

# D Key precincts

## D. Key precincts

A number of areas within the City of Penrith have unique characteristics or development potential that warrant the development of specific controls. These areas have been identified as key precincts and are included in this Part of Penrith DCP.

This Part includes only those controls which respond to specific issues in key precincts. All other relevant controls contained within Penrith DCP still apply. This Part must therefore be read in conjunction with all the other chapters in Penrith DCP.

In the event of an inconsistency between the controls contained in Part D and other chapters of Penrith DCP, the controls contained in Part D will prevail.

Key precincts included in this Part are:

- **D1** Caddens
- **D2** Claremont Meadows Stage 2
- **D3** Cranebrook
  - Part A Waterside
  - Part B Cranebrook Neighbourhood Centre
  - Part C Cranebrook Rural Residential Development
- **D4** Emu Heights – Blue Mountains Escarpment Siting, Design and Management
- **D5** Emu Plains
  - Part A Commercial Area
- **D6** Erskine Business Park

- **D7** Glenmore Park
  - Part A Glenmore Park Stage 1
  - Part B Glenmore Park Stage 2
  - Part C Glenmore Park Stage 3
  
- **D8** Kingswood
  
- **D9** Mulgoa Valley
  
- **D10** Orchard Hills
  
- **D11** Penrith
  - Part A Penrith City Centre
  - Part B North Penrith
  - Part C 164 Station Street
  
- **D12** Penrith Health and Education Precinct
  - Part A Hospital Precinct
  - Part B Business Park Precinct
  - Part C South Werrington Urban Village Precinct
  - Part D Werrington Mixed Use Area
  
- **D13** Riverlink Precinct
  - Part A Riverlink (excluding Panthers Penrith site)
  - Part B Panthers Penrith Precinct
  
- **D14** St Clair
  
- **D15** St Marys / St Marys North
  
- **D16** Luddenham Road Industrial Business Park
  
- **D17** Orchard Hills North

In most cases, the controls in this Part will supplement other general development of Penrith DCP; however, in some cases, they will override them.

# D1 Caddens

## Contents

<b>1. About this chapter</b> .....	<b>3</b>
1.1 Land to which this chapter applies .....	3
1.2 Aims of this chapter .....	3
1.3 General objectives .....	3
1.4 Other relevant parts of this DCP .....	5
1.5 Other relevant sources of information .....	5
1.6 Concept plans .....	6
<b>2. Structure Plan</b> .....	<b>6</b>
2.1 Urban structure .....	6
2.2 Character area design principles .....	8
2.3 Dwelling yield and diversity .....	11
<b>3. The public domain</b> .....	<b>14</b>
3.1 Street network and design .....	14
3.2 Street furniture and public art .....	27
3.3 Pedestrian and cycle network .....	28
3.4 Public transport .....	30
3.5 Open space, environmental conservation, landscape network .....	32
3.6 Biodiversity .....	44
3.7 Aboriginal and European heritage .....	45

3.8 Bushfire hazard management .....	47
3.9 Water cycle management .....	47
3.10 Contamination management.....	48
3.11 Salinity management .....	49
<b>4. Residential development .....</b>	<b>51</b>
4.1 Subdivision and neighbourhood design .....	51
4.2 Streetscape, feature elements and roof design .....	54
4.3 Dwelling height, massing and siting.....	57
4.4 Building setbacks .....	58
4.5 Development forms.....	62
4.5 Private open space .....	73
4.6 Site cover and landscaped areas.....	75
4.7 Fencing .....	76
4.8 Garages and access.....	77
<b>5. Environmental and residential amenity.....</b>	<b>79</b>
5.1 Visual privacy and acoustic amenity.....	79
5.2 Safety and surveillance.....	82
5.3 Sustainable building design.....	83
<b>6. The Precinct Centre.....</b>	<b>84</b>

# El Caddens

## Background

Caddens is located within the Werrington Enterprise Living and Learning (WELL) Precinct. The key elements of the WELL Precinct Vision which apply to Caddens include 'a model for sustainable urban development that captures its potential arising from proximity to transport linkages and tertiary educational facilities', and '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 in attracting and accommodating a diverse range of land use activities and people' and offering 'seamless integration of those people and activities and the cosmopolitan lifestyle choices it subsequently generates and offers'.

## 1. About this chapter

### 1.1 Land to which this chapter applies

This chapter applies to development on land within the Caddens Release Area, as shown in [Figure 1](#).

### 1.2 Aims of this chapter

The aims of this chapter are to:

- a) Support the objectives of Penrith Local Environmental Plan 2010.
- b) Facilitate the sustainable development of the residential, mixed use, retail, open space and conservation areas of the Caddens Release Areas (Caddens).

### 1.3 General objectives

- a) To facilitate and promote the objectives of the Werrington Living and Learning Precinct (WELL Precinct Vision).
- b) To create a viable and vital community energised by the interactions of, and synergies with, adjacent education and employment activities.
- c) To enable a diverse range of housing forms and densities to meet the

needs of diverse age groups, family types and income levels.

- d) To demonstrate a high standard of residential amenity and a high standard of urban and architectural design quality.
- e) To ensure all development achieves a high standard of environmental and social sustainability.
- f) To provide a Precinct Centre serving residents of Caddens and surrounding areas, as well as the WELL Precinct.
- g) To protect existing vegetation and views from hilltops and ridges.
- h) To ensure development is sensitive to, and facilitates connections with, land and development adjoining Caddens.
- i) To integrate all available modes of transport including walking, cycling and use of buses, and to ensure there are efficient links within and between open spaces, the Precinct Centre and adjacent residential areas.

**Figure 1: Land to which this chapter applies**



## **1.4 Other relevant parts of this DCP**

In the event of any inconsistency between this chapter of the DCP and the rest of the DCP, the requirements of this chapter prevail.

Where a specific issue is not addressed in this chapter of the DCP, reference should be made to the remaining provisions of this DCP.

## **1.5 Other relevant sources of information**

People seeking further information on Caddens or preparing a development application may wish to refer to the following:

- Caddens Land Release Noise & Air Quality Impact Assessment (September 2007, Version G)
- Caddens Release Area Bush fire Assessment (August, 2007)
- Caddens Release Area Combined Heritage Assessment (November, 2007)
- Caddens Release Area Ecological Assessment (November, 2007)
- Caddens Release Area Transport Management and Accessibility Plan (March, 2008)
- Caddens Release Area Open Space Strategy Report (January, 2007)
- Caddens Release Area Catchment Management, Hydrology and Water Quality Report (November 2007)
- Caddens Release Area Infrastructure Planning Report for Rezoning (December, 2007)
- Caddens Release Public Domain Strategy and Landscape Masterplan Report (March 2008)

These documents are available for reference from Council.

## 1.6 Concept plans

A Concept Plan setting out a proposal for the development of the Precinct Centre is required to be lodged prior to, or with, the first subdivision development application for the Precinct. The Concept Plan must meet the objectives and controls of this section and demonstrate:

- Proposed urban structure and public domain elements, including proposed land uses.
- Delivery of required dwelling yield set out in this chapter.
- The road network, sections and details.
- The location and design of open space, stormwater facilities and community facilities, including a Landscape Plan.
- The location of pedestrian and cycle paths.
- Development Staging.
- Infrastructure Delivery Strategy.

## 2. Structure Plan

### 2.1 Urban structure

The Caddens Release Area Structure Plan establishes the urban structure and form for the planning and future development of the subject land. The Structure Plan is illustrated at [Figure 2](#) with the main elements being described in more detail in the following sections.

**Figure 2: Structure Plan**



The design principles underpinning the Structure Plan are as follows. These principles must be addressed at subdivision stage.

1. The principal land use at Caddens will be residential. The residential areas will be located on either side of a linear riparian corridor and around open space areas on hilltops and ridges.
2. The location of the Precinct Centre, riparian corridor and active open space will provide focal points for the new community.
3. The Precinct Centre will form the hub of the WELL Precinct and serve the residential community, the university and TAFE community, and future employment areas.

4. Active and passive open spaces will be distributed throughout Caddens and integrate with the natural features of the Werrington Creek riparian corridor.
5. The area will be legible and highly accessible and incorporate a bus route, cycle routes and walking tracks.
6. Higher density forms of housing will be located in close proximity to the Precinct Centre and other areas of higher amenity.
7. Caddens Road is to function as a rural road segmented by strategic closures.
8. Development facing and accessing Caddens Road will contain larger, wider lots that provide a transition between the new urban area and the rural landscape to the south.
9. Views to and vistas from the hilltops will be protected by way of lower rise development and revegetated open space.

## **2.2 Character area design principles**

This section outlines the design principles relating to the Special Character Areas at Caddens shown in [Figure 3](#).

The principles for the Special Character Areas must be addressed at both the subdivision and detailed design stages.

### Caddens Road Interface

Residential development interfacing with Caddens Road will be characterised by generally larger lots that respond, through sensitive lot layout, building height limitation and landscaping, to the rural character of adjacent semi-rural areas.

Development is to:

1. Respond to the characteristics of the semi-rural edge.
2. Provide appropriate residential amenity, particularly with respect to visual privacy and the relationship between dwellings.
3. Maintain, where possible, the character of Caddens Road as a rural road.

4. Address the street and comprise wider lots.
5. Provide larger front setbacks, fencing and landscaping in keeping with the semi-rural locality.

**Figure 3: Character Areas**



### Hilltops

The hilltops will be characterised by open space and sensitively designed residential development on generally larger lots that respond to the undulating landform while creating an opportunity for visual connections to the ridge line and hilltop parks.

Development is to:

6. Respond to the topographical constraints.
7. Provide, where possible, opportunities for views to hilltops and ridges.
8. Minimise the height, bulk and scale of dwellings on steep slopes when viewed individually and collectively both from within and outside the locality.
9. Provide appropriate residential amenity, particularly with respect to visual privacy and the relationship between dwellings.
10. Provide pedestrian and cyclist links to public open space.

### Precinct Centre

The Precinct Centre is intended to form the hub of the WELL Precinct. The Centre is intended to be local in scale, with a retail and commercial limit of 10,000m<sup>2</sup> and a maximum height of 15m (4 storeys plus roof element). The Precinct Centre will be characterised by a mix of retail, community, commercial and residential uses that serve the needs of, and integrate with, adjacent residential development and employment areas, as well as the campuses of TAFE and the University of Western Sydney (UWS). University and TAFE facilities could be located in the Precinct Centre.

Development is to:

11. Create an attractive, lively and inviting pedestrian friendly environment with seating, shading, active tree-lined footpaths and pedestrian links that connect activities and spaces.
12. Reduce conflict between pedestrian and vehicular activity.
13. Create a rectilinear road pattern connecting nearby residential, employment, university and conservation land.
14. Incorporate opportunities for passive security and surveillance at ground level and above.
15. Incorporate shop top housing and other dwelling forms that facilitate home based employment.
16. Ensure active uses at street level.

17. Provide opportunities for the location of UWS and TAFE facilities.
18. Be built to the front property boundary and incorporate full width awnings along street edges.

## **2.3 Dwelling yield and diversity**

### **Objectives**

- a) To provide a diverse range of housing forms and densities as shown in [Figure 4](#).
- b) To promote a range of dwelling types to meet the needs of diverse age groups and family types.
- c) To provide a range of residential densities that respond to the topographical and other characteristics of Caddens.
- d) To deliver 15 dwellings per hectare of net developable area.
- e) To provide opportunities for affordable housing.
- f) To optimise relative proximity to urban services.

### **Controls**

1. A minimum of 1,247 dwellings is to be delivered.
2. For each precinct the minimum dwelling yield outlined in Table 1 is to be achieved.
3. As part of a subdivision application, an applicant is to demonstrate to Council how the objective of 15 dwellings per hectare is to be achieved for that development so that the overall precinct minimum dwelling yields will be achieved.
4. The creation of a super lot or residue parcel is to specify the minimum dwelling yield which that lot will be required to deliver.

**Table 1 – Dwelling yield**

Sub precinct	Minimum dwelling yield
A	377
B	634
C	102
D	134
Total	1247

**Figure 4: Dwelling yield targets**



5. A diverse range of housing types is to be provided in accordance with [Figure 5](#).
6. Where topography permits, higher density development, such as attached dwellings, multi unit dwellings and residential flat buildings, should be located adjacent or near areas of higher amenity like the Precinct Centre, the riparian corridor and parks.
7. Development must provide a variety of lot sizes, dwelling types and dwelling sizes to create opportunities for a wide range of housing needs to be met.

**Figure 5: Indicative dwelling type location**



## 3. The public domain

### 3.1 Street network and design

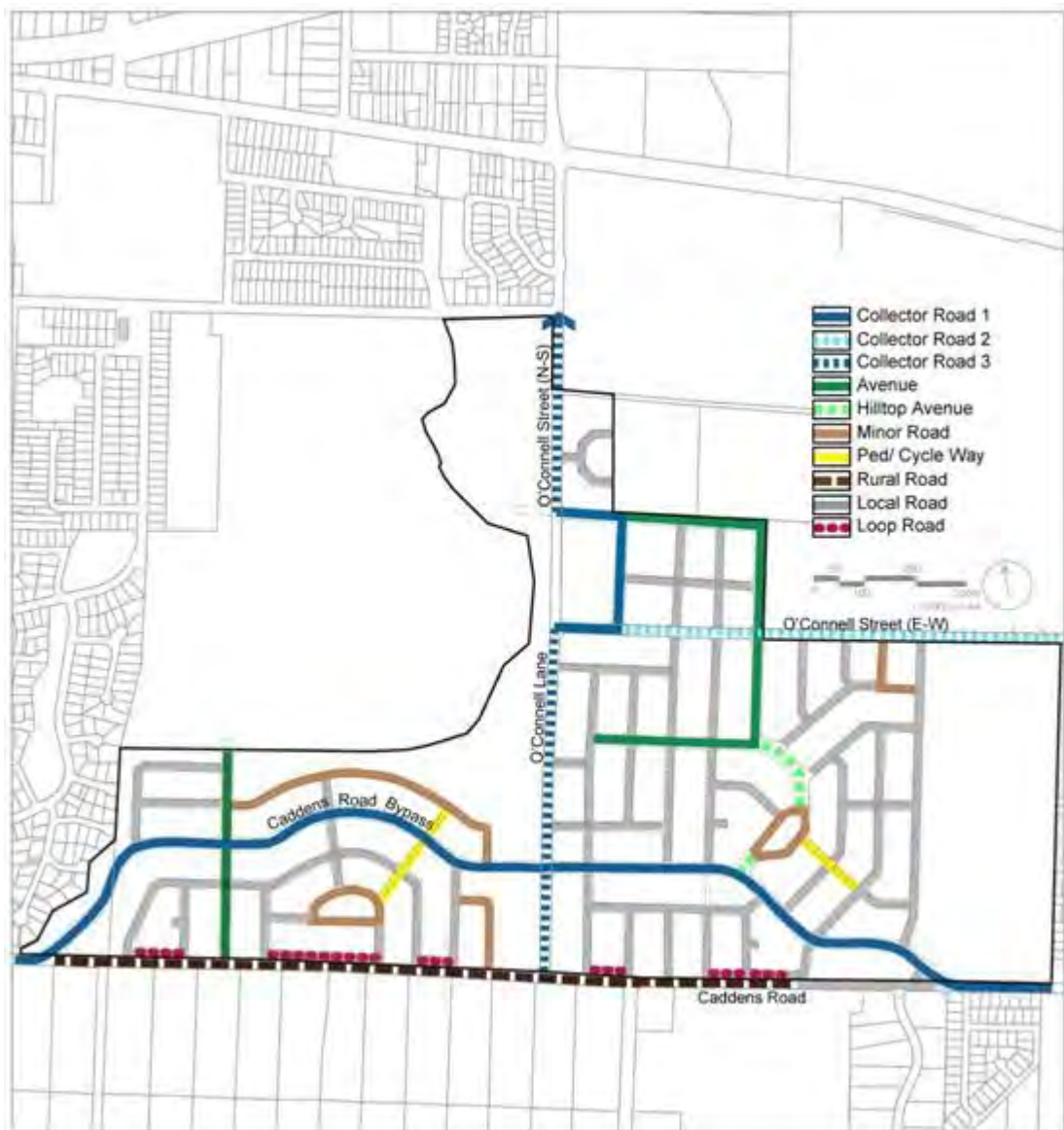
#### Objectives

- a) To provide a hierarchy of interconnected streets that gives safe, convenient and legible access within and beyond Caddens.
- b) To ensure that the hierarchy of the streets is clearly discernible through variations in road width, on-street parking and street tree planting.
- c) To provide a safe and convenient public transport, vehicular, pedestrian and cycleway network.

