinations within the site and beyond; and
   e) limit the number of four-way intersections and where they occur, indicate their management.
2) The configuration of principal roads shall:
   a) not adversely affect traffic flows along existing arterial and main roads;
   b) interconnect the residential and employment areas;
   c) provide for a tightly-spaced grid of secondary streets, designed according to principles of traditional neighbourhood design; and
   d) provide high-exposure business addresses.
3) Principle roads shall be designed:
   a) to provide adequate capacity to cater for expected traffic flows;
   b) according to principles of traditional neighbourhood design;
   c) to control traffic speeds, incorporating safe pedestrian crossings to central destinations;
   d) as tree-lined thoroughfares which contribute to the overall character of townscape;
   e) to accommodate kerbside parking for visitors in the residential area and the employment area; and
   f) to provide access to the Mixed-use employment zone separated from the Mixed-use residential zone.
4) The configuration of secondary roads shall:

a) discourage peak movements of through traffic;

b) discourage employment-area traffic from entering residential precincts; and

c) distribute local traffic efficiently and effectively without congestion at intersections.

5) Secondary roads shall be designed to:

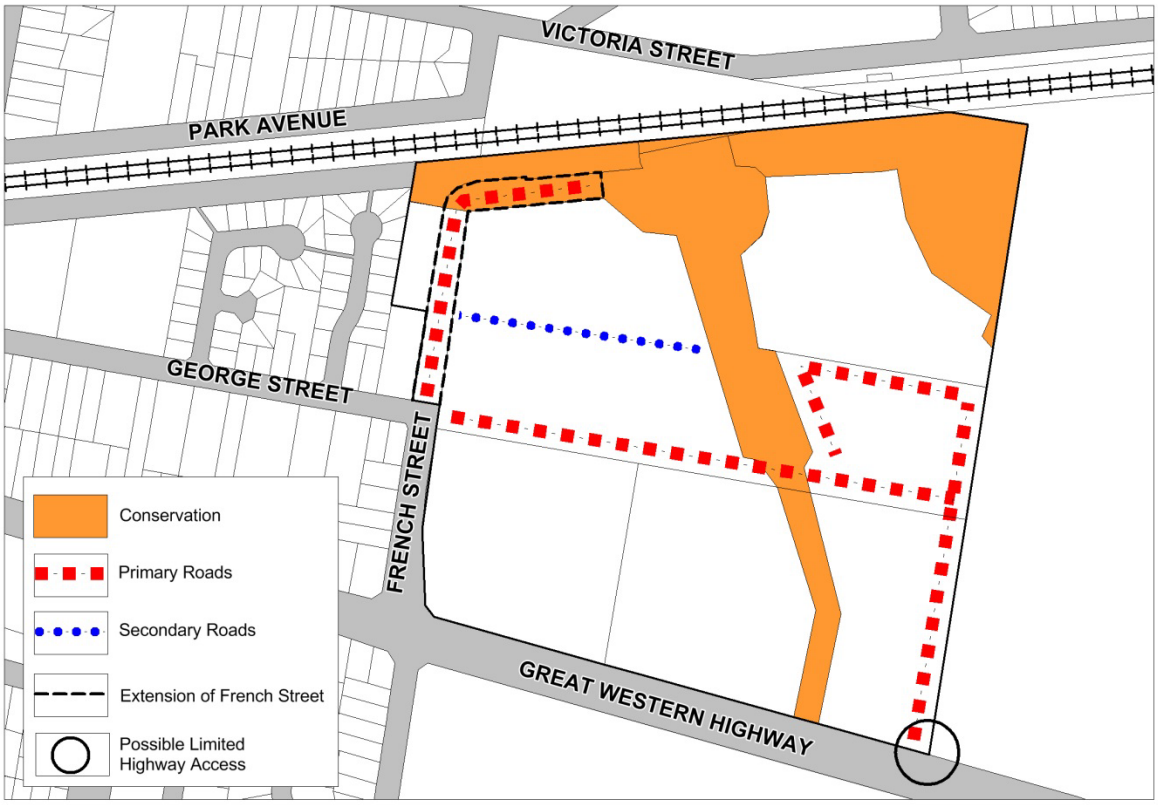
a) provide a distinctive landscaped address and character for each precinct;

b) to facilitate safe and effective circulation, parking and unloading for transport vehicles within employment precincts;

c) optimise on-street parking within residential precincts; and

d) incorporate designated pedestrian footpaths, dimensioned and finished to service each precinct according to its desired function and character.

Figure 12.32: Proposed Road Network



12.9.7.3 Pedestrian and Cycle Access

A. Objective

a) To provide safe and effective pedestrian and cycle access to key destinations.