#### Controls

1. The street network is to be provided generally in accordance with [Figure 6](#) and must incorporate a new collector road to by-pass Caddens Road.
2. Where any variation to the residential street network indicated at [Figure 6](#) is proposed, the alternative street network is to be designed to achieve the following principles:
  - i. Establish a direct and open network that is based on a modified grid system.
  - ii. Encourage walking and cycling and reduce travel distances.
  - iii. Maximise connectivity between residential areas, open space and the Precinct Centre.
  - iv. Take account of topography and accommodate significant vegetation.
  - v. Provide frontage to and maximise surveillance of open space and the riparian corridor.
  - vi. Provide views and vistas to landscape features; and
  - vii. Minimise the use of cul-de-sacs. If required, the maximum number of dwellings to be served by the head of a cul-de-sac is 6.

**Figure 6: Street hierarchy**



3. Streets are to be provided in accordance with the cross-sections at [Figure 7](#) (7.1 - 7.10). The dimensions shown on these typical diagrams are minimums only. Alternative street designs may be permitted on a case by case basis if they preserve the functional objectives and requirements of the design standards.
4. Except where otherwise provided for in this DCP, all streets and roundabouts are to be designed and constructed in accordance with the minimum requirements set out in the Penrith Council Engineering Design Specifications.
5. Where roads are adjacent to public reserves or riparian corridors, the

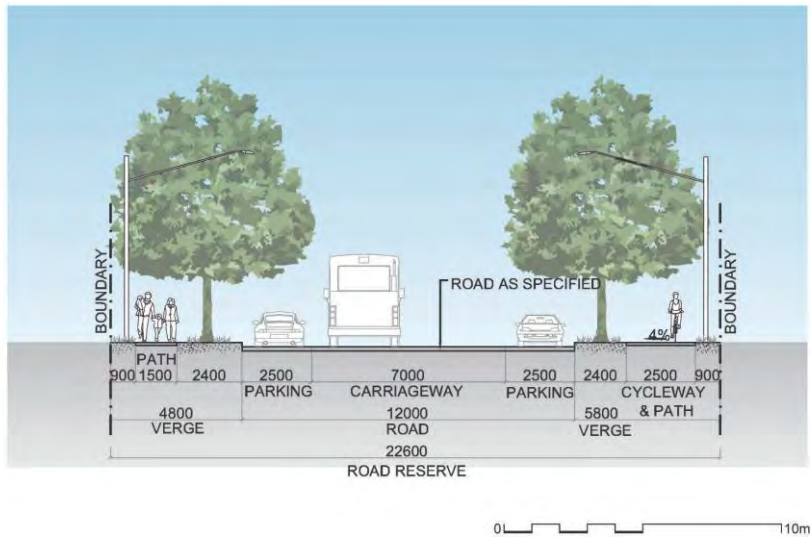
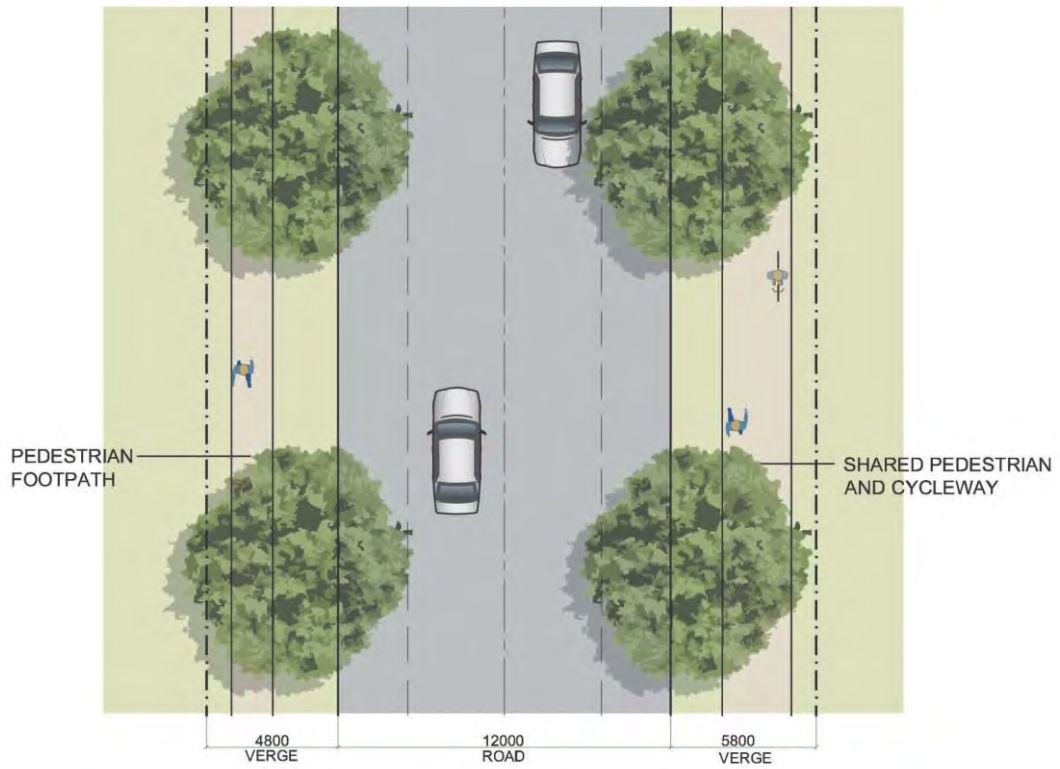
verge widths may be reduced to a minimum of 1m, subject to footpaths, public utilities, bollards and fencing being adequately provided for, and riparian corridors requirements being addressed.

6. Where possible and practicable, the verge width is to be increased to 4.8m in front of dwellings where the front setback is less than 4.5m.
7. Street trees are required on all streets. Street planting is to:
  - i. Minimise risk to utilities and services.
  - ii. Be durable and suited to the street environment and include endemic species.
  - iii. Maintain adequate lines of sight for vehicles and pedestrians, especially around driveways and street corners.
  - iv. Provide appropriate shade.
  - v. Provide an attractive and interesting landscape character without blocking the potential for street surveillance; and
  - vi. Be sited to minimise interference with street lighting.

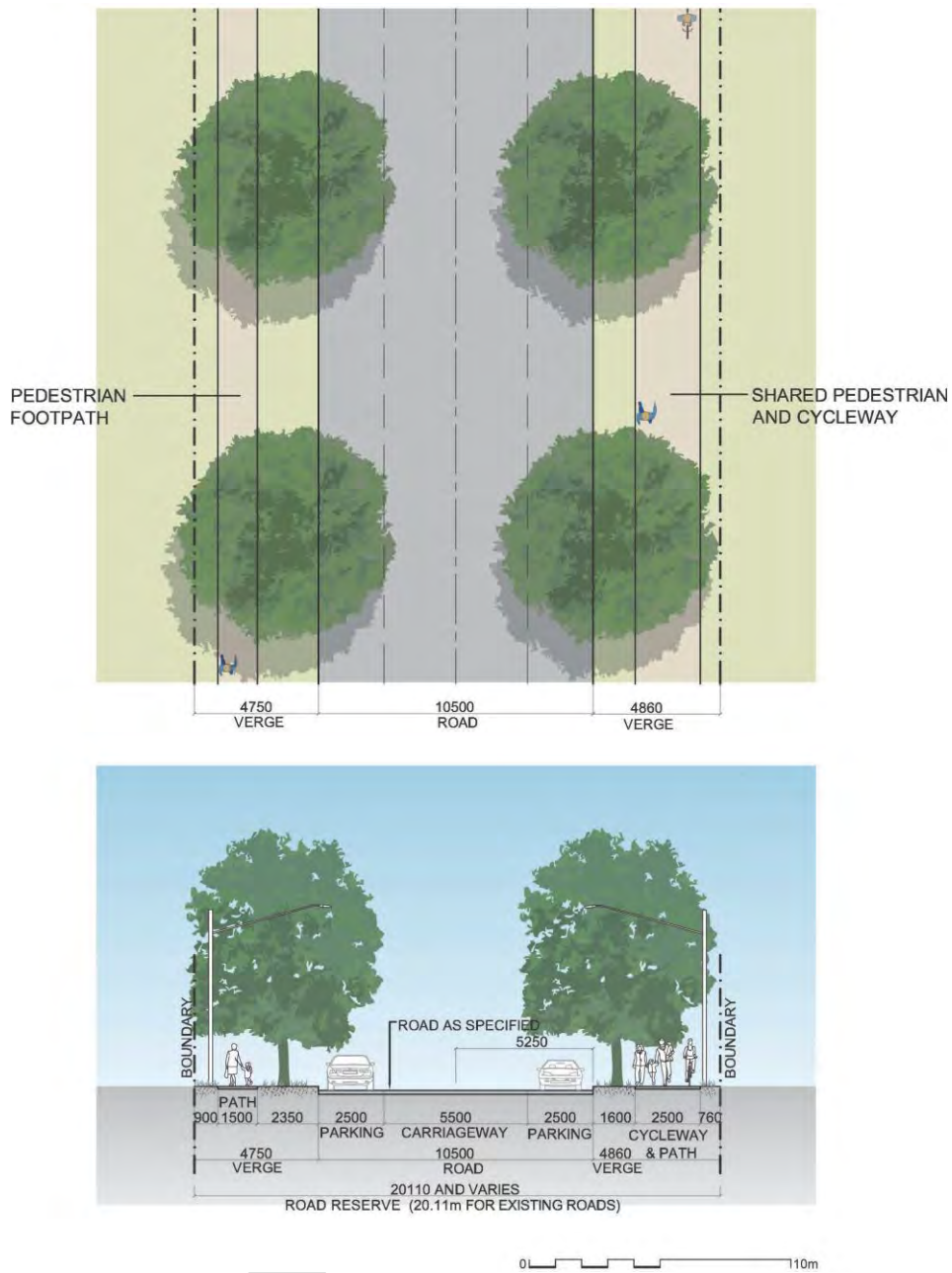
**All streets will incorporate landscaping in the verge.**



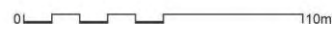
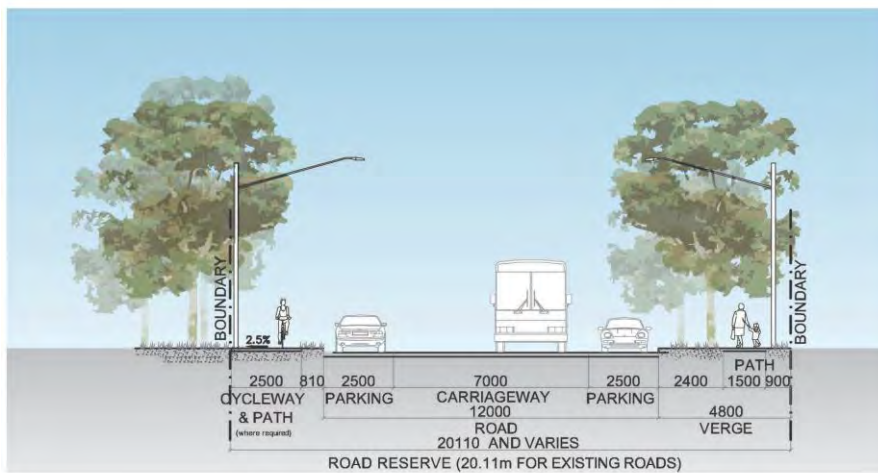
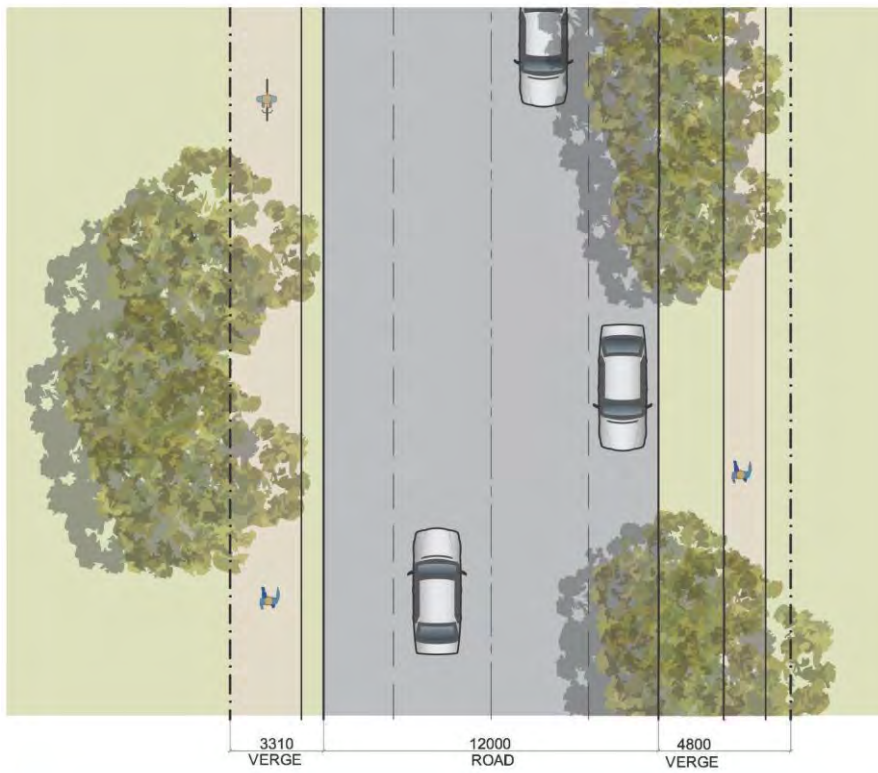
**Figure 7.1 – Collector Road 1**