B. Controls

The following elements are required to be incorporated in a Concept Plan:

1) Effective and convenient pedestrian and cycle access along streets, through public parks and drainage reserves, demonstrating that the pedestrian/cycle network has been linked to:

   a) key destinations on-site:

      i) the future village centre;

      ii) residential precincts and employment areas; and

      iii) community facilities, open spaces and meeting points;

   b) destinations surrounding the site that have regional, city or district significance, including the UWS and TAFE College.

Figure 12.33: Pedestrian, Cycle Routes and Bus Routes

12.9.7.4 Energy Supplies

A. Objective

a) To ensure that the site is adequately supplied with energy.

B. Controls

The following elements are required to be incorporated in a Concept Plan:

1) Council is to be supplied with appropriate evidence demonstrating that the site can be adequately serviced.

2) Prior to the submission of an application for development of the site, the owner / applicant shall negotiate the planning and design of services with relevant gas and electricity service providers.

3) All new services shall be located underground

12.9.7.5 Community Services and Recreation

A. Objective

a) Determine the range of services required and opportunities for public recreation and community use, consistent with the desired character of development and population projections.

B. Controls

The following elements are required to be incorporated in a Concept Plan:

1) Confirmation of the likely population and social profile of the site's future residents;

2) Identification of the range of needs, which may be reasonably attributed to the projected population;

3) Identification of innovative means by which these needs can be met, possibly including shared facilities and/or joint ventures;

4) A balanced provision of facilities to meet projected needs, having regard to existing facilities within the area;

5) An appropriate location, configuration and design for facilities which meets the needs of users and minimises the costs operation and maintenance; and

6) Demonstration that local and district needs will be met in accordance with Council's social planning framework.

12.9.7.6 Landscape Design

Effective landscape design is fundamental to traditional neighbourhood design, and makes a significant contribution to the implementation of Ecologically Sustainable Development objectives.

A. Objective

a) To integrate the planning and design of buildings with the site's landscaping.

B. Controls

The following elements are required to be incorporated in a Concept Plan:

1) Landscapes shall be designed to achieve the environmental, recreational, amenity and townscape objectives of this Section and the Landscape Design Section.

2) Design of landscapes shall minimise need for water and nutrients;

3) Mature vegetation that has habitat, civic or heritage values shall be conserved;

4) Plant species to be in accordance with the Landscape Design Section and the Flora & Fauna study for the site;

5) Paving material, lighting, signage and street furniture shall be in accordance with Council guidelines;

6) Existing habitat shall be expanded with new plantings configured to provide continuous corridors;

7) The design of public streets and parks shall:

   a) facilitate multiple uses;

   b) be consistent with Council's current management policies and practices;

   c) ensure that landmark locations, key thoroughfares and vistas are complemented and reinforced;

   d) ensure that the public domain is embellished to compensate for smaller residential gardens;

   e) ensure that drainage reserves are embellished as attractive components within the public domain, as effective adjuncts to wastewater management and as habitat for bird life;

   f) provide for the identification of individual neighbourhoods and precincts; and

   g) incorporate appropriate street tree planting.

8) Landscape design strategies shall be prepared for each residential neighbourhood and employment precinct; and

9) Shelter and shade should be provided for buildings and open spaces, moderating the site's natural microclimate.

12.9.8 Residential Development

A. Objectives

a) To create a residential environment that is considered vibrant, aesthetically pleasing and safe for residents and visitors;

b) To provide a safe and competent pedestrian and transport network that links people with activities and places in an efficient manner;

c) To provide for a range of housing types that should include an affordable housing component;

d) To integrate with recreational, community and educational facilities;

e) To provide retail and commercial activities that are not in direct competition with locally based firms; and

f) To conserve areas of biological diversity, which have heritage significance or are environmentally sensitive.

12.9.8.1 Residential Density

A. Objectives

a) To provide for a range of residential densities and housing choice.

B. Controls

The following elements are required to be incorporated in a Concept Plan:

1) A minimum average net density of 30 dwellings per hectare is to be achieved in the R1 General Residential zone. Such density is to be achieved with a mix of housing types, including:

a) Two storey townhouses; and

b) Small lot housing.

12.9.8.2 Residential Amenity

A. Objectives

a) To achieve a high standard of residential and environmental amenity.