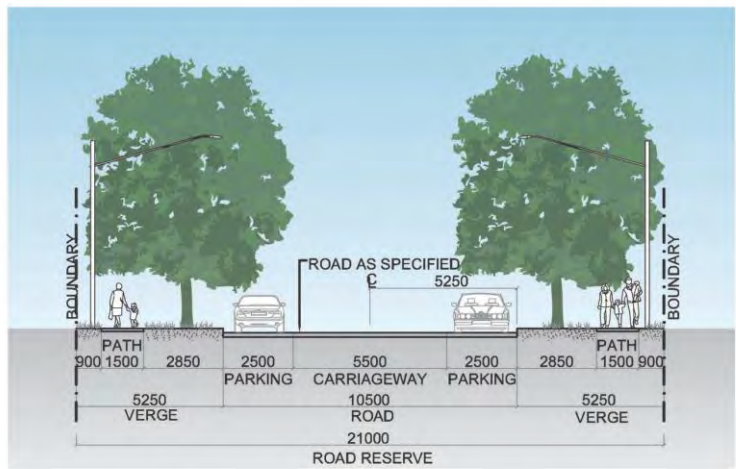
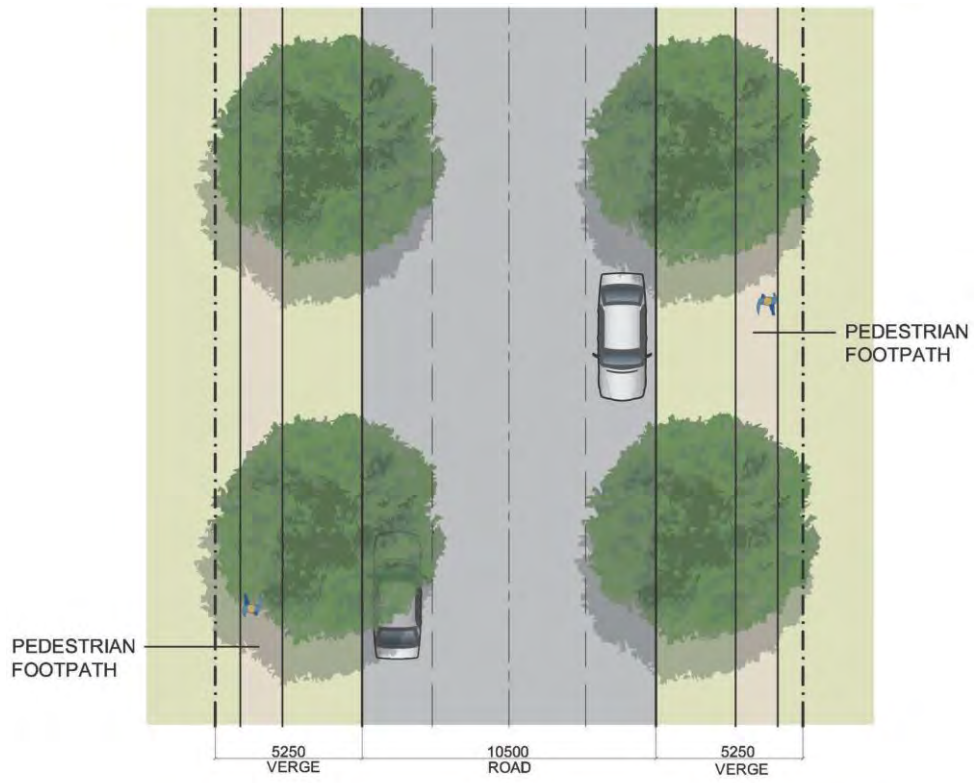
**Figure 7.2 – Collector Road 2**



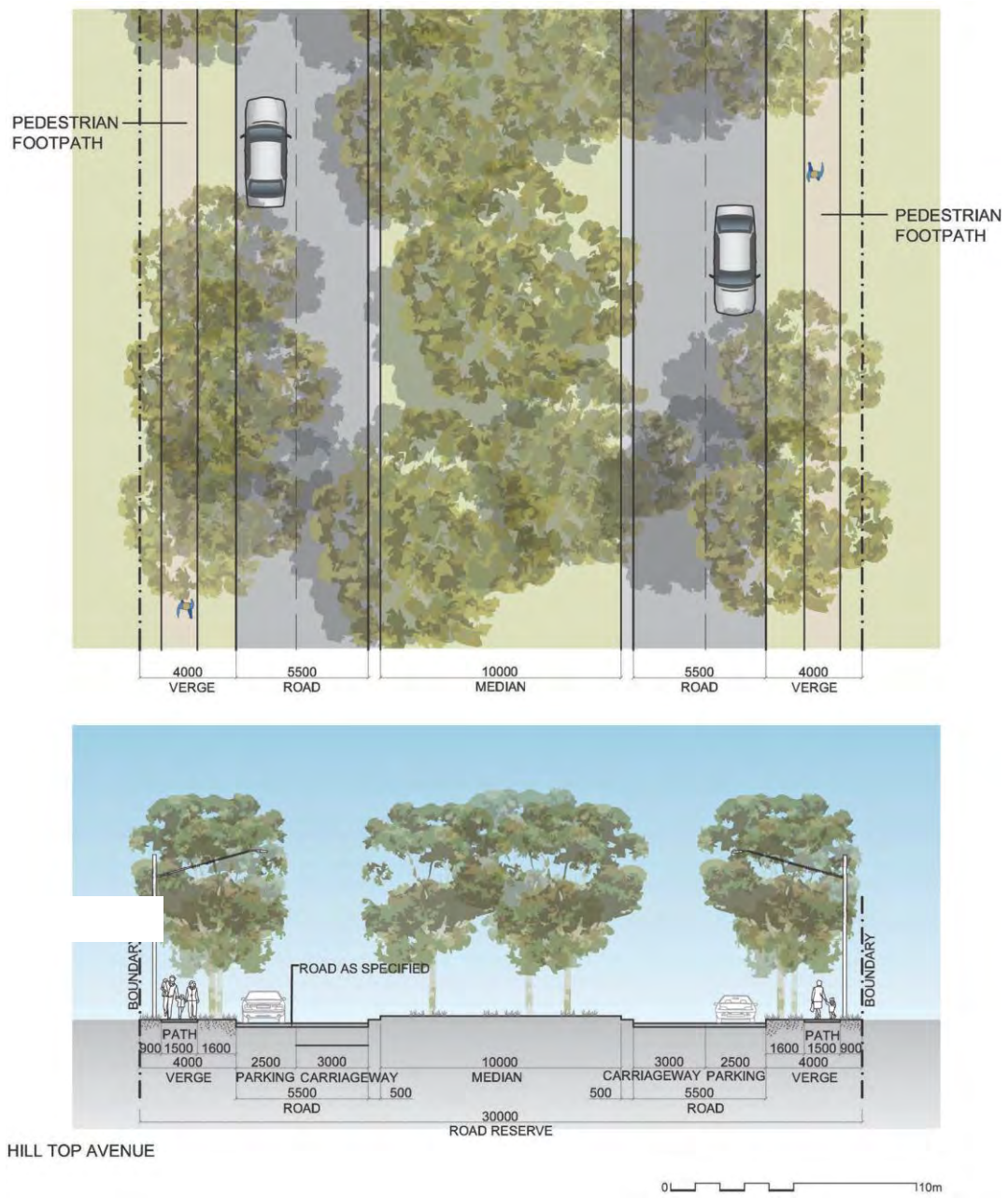
**Figure 7.3 – Collector Road 3**



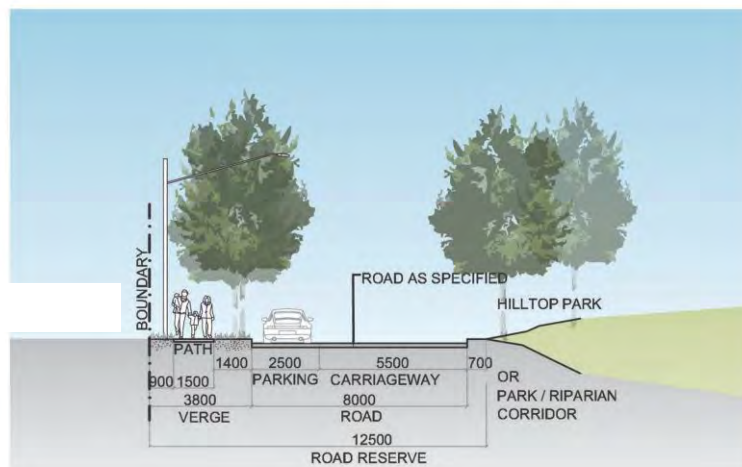
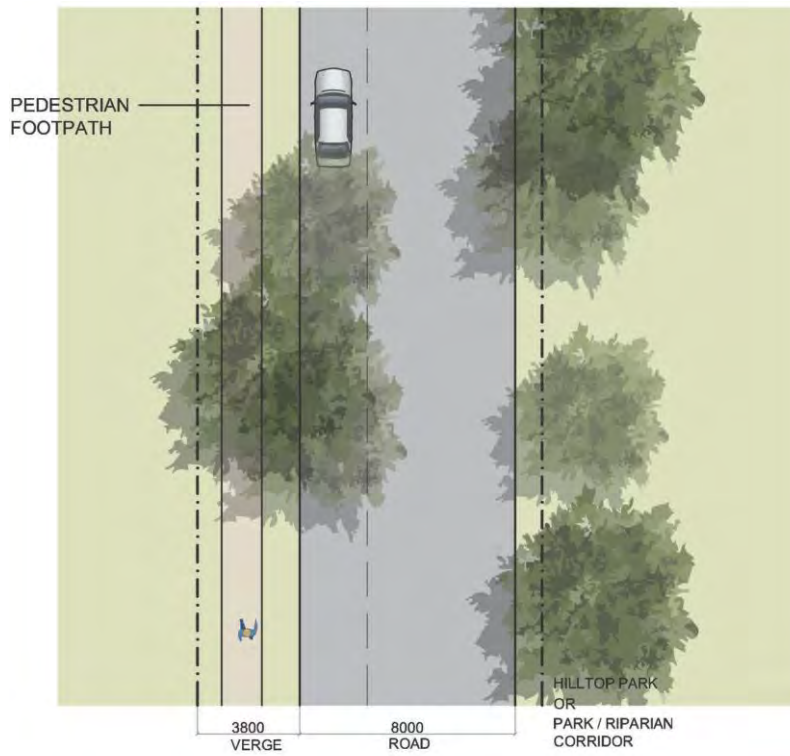
**Figure 7.4 – Avenue**



**Figure 7.5 – Avenue**

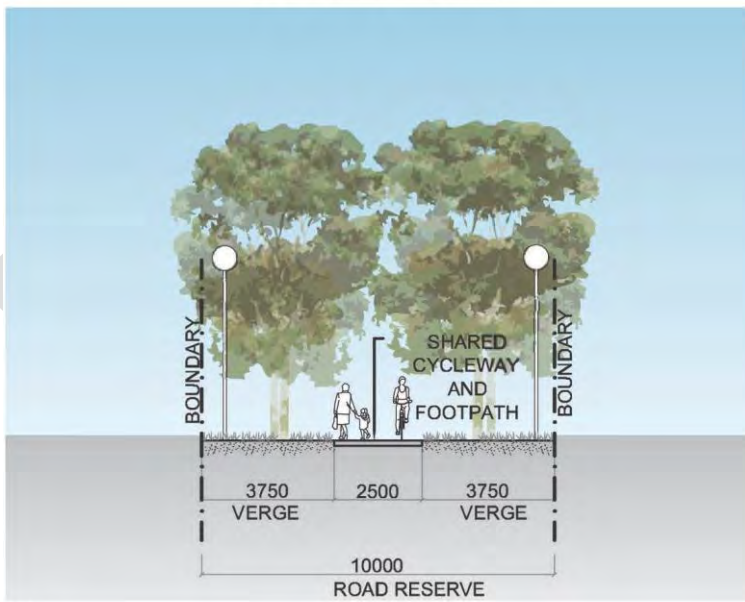
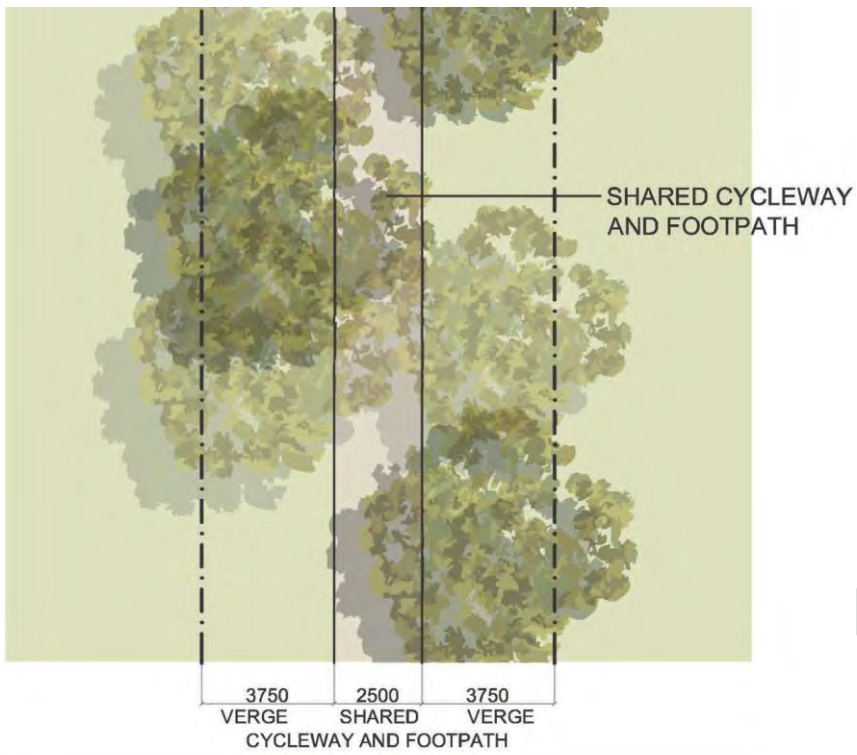


**Figure 7.6 – Minor Road**



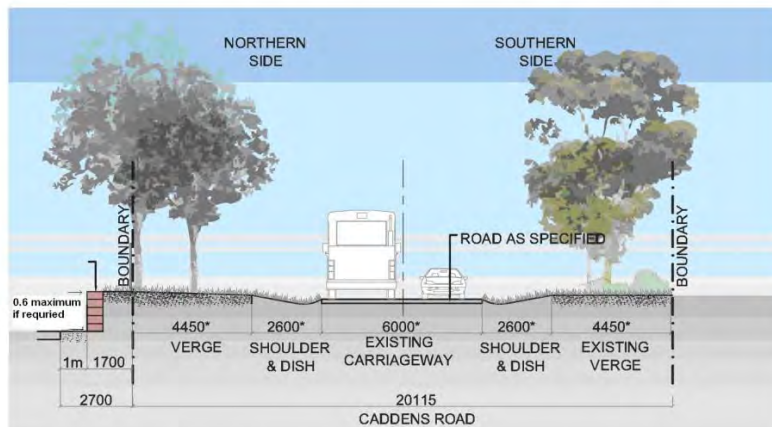
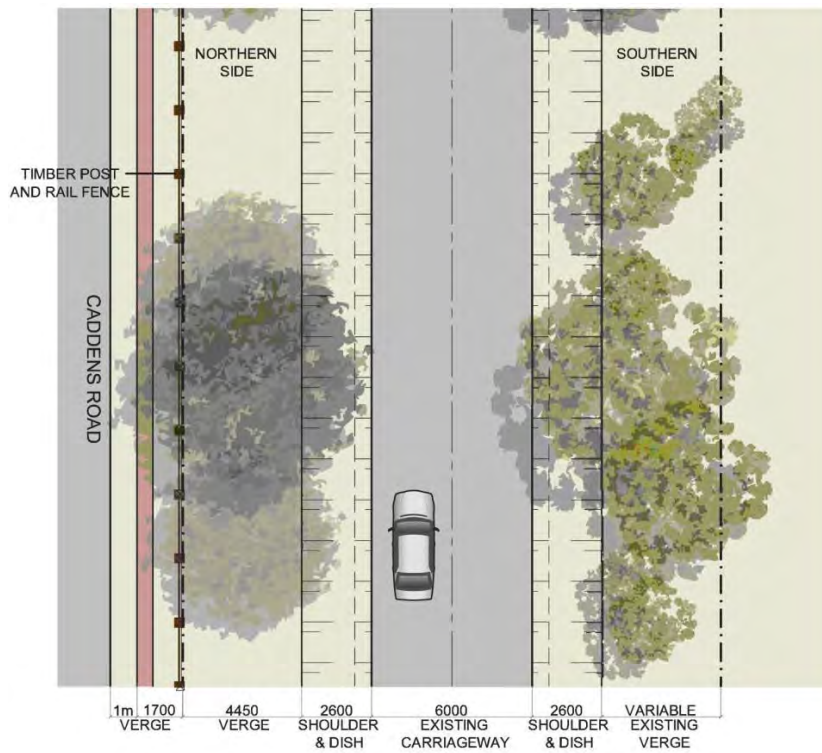
0 110m

**Figure 7.7 – Pedestrian / Cycleway**



0 110m

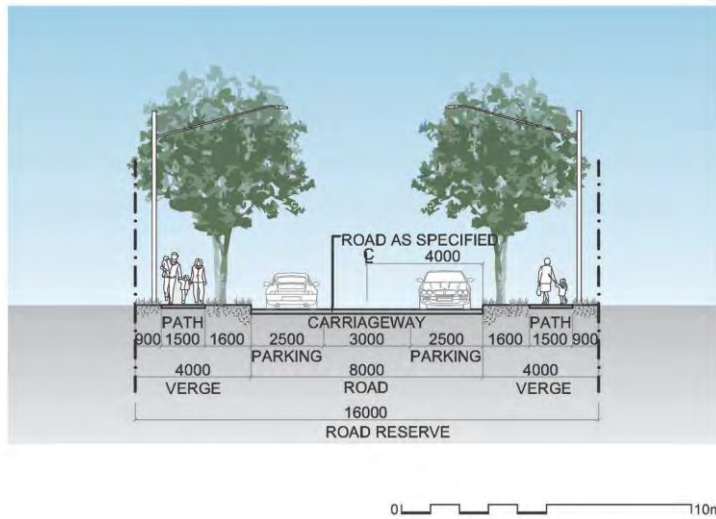
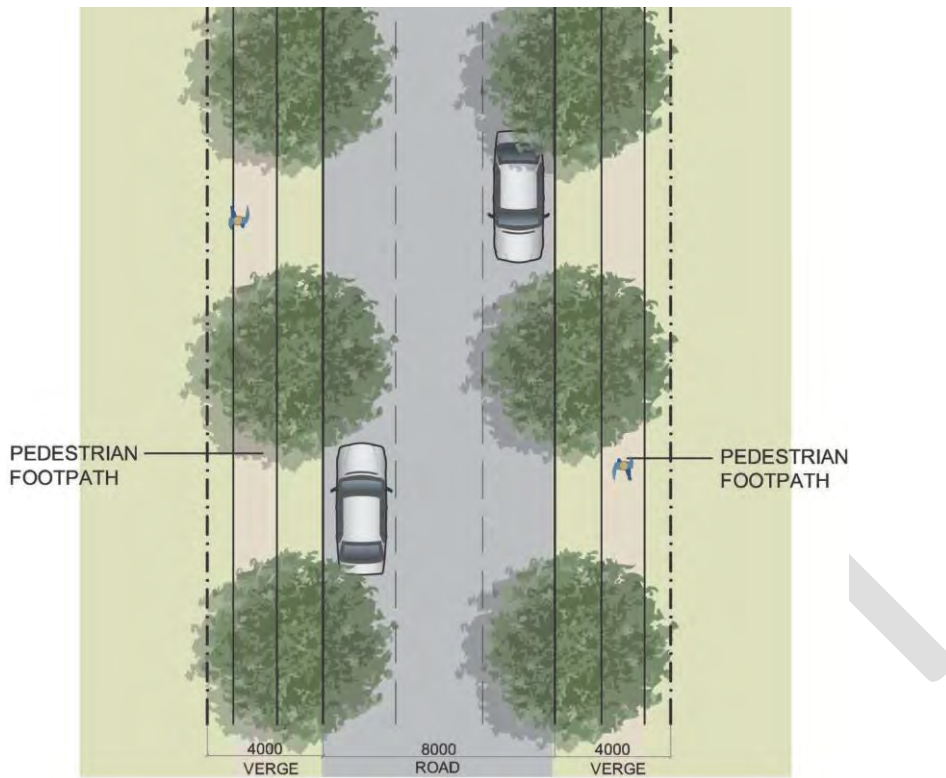
**Figure 7.8 – Rural Road**



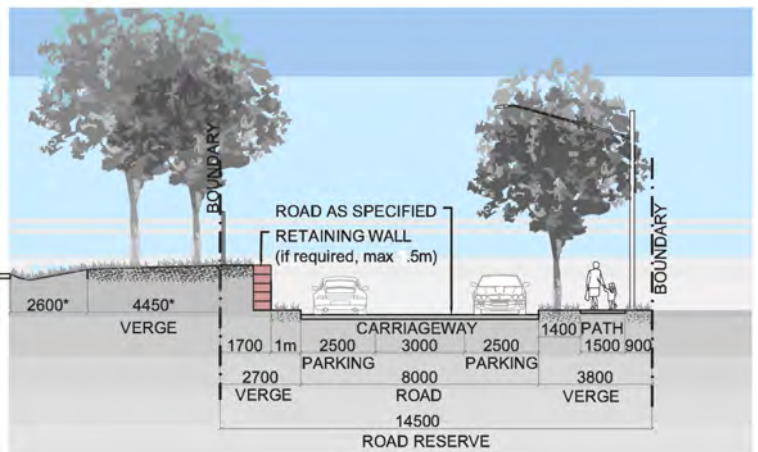
\* DIMENSIONS VARIABLE & SUBJECT TO EXISTING CONDITIONS & ALIGNMENT

0 110m

**Figure 7.9 – Local Road**



**Figure 7.10 – Loop Road**



0 110m

## 3.2 Street furniture and public art

### Objectives

- a) To visually define and promote attractive public spaces.
- b) To enhance public spaces so that they are vibrant, safe and welcoming.
- c) To create a sense of identity for Caddens by creating distinctive places which reflect local heritage and the local environment.
- d) To facilitate cultural identity through art and design in public places and through engagement of the local community.

### Controls

1. Public art may be freestanding art objects or works integrated into building facades, other built edges, water courses and landscaping adjoining public spaces.
2. Street furniture is to enhance pedestrian comfort, convenience and amenity and to form an integral element of the streetscape.
3. The provision of street furniture in public spaces must include, as appropriate:
  - i. seats
  - ii. litter bins
  - iii. drinking fountains
  - iv. lighting
  - v. information signs
  - vi. bicycle racks
  - vii. planter boxes
  - viii. other items suitable to the function of each public space.
4. Street furniture throughout precincts should be consistent in design and style.

5. Street furniture is to be located so as not to impede mobility, in accordance with A51428:1-4.
6. Location and detailing of all proposed street furniture and public art is to be indicated on the Landscape Plans submitted with Development Applications.

### **3.3 Pedestrian and cycle network**

#### **Objectives**

- a) To provide an attractive, convenient, efficient and safe network of pedestrian and cycleway paths for the use of the community, within and beyond the site.
- b) To encourage residents to walk or cycle, in preference to using motor vehicles, as a way of gaining access to schools, shops, and local community and recreation facilities.
- c) To promote the efficient use of land by allowing pedestrian pathways and cycleways to be located within parks and corridors wherever practical.

#### **Controls**

1. Key pedestrian and cycleway routes are to be provided generally in accordance with [Figure 8](#).
2. The design of cycleways located within the road reserve is to be in accordance with [Figure 7](#).
3. The minimum width of off-street shared cycle and pedestrian pathways is to be 2.5m (as shown in [Figure 7.7](#)).
4. The minimum width of pedestrian footpaths is 1.5m.
5. All pedestrian and cycleway routes and facilities are to be consistent with the Planning Guidelines for Walking and Cycling (DOP & RTA 2004).
6. Pedestrian and cycle routes and facilities in public spaces are to be safe, well lit, clearly defined, functional and accessible to all.
7. Pedestrian and cycle pathways, and pedestrian refuge islands are to be designed to be fully accessible by all in terms of access points and gradients, generally in accordance with Australian Standard 1428:1-4.

8. Pedestrian and cycle pathways are to be constructed as part of road infrastructure works with detailed designs to be submitted with DAs.

**Figure 8: Pedestrian & cycle routes**



### 3.4 Public transport

#### Objectives

- a) To encourage the use of public transport.
- b) To enable the efficient operation of buses on designated streets.
- c) To enable the majority of residential lots to be within a walking distance of 400m from a bus stop.

#### Controls:

1. Bus routes are to be provided generally in accordance with the requirements of Transport for NSW. [Figure 9](#) provides an indicative concept plan of the route and bus stops.
2. Roundabouts on bus routes are to be designed to accommodate bus manoeuvrability.
3. Bus stops (where known) are to be provided on-street and not within indented bays. Bus shelters are to be provided at key stops and installed at the subdivision construction stage.

**Bus shelters will be provided along the bus route.**



**Figure 9: Public transport network**



### **3.5 Open space, environmental conservation and landscape network**

#### **Objectives**

- a) To provide for the public open space and recreational needs of residents.
- b) To ensure quality design and embellishment of all public open space.
- c) To ensure that the development of elevated, visually sensitive land contributes positively to, and enhances, the landscape character of Caddens.
- d) To protect significant views and viewsapes.
- e) To enhance the character of environmental conservation areas through revegetation.
- f) To reinforce the rural character of Caddens Road through appropriate landscaping and fencing.
- g) To ensure that landscaping utilises robust and low maintenance materials and species, that landscaped areas are accessible by all, and that design meets Crime Prevention Through Environmental Design (CPTED) principles.

#### **Controls**

1. The open space network, consisting of active and passive open space, together with the riparian corridor and other areas of conservation value are to be provided generally in accordance with [Figure 10](#).
2. The design and embellishment of public open space must satisfy the principles of high quality, robust, low maintenance design and address the vision for Caddens.

**Figure 10: Open space and environmental conservation network**



3. The provision of open space and facilities including embellishment is to be consistent with the WELL Precinct Section 94 Contributions Plan.
4. Passive open space should generally be bordered on all sides by streets and houses should be oriented towards the open space for passive surveillance.
5. The detailed design of public open space areas is to incorporate the following elements, where appropriate, in accordance with the Open Space Strategy and the WELL Precinct Section 94 Contributions Plan:
  - i. Play and other spaces to cater for a range of ages.

- ii. Adequate car and bicycle parking, lighting and waste management facilities.
  - iii. Amenities such as seating and shade structures, drinking fountains, lighting, information signs, feature fencing and the like; and
  - iv. Linkages with the broader pedestrian and cycle network.
6. The hilltop parks should be designed generally in accordance with the Caddens Public Domain Strategy and the design requirements described in this section of the DCP. Figures [11](#) and [12](#) provide indicative concept plans for these hilltop parks.
7. The 0.35 hectare Eastern Hilltop Park located on the ridgeline to the east of the site is to present as natural woodland. It is to incorporate the following elements as illustrated in [Figure 11](#):
  - i. Heritage interpretation of the ruins of the 19th century farmhouse and re-use of materials where appropriate.
  - ii. Viewing platforms to other vantage points within Caddens and beyond.
  - iii. An informal kick about space on the flatter land.
  - iv. Accessible paths where possible.
  - v. Seating areas and shade structures.
  - vi. Canopy trees.
  - vii. Existing trees, Cumberland Plain Woodland species as well as other endemic robust native plant species and where necessary saline-tolerant species, and
  - viii. Low maintenance and robust finishes.

**Figure 11: Eastern hilltop park concept**



8. The 0.5 hectare Western Hilltop Park is to function as a neighbourhood park. Detailed design is to incorporate the following elements as illustrated in [Figure 12](#):
- i. children's play spaces on soft-fall including high quality interactive play structures and equipment.
  - ii. terraced lawns to increase usability of passive spaces in sloped areas, including a potential look-out space.
  - iii. accessible paths where possible
  - iv. seating areas and shade structures.
  - v. a north-south path to connect to the surrounding streets and the riparian corridor.
  - vi. semi-open canopy trees.
  - vii. endemic native and other robust plant species; and
  - viii. low-maintenance and robust finishes.

**Figure 12: Western hilltop park concept**



9. The 1.38 hectare Western Linear Park is to function as passive open space and act as an acoustic and visual barrier between Collector Road 1 and the residential areas of Kingswood to the west. The park is to include earth mounding and canopy trees. Detailed design is to incorporate the following elements as illustrated in [Figure 13](#):
- i. Areas of passive open space.
  - ii. A shared pedestrian and cycle path.
  - iii. Natural and/or organic forms for noise and visual screening of Collector Road 1.
  - iv. Canopy trees for shade; and
  - v. Planting of endemic native and other robust plant species.

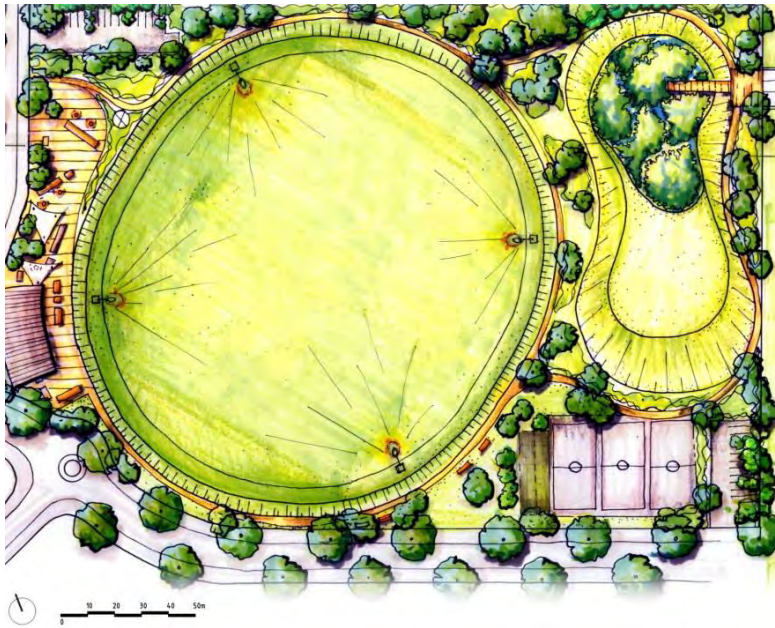
**Figure 13: Western linear park concept**



10. The 5.1 hectare combined area of active open space (3.9 hectares) and detention basin (1.2 hectares) is to provide a local community focus and be designed generally in accordance with the Caddens Public Domain Strategy and [Figure 14](#). It is to incorporate the following elements consistent with the Open Space Strategy and the WELL Precinct Section 94 Contributions Plan:

- i. connections to the shared pedestrian and cycle path.
- ii. an amenities block.
- iii. a children's playground.
- iv. seating areas.
- v. a large level area suitable for future playing field(s) with flood lights.
- vi. potential courts such as hard courts/tennis courts, bocce courts, netball courts and large chess board.
- vii. canopy trees and structures to provide shade and amenity.
- viii. planting of robust endemic native species, and
- ix. car parking.