B. Controls

The following elements are required to be incorporated in a Concept Plan:

1) A high standard of amenity appropriate to a medium density and mixed-use environment is to be achieved. This shall include measures to:
   a) reduce or eliminate potential conflicts between different neighbouring land uses;
   b) protect visual privacy for dwellings and private open spaces consistent with the Residential Development Section;
   c) Provide appropriate new communal spaces within the neighbourhoods and the village centre to allow for social interaction of residents.
2) Submission of a noise and vibration assessment for any residential development located within 100m of a major arterial road, Transitway environment or rail corridor or in any other area significantly affected by road and/or rail noise and vibration, and appropriate measures to minimise this impact in areas that are significantly affected by noise and vibration.
3) Internal noise levels shall accord with EPA noise criteria including:
   a) Environmental Criteria for Road Traffic Noise, 1 July 2011, Environment Protection Authority;
   b) Interim Guidelines for Development Near Rail Corridors and Busy Roads, 2008, Department of Planning; and
   c) NSW Industrial Noise Policy, December 1999, Environment Protection Authority.
4) Internal noise levels shall accord with the Noise and Vibration Section;
5) Site planning and building design shall consider and address noise mitigation for areas close to significant noise sources including:
   a) residential development adjoining French Street and the new east/west road link;
   b) residential development adjoining employment developments; and
   c) residential development adjoining the railway line.

12.9.8.3 Crime Prevention and Community Safety

A. Objective

a) To ensure the design of all public areas limits opportunities for crime.

B. Controls

The following elements are required to be incorporated in a Concept Plan:

1) Compliance with the CPTED principles within the Site Planning and Design Principles Section;

2) Protection of public spaces shall be demonstrated by:
   a) designing for high levels of casual surveillance;
   b) use of effective lighting type and location;
   c) thoughtful placement of garden areas, trees, street furniture, walling and other structures;
   d) clear delineation between public and private areas;
   e) ensuring there are clear sight lines;
   f) elimination of entrapment and isolated spots;
   g) provision of safe children's play areas;
   h) provision of clear signage;
   i) siting and design of buildings with graffiti management in mind; and
   j) provision for ongoing maintenance and management strategies that will provide a high level of visual amenity.
3) Dwelling security to be demonstrated by ensuring:
   a) dwellings are designed to have a clear presentation to the street; and
   b) dwelling entrances being designed to allow the occupant to view persons at the front door without needing to open the door.

12.9.8.4 Population and Housing

A. Objective

a) To encourage diversification in housing to meet underlying demand from Penrith's existing population.

B. Controls

The following elements are required to be incorporated in a Concept Plan:

1) Demonstration that the development pattern proposed for the site provides housing choice which:
   a) meets identifiable demand from Penrith's population;
   b) expands the range of available housing types;
   c) is within an environmental setting which offers a village lifestyle; and
   d) complies with the provisions of the Residential Development Section of this DCP.

12.9.8.5 Home-Based Business Activities

A. Objective

a) To maximise opportunities for residents to establish and operate small-scale business activities from home.

B. Controls

The following elements are required to be incorporated in a Concept Plan:

1) Site planning, housing designs and other physical measures to be included to support home-based business activities, including:
   a) dedicated rooms for business activities;
   b) separate entrances for the residences and for business rooms;
   c) flexible parking and vehicle access for visitors and / or residents – subject to the scale of activity;
   d) buildings designed according to traditional residential scale and appearance when viewed from the street; and
   e) 'smart wiring' of homes to enable consumers to access multi telecommunications facilities (internet, e-commerce, cable TV, lighting, audio, security).

12.9.8.6 Retail and Business Services

A. Objective

Provide retail floorspace in the village centre that services the day-to-day needs of local residents and businesses.

B. Controls

The following elements are required to be incorporated in a Concept Plan:

1) Sufficient retail floorspace shall be provided to meet projected local demand of:
   a) future residents; and
   b) future businesses.
2) The location and design of retail floorspace shall support the desired form and character of the future development:
   a) in a consolidated form to provide a core of pedestrian activity within the village centre;
   b) in a location which is central, highly visible and accessible, fronting a principal site road;
   c) incorporating a civic open space;
   d) with continuous "active" shop-frontages and all-weather awnings facing wide, tree-lined footpaths;
   e) with short-term parking at kerbside for visitors and shoppers;
   f) within buildings designed to preserve a human scale at street-level; and
   g) retail and commercial facilities are restricted to the ground floor level of buildings only.
3) Small-scale retail-type services shall be accommodated on the site:
   a) in response to demand from local home businesses and other business activities;
   b) in prominent locations; and
   c) designed to maximise visibility and accessibility, and to provide distinctive urban design elements.

12.9.8.7 Parking

A. Objectives

a) To ensure a level of parking provision consistent with the density and form of housing provided; and

b) To limit parking numbers as a tool to increase the use of public transport.

B. Controls

The following elements are required to be incorporated in a Concept Plan:

1) Applications for residential development shall demonstrate compliance with the relevant parking rates in and the Car Parking section of this DCP.

2) A reduction in required parking provision may be considered by Council for any dedicated student housing within the development where a lesser demand is demonstrated.