**Figure 14: Active open space concept**



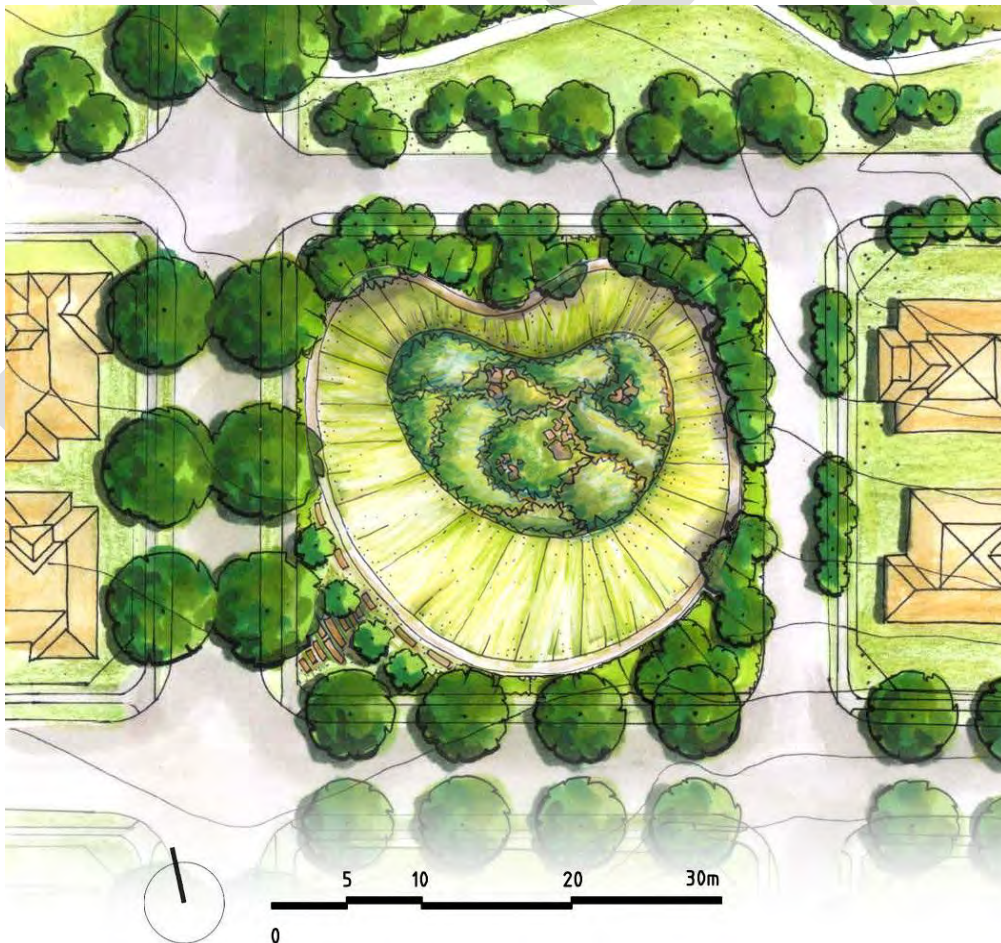
11. The detention basins are to be landscaped so that they appear as natural rather than engineered features and sit harmoniously in their surroundings. They are to be designed and treated to satisfy the requirements of this section of the Plan and to accord with the Caddens Public Domain Strategy. [Figure 15](#) provides an indicative concept plan for their design which is to typically incorporate the following elements as appropriate:

- i. A natural/organic basin form with steeper slopes facing east to avoid the hot westerly winds and exposure to afternoon sun.
- ii. A rain garden at the base of the basin with sloped embankments (capable of being mowed).
- iii. A 1.5m path informally planted with native trees with low level under planting to define the top of the detention basin.
- iv. Passive open space, and
- v. Seating areas along flatter slopes where possible to allow views across the rain gardens.

**Detention basins are intended to be natural elements.**



**Figure 15: Detention basins concept**

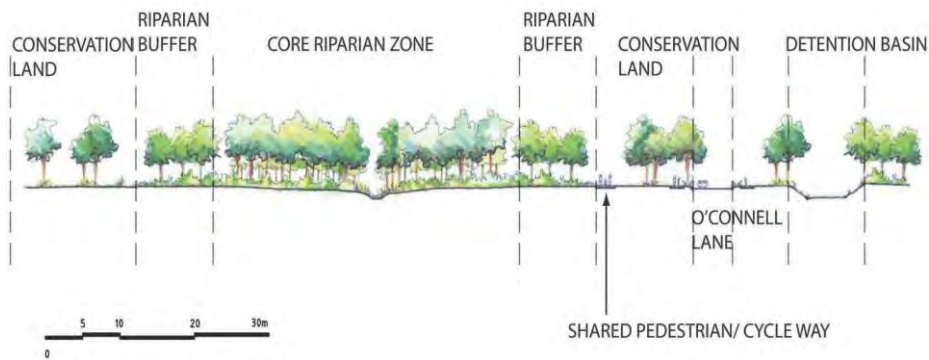


12. The environmental conservation area is to accord with the Riparian Corridor Management Plan and the requirements set out in Sections 3.5 and 3.8 of this chapter, and is to be designed generally in accordance with Figures 16 and 17.
13. The environmental conservation area is to include a pedestrian and cycle path, seating and picnic shelters and areas for informal passive recreation in a manner that maintains the environmental significance of the area.
14. Interpretative material in relation to Aboriginal heritage and the physical environment should be sensitively placed along pathways within the riparian/conservation corridor.

**Figure 16: Riparian Corridor (plan)- A pedestrian path/cycleway will extend along the edge of the riparian corridor**



**Figure 17: Riparian corridor (section)**

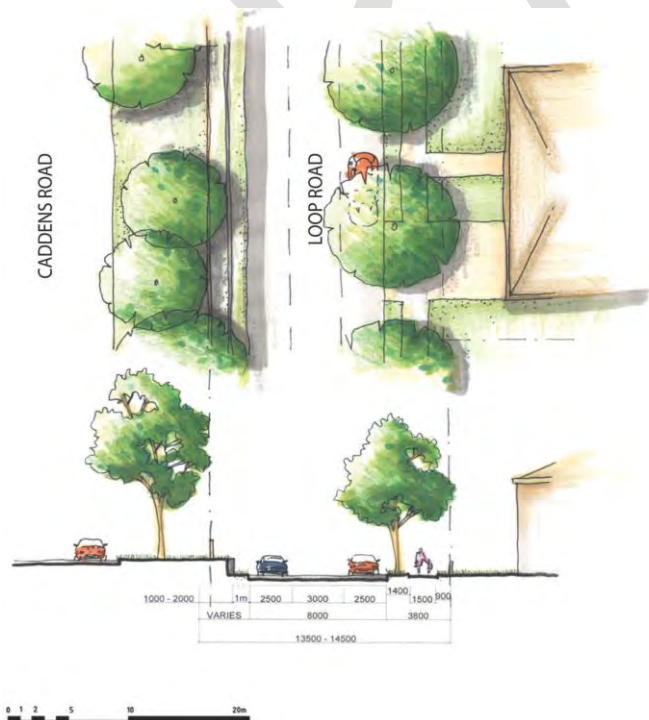


15. Where an area of open space adjoins a residential area, a Landscape Plan for that open space is to be submitted to Council at the time of subdivision of the adjoining residential area. The Plan is to provide details on elements such as:

- i. earthworks, including existing and proposed levels
- ii. erosion control measures
- iii. drainage and stormwater control measures
- iv. assessment of visual impact
- v. measures to address salinity
- vi. fencing and walls
- vii. signage, including any heritage or environmental interpretation
- viii. plant species and sizes (including street trees)
- ix. hard and soft landscaping treatments
- x. lighting
- xi. seating
- xii. public art
- xiii. waste facilities
- xiv. play equipment, and
- xv. site specific maintenance specifications.

16. The design of public art elements must consider longevity of materials; ease and cost effectiveness of maintenance; and use of sustainable materials.
17. The selection of public art elements must fit within the context of a public art theme for Caddens and reflect appropriate consultation with the community.
18. The verges between the 'loop roads' and Caddens Road (as shown in Figure 3) are to be landscaped in accordance with Figure 18. Trees should be endemic and Cumberland Plain woodland species and groupings of trees should be informal to reflect the rural character of the street.
19. Fencing along Caddens Road boundary is to be a rural style solid timber post and rail fence. The northern verge of Caddens Road is to be landscaped in accordance with in the Caddens Public Domain Strategy.
20. Fencing of the Caddens Road boundary and landscaping of the northern verge of Caddens Road is to be undertaken at the time of subdivision.
21. Fences along Caddens Road must incorporate gaps to enable pedestrian and cycle access, but not access for motor vehicles.

**Figure 18: Landscaping of loop road / Caddens Road verge**



**Landscape treatment similar to that proposed along the loop road as a transition to Orchard Hills rural area.**



### **3.6 Biodiversity**

#### **Objectives**

- a) To ensure the protection and enhancement of existing significant vegetation and improve or maintain biodiversity values.
- b) To retain areas of high conservation significance.
- c) To protect habitat for significant fauna species.
- d) To protect, restore and enhance the environmental qualities of Werrington Creek and its buffers.
- e) To allow the riparian corridor buffers to be used primarily for conservation and drainage, along with incidental recreational activities such as walking and cycling.
- f) To prevent the spread of weeds during and after construction.

## Controls

1. A Flora and Fauna Management Plan (FFMP) is to be prepared by a suitably qualified ecologist for the areas of high conservation significance along the Werrington Creek riparian corridor. The FFMP should include a Vegetation Management Plan and a Riparian Corridor Management Plan.
2. The FFMP is to be submitted as part of any subdivision of land adjoining the Werrington Creek riparian corridor and should detail weed removal, revegetation and rehabilitation, rubbish removal, habitat enhancement and ongoing protection and management measures.
3. All subdivision design and bulk earthworks are to consider the need to minimise weed dispersion and eradication.
4. Existing native vegetation in the riparian corridor is to be conserved and enhanced, and where required revegetated with endemic species as set out in the Vegetation Management Plan.

### 3.7 Aboriginal and European heritage

#### Objectives

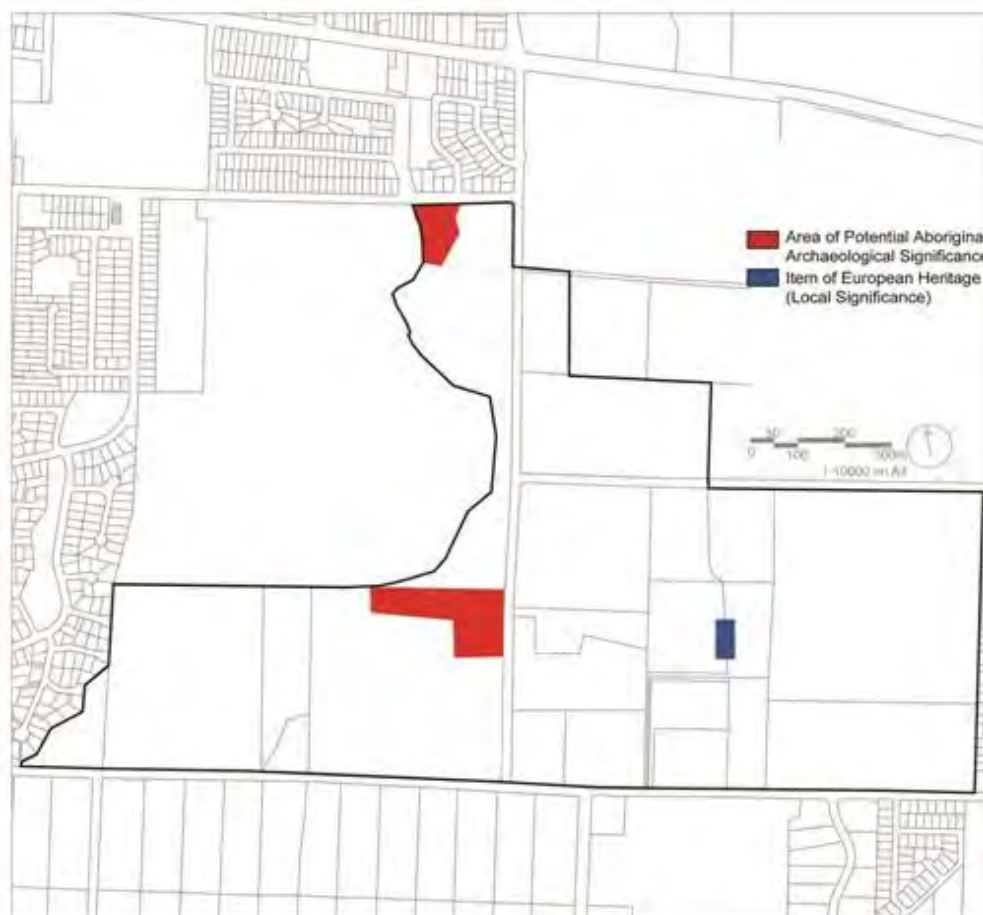
- a) To protect and manage areas and elements of identified Aboriginal and European archaeological heritage.
- b) To interpret, where appropriate, elements of Aboriginal and European heritage.

#### Controls

1. Areas of Aboriginal archaeological conservation value are identified at Figure 19. No development is to occur in this area without appropriate investigation, consent under Section 90 of the *National Parks and Wildlife Act 1974* and consultation with the relevant local Aboriginal groups.
2. Any construction work that has the potential to encroach on the conservation area is to be fenced off during construction works.
3. Any development that encroaches on the conservation area is to be subject to archaeological salvage excavation following consultation with relevant local Aboriginal groups.

4. Archaeological test excavations are to be undertaken in accordance with Section 87 of the *National Parks and Wildlife Act 1974* to determine the significance of areas with potential Aboriginal heritage value shown in Figure 19.
5. An item of European heritage significance (the ruins of a 19th century house located in the area of the proposed eastern hilltop park) is shown at Figure 19. Prior to demolition archival recording of the archaeological features is to be undertaken and a permit under Section 139 of the *Heritage Act 1977* obtained. Demolition is to be monitored.
6. Interpretive signage that provides information on the Aboriginal and European history and heritage significance of the locality is to be provided within public domain areas. Street names should reflect the history of the land.

**Figure 19: Areas of Aboriginal and European Cultural Heritage**



### **3.8 Bushfire hazard management**

#### **Objectives**

- a) To encourage sound management of areas potentially prone to bushfire.

#### **Controls**

1. Subject to detailed design at subdivision stage, a 20m precautionary bushfire setback is to be provided from the vegetation in the core riparian zone (see Figure 17). The setback:
  - i. may incorporate roads
  - ii. is to be located wholly outside of a core riparian zone, and
  - iii. may be used for open space and recreation subject to appropriate fuel management.
2. Vegetation within the area of public open space in the south eastern corner of Caddens is to be managed as a 'fuel reduced area'.

### **3.9 Water cycle management**

#### **Objectives**

- a) To preserve the quality of the riparian corridor along Werrington Creek.
- b) To promote sustainable and integrated management of water resources through best practice stormwater management, water conservation and environmental protection.
- c) To ensure the quality and quantity of water leaving the urban area does not impact adversely on the health of Werrington Creek.
- d) To mitigate the impacts of urban development on stormwater quality.
- e) To ensure that there is no increase in the peak run-off rate at key locations within and around the Caddens Release Area as a result of development for the 20%, 5% and 1% Annual Exceedance Probability (AEP) flood level.

## Controls

1. A riparian corridor 20m in width plus a 10m wide buffer zone is to be provided along both sides of Werrington Creek in accordance with Figures 16 and 17.
2. No residential allotment is to be located at a level lower than the 1% AEP flood level plus a freeboard of 500mm. Pedestrian and cycle pathways and open space may extend within the 1% AEP flood level, provided that the safe access criteria contained in the NSW Floodplain Manual are met.
3. Stormwater management plans are to be prepared for the catchments covering Caddens and are to demonstrate how the quantity and quality of urban run-off as a result of development will be managed.
4. Stormwater detention is to reduce post development flows to pre development levels.
5. All development is to incorporate water sensitive urban design (WSUD). A WSUD Strategy is to be submitted as part of any subdivision DA in accordance with Council's *Sustainability Blueprint for Urban Release Areas* (June 2005).
6. Erosion control and bank stabilisation measures are to be incorporated within the waterway where required.

## 3.10 Contamination management

### Objectives

- a) To minimise the risks to human health and the environment from the development of potentially contaminated land.
- b) To ensure that potential site contamination issues are adequately addressed at the time of subdivision.

### Controls

1. Applications for development in areas of potential contamination as identified at Figure 20 shall be accompanied by a Phase 2 Environmental Site Assessment in accordance with Council's policies and requirements.
2. A hazardous materials assessment is required as part of the demolition of

any building.

**Figure 20: Potentially contaminated land**



### 3.11 Salinity management

#### Objectives

- a) To minimise the damage to property and vegetation caused by existing saline soils or processes that may create saline soils.
- b) To ensure development will not significantly increase the salt load in any watercourses.
- c) To prevent degradation of the existing soil and groundwater environment, and to minimise erosion and sediment loss and water pollution due to siltation and sedimentation.

## Controls

1. Applications for subdivision of land identified in Figure 21 as being constrained by salinity are to be accompanied by a salinity report prepared by a suitably qualified consultant. The report is to include comprehensive sampling and cover the conditions of the site, the impact of the proposed subdivision on the saline land and the mitigation measures that will be required during the course of construction. Investigations and sampling for salinity are to be conducted in accordance with the requirements of *Site Investigations for Urban Salinity* (DNR). All works are to conform to the *Western Sydney Salinity Code of Practice*, June 2003 (WSROC) and Council's policies.
2. Groundwater recharge is to be minimised by:
  - i. directing runoff from paved areas into lined stormwater drains rather than along grassed channels as necessary.
  - ii. lining or locating any pondages higher in the landscape to avoid recharge where proximity to the water table is likely to create groundwater mounding.
  - iii. encouraging use of low water demanding plants and tree planting especially adjacent to watercourses.
3. For road works within areas identified as a salinity hazard:
  - i. disturbance of subsoil should be minimised
  - ii. engineering designs should consider salinity impacts; and
  - iii. subsoil drainage is to be installed along both sides of all roads.
4. All development must incorporate soil conservation measures to minimise soil erosion and siltation during construction and following completion of development. A Soil and Water Management Plan, prepared in accordance with Council policies is to be submitted with any subdivision DA.
5. Land at the base of slopes near creeks may require saline tolerant species.

**Figure 21: Salinity constraints**



## 4. Residential development

### 4.1 Subdivision and neighbourhood design

#### Objectives

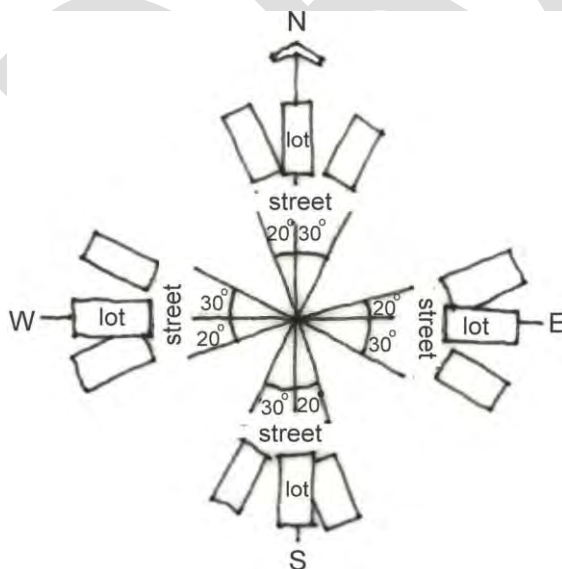
- a) To provide a diverse range of housing forms and densities that respond to community needs for different dwelling sizes and to different household types.
- b) To establish a clear urban structure that maximises the sense of neighbourhood and encourages walking and cycling.
- c) To establish a subdivision layout that provides for efficient residential development and maximises the natural attributes of the land.

- d) To ensure that all residential lots are afforded a high level of amenity in terms of solar access, views/outlook and/or proximity to public open space.
- e) To provide a range of densities, lot sizes and house types to foster a diverse community and interesting streetscapes.

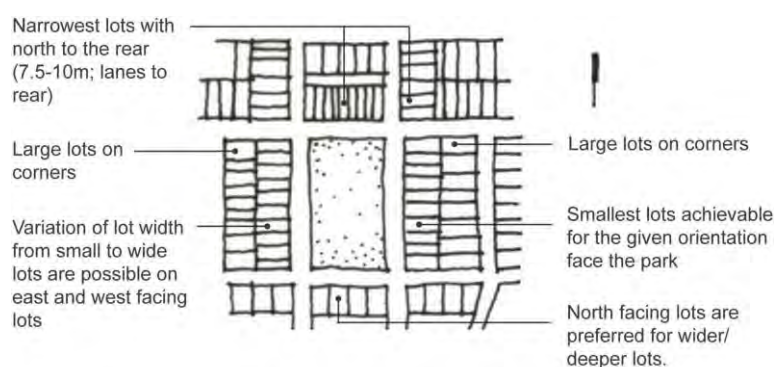
## Controls

1. Subdivision layout should generally be in accordance with Figure 2 and is to create a recognisable, open and networked street hierarchy that responds to natural topography, the location of existing significant trees and solar design principles.
2. Pedestrian connectivity is to be provided between residential development and public open space areas, public transport nodes, and community facilities and services.
3. Lot orientation and configuration is to be generally consistent with the subdivision principles shown at Figure 22. Preferred lot orientation is either on a north-south or east-west axis as per Figure 22. Where there are other forms of amenity available, such as views or an outlook over open space, an alternative lot orientation can be considered.

### Lots orientated for solar access (Source: Amcord)



**Figure 22 – Lot design principles**



Example of subdivision pattern likely after applying the principles

4. A diverse range of lot types and frontages should be provided in each street. The repetition of lots with the same frontage along a street is to be avoided. For lots 12.5m wide and above, no more than five lots in a row should have the same frontage.
5. The minimum area for corner lots is 450m<sup>2</sup>.
6. The minimum lot dimensions for all dwelling types at Caddens are set out in Table 2.

**Table 2: Minimum lot dimensions**

Dwelling type	Lot area (m <sup>2</sup> )	Lot width (m)
Residential flat buildings	1000	30
Detached – contiguous (sharing a common border) with Caddens Road*	600	18
Detached – hilltops*	450	15
Detached	450	15
Detached	350	12.5
Built to boundary	350	10 –15
Semi-detached	225	7.5 –10
Attached	195	7.5 –9.5

**\* See Figure 3**

7. All applications for subdivision proposing residential allotments with a site area of less than 350m<sup>2</sup> are to be accompanied by development plans for the proposed dwellings on those lots. Council may waive this requirement where an application for subdivision creates no more than 2 lots with a site area less than 350m<sup>2</sup> per dwelling and it is satisfied that the subdivision application demonstrates (through use of restrictions such as building envelopes, preferred locations for garages and open space and the like) that an appropriate built form that complies with the relevant provisions of this DCP can be delivered on the lot. These restrictions will be approved as part of the subdivision application and will be required to be complied with by any future application proposing a dwelling on that lot.
8. On lots greater than or equal to 350m<sup>2</sup> in size where a built to boundary (zero lot line) dwelling is permitted, the side of the allotment that may have a zero lot alignment shall be shown on the approved subdivision plan. The Section 88B instrument for the subject lot and the adjoining lot shall include a note identifying the potential for a building to have a zero lot line.

## **4.2 Streetscape, feature elements and roof design**

### **Objectives**

- a) To ensure that buildings are designed to enhance the desired built form and character of the neighbourhood by encouraging quality designs that fit harmoniously with their surroundings.
- b) To ensure equitable access to natural light and ventilation for the occupants of all residential buildings.
- c) To provide a clear distinction between private and public space and to encourage casual surveillance of the street.
- d) To create an attractive and cohesive streetscape through the provision of simple and articulated building and roof forms in a contemporary style.
- e) To ensure that eaves provide sun shading and weather protection to windows and doors and contribute to aesthetic interest.

### **Controls**

1. The primary street facade of a dwelling must incorporate an entry feature

or portico and at least two of the following design features:

- i. balcony to any first floor element.
- ii. a variation in scale to adjoining properties.
- iii. architectural elements which recess or project by at least 600mm.
- iv. open verandah.
- v. mix of building materials or finishes.
- vi. bay windows or similar features.
- vii. pergola or similar feature above garage doors.

Good streetscape design principles are illustrated at Figure 23.

2. The secondary street facade on a dwelling on a corner lot must incorporate a window from a habitable room and at least two of the following design features:
  - i. verandah
  - ii. vertical architectural elements to reduce the horizontal emphasis of the façade
  - iii. balcony
  - iv. an architectural element which recesses or projects from the façade by at least 600mm
  - v. landscaping and/or fencing compatible with the treatments that have or will occur on neighbouring sites.
3. Except on built to boundary (zero lot line) dwellings, eaves are to be provided on all roofs and should have a minimum overhang of 450mm (measured to the fascia board). Where practical, 600mm should be considered to achieve an increased degree of shading to windows. Council will consider alternative solutions to eaves as long as they provide appropriate sun shading to windows and display a high level of architectural merit.
4. Water tanks, air conditioning units, solar hot water tanks and roof clutter such as satellite dishes should not be prominent when viewed from any

street.

5. Proposed colours, materials and finishes are to be from a predominantly neutral palette of colours and varied across the front elevations of buildings. Bright colours are to be avoided, except for architectural features.
6. Exact mirror-imaging of semi-detached dwelling facades is not permitted. However, symmetrical design is permitted where each dwelling can satisfy two different design features (as listed under the controls for primary street facades above) and where the overall design of the dwellings are compatible with the streetscape in terms of design, built form, scale and bulk (see Figure 23).
7. The repetition of identical housing designs in a group of dwellings, other than for attached dwellings, will not be permitted.

**Figure 23 – Streetscape design principles. Source: DKO**



## 4.3 Dwelling height, massing and siting

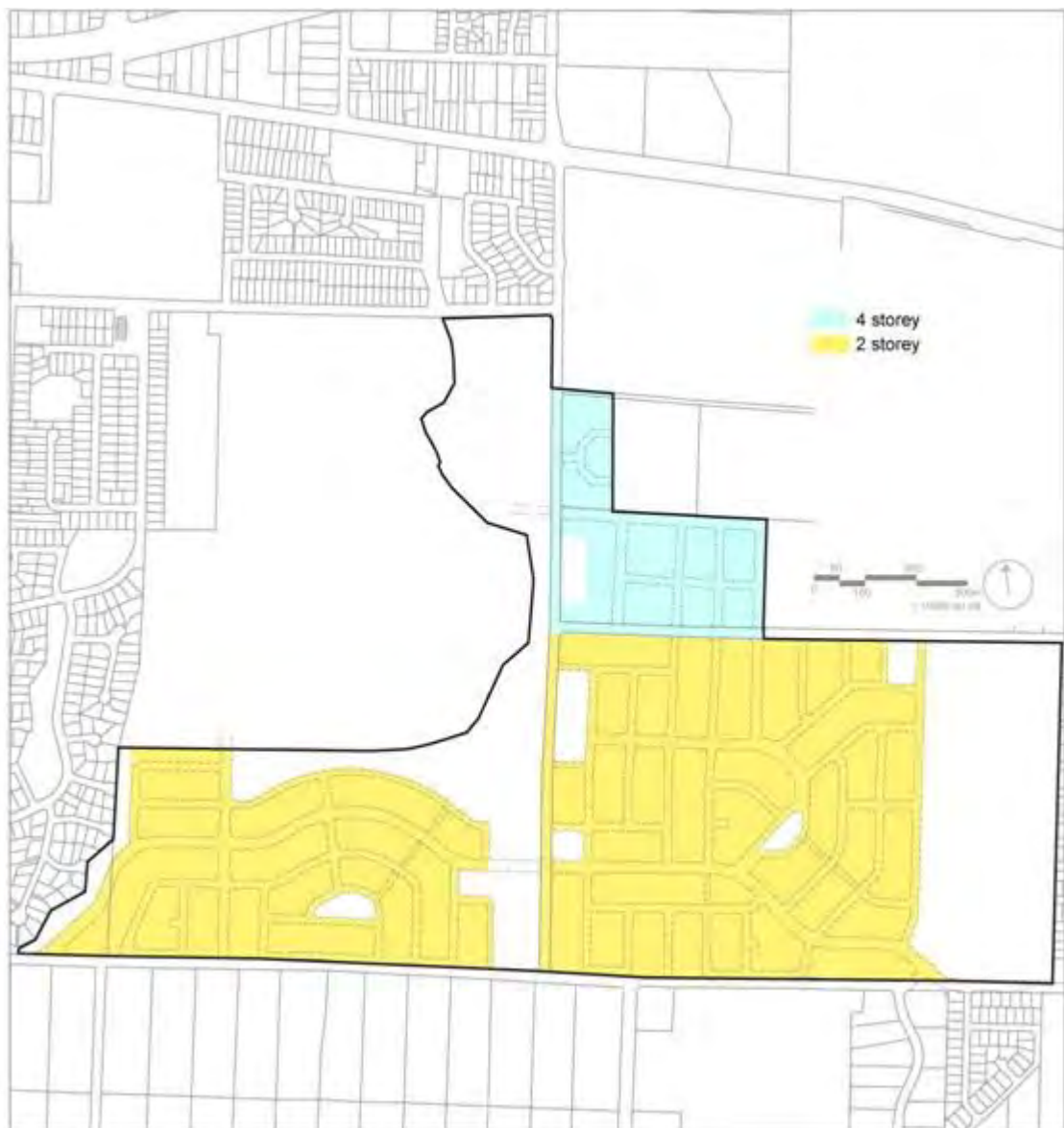
### Objectives

- a) To ensure development is appropriately scaled to suit the dwelling's local context.
- b) To ensure building heights achieve built form outcomes that reinforce quality urban and building design.
- c) To create attractive and cohesive streetscapes.
- d) To protect residential amenity in relation to solar access and privacy.
- e) To encourage efficient and sustainable use of land.

### Controls

1. The maximum number of storeys, measured from existing ground level, must be in accordance with those shown in Figure 24.
2. Single and attached housing is generally to be 2 storeys in height. Council may permit a third storey if it is satisfied that it is located:
  - i. on a prominent street corner, or
  - ii. on the lower side of land with a finished ground level slope equal to or more than 15%, and
  - iii. is not likely to impact adversely on the existing or future amenity of any adjoining land in terms of overshadowing and visual privacy.
3. Buildings should be designed to ensure that 50% of the area of the required Principal Private Open Space of both the proposed development and the adjoining properties receive at least 3 hours of sunlight between 9am and 3pm on the 21 June.
4. For lots equal to, or greater than, 450m<sup>2</sup>, the upper (second) level of a dwelling is to be no more than 30% of the lot area.

**Figure 24: Height map**



## 4.4 Building setbacks

### Objectives

- a) To provide a variety of streetscapes that reflect the character of different precincts, the diversity of edge conditions, house types and road hierarchies.
- b) To reduce the dominance of garages on the streetscape.
- c) To encourage eaves, verandahs, balconies and other feature elements on

the front facades of dwellings.

- d) To minimise the impacts of development on neighbouring properties in relation to views, privacy, and overshadowing.
- e) To provide 'breathing space' between buildings.
- f) To ensure that development on corner lots is visually significant and promotes a strong and legible character.
- g) To provide deeper front setbacks for dwellings that front or access Caddens Road to encourage dense landscaping.

## Controls

1. Dwellings are to be consistent with the minimum front, side and rear setback controls in Table 3 and the front setback principles diagram at Figure 25.

**Table 3: Building setbacks**

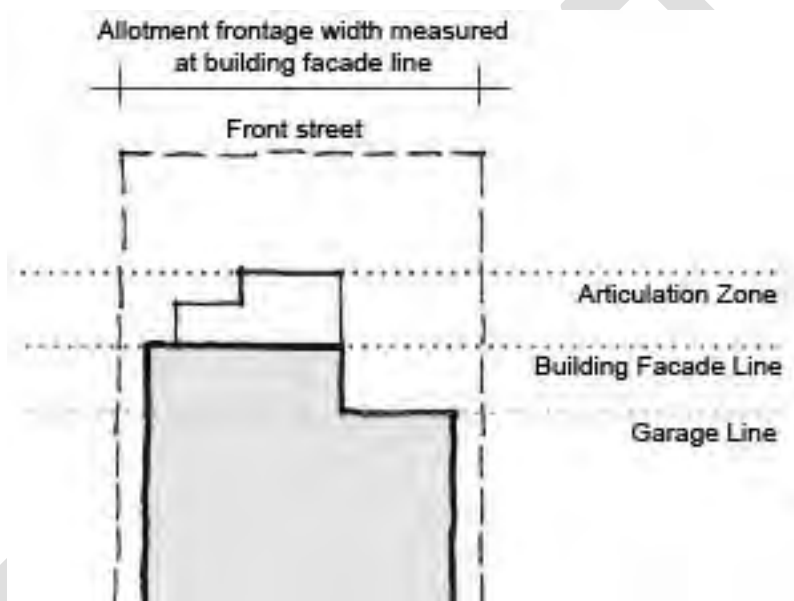
Dwelling type	Front *	Side	2 <sup>nd</sup> storey side	Rear
Detached contiguous (sharing a common border) with Caddens Rd (min. frontage: 18m)	6m	2m	2m	6m
Detached (frontage: 18m & greater)	4.5m	1.5m	1.5m	6m
Detached (frontage: 15m to less than 18m)	4.5m	0.9m	1.2m	6m
Detached (frontage: 12.5m to less than 15m)	4.5m	0.9m	1.2m	4m
Built to boundary	4.5m	0.9m & zero	2.4m from the adjoining built to boundary side boundary	4m**

Semi-detached	3m	0.9m & zero	1.2m on the unattached side	4m**
Attached	3m	zero	zero	4m**
Corner		See requirements in text below		

\* measured from the front boundary to the building façade line

\*\* excluding garage

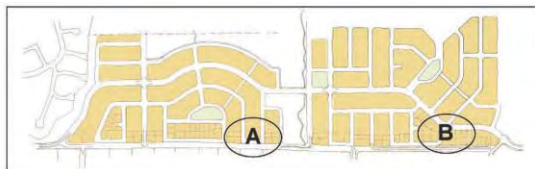
**Figure 25: Front setback principles**



2. On corner lots the setback for a secondary frontage is to be as follows:
  - i. 2m for all detached and semi-detached dwellings on lots less than 18m wide; and
  - ii. 3m for dwellings on lots 18m and wider.
3. Corner lots are to be splayed with the indent on both the primary and secondary street to be generally 5m. The building setback from the splayed corner boundary is to be a minimum of 2m.
4. Any building contiguous (sharing a common border) with Caddens Road is to be set back 6m from the boundary to Caddens Road.
5. Dwellings contiguous (sharing a common border) with Caddens Road are to be orientated and accessed in accordance with Figure 26.

6. Garages are to be set back a minimum of 1m behind the front building facade line as shown in Figure 26.
7. Garages on secondary streets are to be set back 1m behind the dwelling façade on the secondary street.
8. No setback is required for rear lane garages.

**Figure 26: Caddens Road lot layout**



**Location A**



**Location B**

9. Dwellings are to be consistent with the side and rear setback controls at Table 3. Projections permitted into side and rear setback areas include eaves, sun hoods, gutters, down pipes, flues, light fittings and electricity or gas meters, rainwater tanks and hot water units.
10. The side setbacks of second storeys are to have regard to dwelling design, lot orientation and adjoining dwellings and are to comply with the following minimum dimensions:
  - i. detached dwelling – 1.2m on both sides.
  - ii. semi-detached dwelling – 1.2m on the unattached side.
  - iii. built to boundary lots – 2.4m from the adjoining built to boundary side boundary.
11. Architectural elements which address the street frontage should be incorporated in the 'articulation zone' (see Figure 25). These may extend beyond the front façade by a maximum of 1m. The following elements are permitted:
  - i. Entry features or porticos.
  - ii. Awnings or other features over windows.
  - iii. Eaves and sun shading.
  - iv. Balcony or window box to any first floor element.
  - v. Projecting architectural elements.
  - vi. Open verandahs.
  - vii. Bay windows or similar features.
12. Side walls should be staggered/ indented to avoid an excessive long and blank appearance.

## **4.5 Development forms**

### Built to Boundary Dwellings

The general form and style of 'built to boundary' dwellings is illustrated in Figure 27.

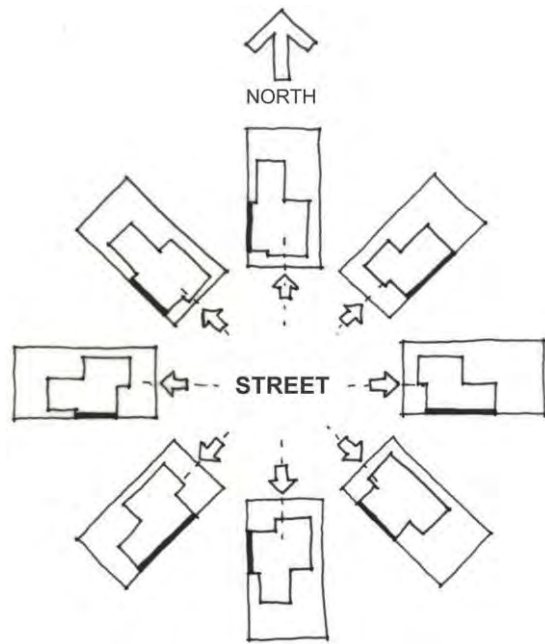
## Objectives

- a) To create an attractive and cohesive streetscape and facilitate the efficient use of land.
- b) To ensure appropriate amenity between dwellings.

## Controls

1. Built to boundary development must demonstrate that the use of a 'zero lot line setback' will not adversely affect the privacy and solar access of an adjoining property.
2. The location of built to boundary development is to be determined with regard to dwelling design, allotment orientation, adjoining dwellings, landscape features, topography and the built to boundary location principles at Figure 27.
3. An easement for maintenance of the built to boundary wall (and any services along the side of the dwelling) is to be provided on the adjoining property. A Section 88B instrument supporting the maintenance easement is to be provided.
4. The setbacks for built to boundary development must comply with the requirements of Section 4.4.

**Figure 30: General form of built to boundary dwellings**



## Secondary Dwellings

This section includes controls for Secondary Dwellings. The term 'secondary dwelling' is defined in LEP 2010. Generally, secondary dwelling development in Caddens should be in the form of "Studio Lofts", the general form and style of which is illustrated in Figure 31.

### **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.

### **Controls**

5. The maximum floor space for a secondary dwelling is 60m<sup>2</sup>.
6. The secondary dwelling is to be located above the garage, carport or similar structure of the principal dwelling or be part of a corner lot development.
7. A secondary dwelling must incorporate design and construction features, finishes, materials and colours similar to, or complementary with, the principal dwelling.
8. An application for a secondary dwelling development is to have regard to its suitability in the context of neighbouring dwellings and local character.
9. Windows and private open spaces must not overlook the private space of any adjacent dwelling. Windows to common boundaries must either have obscured glazing, be screened or have a minimum sill height of 1.7m above floor level.
10. Design is to generally maximise solar access to internal living areas and minimise overshadowing of outdoor areas of the principal and adjacent dwellings.

11. Private open space in the form of a balcony should preferably be provided in addition to the private open space area requirements for the principal dwelling.
12. Access to the secondary dwelling is to be separate from the principal dwelling and is to front a public street, lane or shared private accessway, either at or above ground level.
13. Strata title subdivision into a separate allotment will be permissible only where the following are provided:
  - i. The secondary dwelling is located substantially above the other dwelling, or
  - ii. The secondary dwelling has a floor area that does not exceed 60m<sup>2</sup> and is located above the garage, carport or similar structure of the principal dwelling, and
  - iii. Private open space of 8m<sup>2</sup> with a minimum dimension of 2m; and
  - iv. Separate access, and
  - v. One separate on-site car parking space, and
  - vi. Separate services for mail delivery and waste collection, and an on-site garbage storage area which is not visible from a public street, and
  - vii. Separate connections and metering for utilities (electricity, water, gas, telecommunications etc).

**Figure 28 – General form of “Secondary Dwellings”**



### Mixed Use and Medium Density Housing

The general forms and styles of mixed use and medium density dwellings are illustrated in Figure 29.

### **Objectives**

- a) To establish a high quality medium density housing environment where all dwellings have a good level of amenity.
- b) To encourage a variety and choice of housing forms.
- c) To encourage active street frontages and activate streets.

**Figure 29 – General form of Mixed use development**



## **Controls**

14. Mixed use and residential flat buildings are to be located generally within the Precinct Centre (E2 zone) and the Residential R3 Zone and are to:

- i. Have a minimum lot size of 1,000m<sup>2</sup> and a minimum street frontage of 30m, and
- ii. Not adversely impact upon the existing or future amenity of any adjoining land upon which residential development is permitted with respect to overshadowing, privacy or visual impact.

15. All mixed use and residential flat development is to be consistent with:

---

Penrith Development Control Plan 2014

DI Caddens

- i. The guidelines and principles outlined in *State Environmental Planning Policy (Housing) 2021*, and
- ii. The primary controls set out at Table 4.

**Table 4: Controls for Residential Flat Buildings**

Element	Control
Principal private open space (min)	Ground level - 20m <sup>2</sup> per apartment (min width 2.5m) Upper level - 10m <sup>2</sup> per apartment (min width 2.m)
Storeys (max)	4
Front setback (min)	3m
Secondary street setback (min)	3m
Side and rear setbacks (min)	In accordance with the Apartment Design Guide or on merit
Adaptable dwellings (min)	10%

16. To provide visual interests and reduce building bulk, facades are to be articulated (via balconies, blade walls, stepped facades and the like).
17. Balconies can intrude into the front setback by a maximum of 2m.
18. Buildings with a length greater than 15m are to incorporate multiple entries and circulation cores.
19. The design of residential flat buildings and mixed use development must meet the visual and acoustic amenity requirements set out in Part 5.1 of this section.
20. Buildings with mixed use development, that is a mix of residential and commercial and/or retail, must incorporate the following:
  - i. Retail/commercial uses at ground floor level.

- ii. Floor to ceiling heights of at least 3.5m at ground level.
- iii. Separate commercial and residential pedestrian access.
- iv. Separate provision for commercial and residential waste.

### Development on Sloping Land

#### **Objectives**

- a) To ensure that development responds to topographical constraints.
- b) To provide opportunities for views to and from hilltop areas.
- c) To minimise the bulk and scale of dwellings on steep slopes.
- d) To minimise the potential impact of on-site salinity.

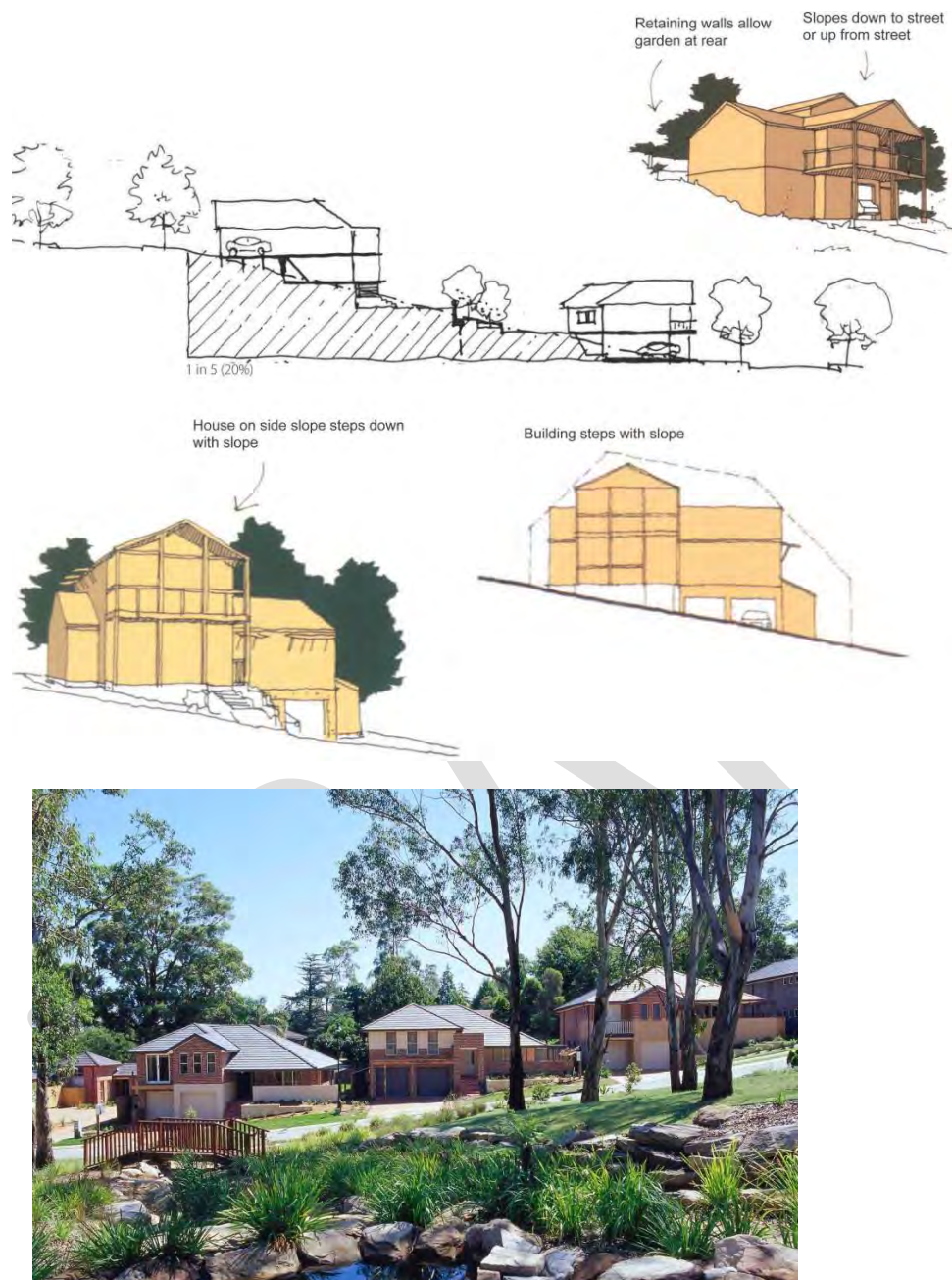
#### **Controls**

- 21. Development on sloping land should generally be accordance with Figure 30.
- 22. The subdivision layout on cross slopes should incorporate wider/larger lots on steeper land.
- 23. Preliminary building pads on lots with a front to back slope should provide a minimum floor level split of 1m or as appropriate to facilitate split level house designs.
- 24. The side boundary retaining walls for development on cross slopes should retain a cut no higher than 1m.
- 25. All retaining walls forward of the garage line must be constructed with masonry materials and finished to complement the house design.
- 26. On front to back slopes, rear boundary retaining walls should be a maximum 1.8m in height and retain a maximum cut of 1.5m in height, provided that there is a minimum 1m wide terrace between the face of the wall and the fence line.
- 27. With the exception of corner lots, where slopes exceed 10%, retaining walls may exceed 1m in height for a side boundary and 1.8m in height for a rear boundary, if comprehensive site benching is undertaken at the time of

subdivision to produce a whole of site solution.

28. Lots with a side cross slope exceeding 5%, must respond to the slope of the land with either split level, drop edge beam, or bearer and joist design (or a combination of these).
29. Where front to back slopes are steep (i.e. approximately greater than 9%) house designs must respond to the topography of the land with either split level, dropped edge beam, or timber frame floor (bearer and joist) design - or a combination of these.
30. Garden retaining walls within lots are not to exceed 0.9m in height. Any remaining slope is to be graded out.
31. On lots sloping downhill to the street, dwellings shall be designed and constructed to achieve driveway and access gradients of no greater than 20% slope. This may be achieved by cutting the garage space into the slope within the building footprint. Dwellings should be terraced down the slope with activating features such as decks or balconies facing the street.
32. On lots sloping downhill from the street, dwellings shall be designed and constructed to optimise filling to achieve driveway and access gradients of no greater than 20% slope. This may be achieved by elevating garage and entry features within the building footprint. Dwellings should be terraced down the slope with features such as decks and balconies located towards the rear of the dwelling.
33. On lots sloping downhill from the street, the privacy of adjoining dwellings down slope should be preserved by providing screening vegetation between observable platforms and adjoining private open space areas, or integrating features such as timber screens to decks, or partially opaque windows where privacy is essential and screening vegetation is impractical.

**Figure 30: Housing on sloping land**



## 4.5 Private open space

Private open space (POS) means the portion of private land which serves as an extension of the dwelling to provide space for relaxation, dining, entertainment and recreation. It may include an 'alfresco room'.

Principal private open space (PPOS) means the portion of private open space which is conveniently accessible from a living zone of the dwelling, and which receives the required amount of solar access.

### Objectives

- a) To provide a high level of residential amenity with the opportunity for outdoor recreation and relaxation within the property.
- b) To enhance the spatial quality, outlook and useability of private open space.
- c) To enhance and contribute to streetscape amenity.
- d) To optimise solar access to the living areas and private open spaces of dwellings.
- e) To ensure that dwellings are designed to minimise overshadowing of adjacent properties and to protect minimum standard sunlight access to private outdoor living space of adjacent dwellings.

### Controls

1. All dwellings are to be provided with an area of Private Open Space (POS) and Principal Private Open Space (PPOS) consistent with Table 5.
2. The location of PPOS is to have regard to dwelling design, allotment orientation, adjoining dwellings, landscape features, topography and the preferred locations of PPOS illustrated at Figure 31.
3. 50% of the area of the required PPOS (of both the proposed development and the adjoining properties) must receive at least 3 hours of sunlight between 9am and 3pm at the winter solstice (21 June).
4. The PPOS must interface directly with the main living area of a dwelling or alfresco room. Where the PPOS is a semi-private patio, balcony or roof top area, it must be provided with a fence or landscaped screen at least 1m in

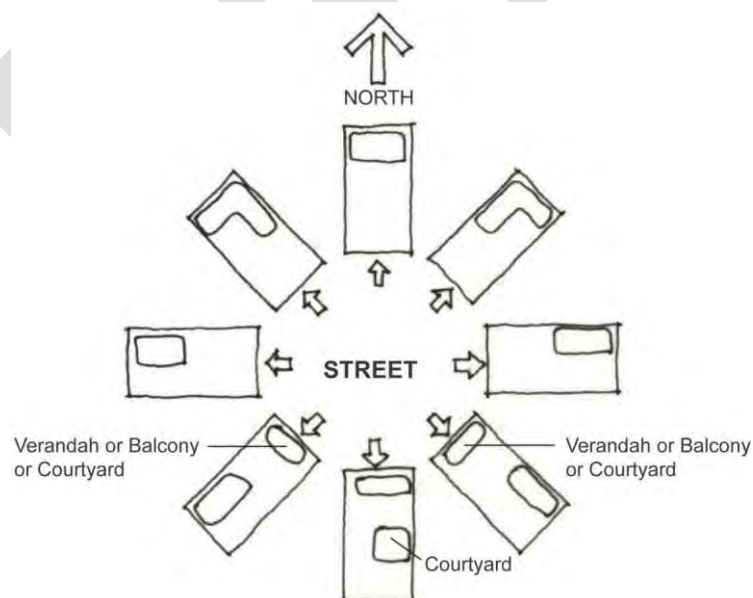
height, and be directly accessible from a living area.

- For a secondary dwelling that incorporates one dwelling substantially above the other, the ground level dwelling is to comply with the controls in Table 5. The upper level dwelling is to have a balcony accessed directly off the living space with a minimum area of 8m<sup>2</sup> plus a minimum 5m<sup>2</sup> at the ground level with space for clothes drying.

**Table 5: Private open space**

Lot width	Private Open Space	Principal Private Open Space
7.5 -10 m	Min. 20% of lot area Min. dimension: 2 m	Min. 16m <sup>2</sup> in area Min. dimension: 3m
>10-15m	Min. 20% of lot area Min. dimension: 2 m	24m <sup>2</sup> in area Min. dimension: 4m
>15-17.5m	Min. 20% of lot area Min. dimension: 2.5m	30m <sup>2</sup> in area Min. dimension: 4m
> 17.5m	Min. 20% of lot area Min dimension: 3m	40m <sup>2</sup> in area Min dimension: 4m

**Figure 31: Principal private open space principles**



## 4.6 Site cover and landscaped areas

### Objectives

- a) To provide solar access to both residents and neighbours.
- b) To provide permeability and limit stormwater runoff.
- c) To enhance the landscape character of the area.

### Controls

1. Dwellings on lots  $450\text{m}^2$  and greater are to comply with the following maximum site cover:
  - i. 50% of total lot area; with
  - ii. 60% for single storey dwellings.
2. Site coverage on lots smaller than  $450\text{m}^2$  will be treated on merit but is to be no greater than 70% and is to demonstrate compliance with the private open space and solar access requirements of this DCP.
3. Site coverage for residential flat buildings will be treated on merit but is generally to be no greater than 70%.
4. Landscaped area is any part of a site, at ground level, that is permeable and consists of features such as soft landscaping, turf and planted areas. The following minimum landscaped area must be provided:
  - i. Lots less than  $450\text{m}^2$  – 35% of the lot area
  - ii. Lots  $450\text{m}^2$  and greater – 35% of the lot area.
5. A Landscape Plan is to be submitted with all DAs for residential development. The DA plans must indicate the extent of hard and soft landscaped areas, tree sizes and locations and other requirements for landscaped plans contained in the other relevant sections of this DCP.
6. The front setback area of a dwelling is to be landscaped with the treatment to clearly delineate between the private and public domain. The front setback is to incorporate two trees. The rear garden must include at least one tree that will achieve a height of 6m at maturity. These may

include existing trees that are to be retained.

7. To prevent accumulation of water and concentration of salts, subsoil drains are to be installed around the perimeter of residences and connected to the stormwater system.
8. Low water demand drought resistant vegetation is to be used in common landscaped areas, including native salt tolerant trees.
9. Garbage bin storage and clothes drying areas are to be concealed from view and shown on site plans.

## **4.7 Fencing**

### **Objectives**

- a) To provide privacy to both residents and neighbours.
- b) To ensure boundary fencing is of a high quality and does not detract from the streetscape.
- c) To ensure that fencing is consistent with the street and the design and style of the dwelling.
- d) To permit casual surveillance of open space.
- e) To reinforce, through landscape treatments, the rural character of development along Caddens Road.

### **Controls**

1. Except for dwellings contiguous (sharing a common border) with Caddens Road, front and side fencing must be constructed with masonry piers that complement the streetscape and dwelling finish. Infill panels are to consist of open slats, palisades or pickets.
2. The fencing on the secondary street of a lot with a frontage 17.5m or greater must be set back 0.9m from the secondary street boundary and must incorporate landscaped vegetation between the fence and the boundary.
3. Metal sheet style fencing is not permitted anywhere.
4. Where a dwelling is located adjacent to open space, boundary fencing is

to be of a high quality material and finish and the design is to permit casual surveillance of the open space. Fencing adjoining rear access ways is to permit casual surveillance.

5. Dwellings contiguous (sharing a common border) with Caddens Road, as shown in , are to be fenced with a rural style solid timber post and rail fence generally in accordance with Figure 32.

**Figure 32: Landscaping along Caddens Road**



## 4.8 Garages and access

### Objectives

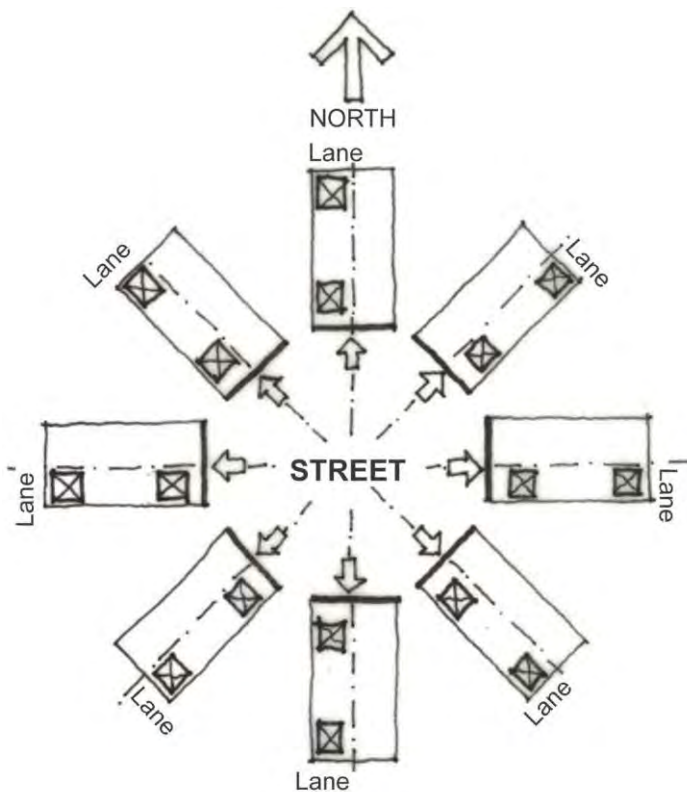
- a) To provide sufficient, safe and secure parking for residents and visitors.
- b) To reduce the visual impact of garages, carports and parking areas on the streetscape and improve dwelling presentation.
- c) To ensure that garages do not dominate the frontage of the house.
- d) To encourage the use of secondary dwelling over garages to facilitate

surveillance, and opportunities to work from home and for residential accommodation.

## Controls

1. Garages are to be sited as per the preferred siting diagram at Figure 33.
2. Where a carport or garage entry forms part of the front façade of a dwelling, it is to be set back a minimum of 5.5m from the front boundary and at least 1m behind the building façade.
3. Front loaded double garages are only permissible on lots with a frontage width equal to or greater than 12.5m.
4. The maximum dimension for garage doors is to be less than 50% of the front façade, 6m in width and 2.4m in height. Triple fronted garages are not permitted.
5. Carports and garages are to be treated as an important element of the dwelling facade and are to be integrated with, and complementary to, the dwelling design in terms of design and materials. Garage doors are to be visually recessed through use of materials, colours, and overhangs.
6. The maximum number of dwellings to be serviced from a shared driveway is 10.
7. Garages are to comply with AS 2890.1 Off Street parking, including:
  - i. Minimum internal width between main walls of 3m for a single garage
  - ii. Minimum internal width between main walls of 5.5m for a double garage.
8. Driveway access to garages on steep land must comply with AS 2890.1. Stencil-crete on driveways is not permitted.
9. Driveways are to be no wider than 4.5m at the front boundary and should be a minimum of 1.5m from street trees.
10. Where possible, the garage for a corner lot should be accessed from the secondary street, unless the secondary street is Caddens Road.
11. At grade car parking for residential and commercial buildings must be appropriately screened from view.

**Figure 33: Garage location principles**



## 5. Environmental and residential amenity

### 3.1 Visual privacy and acoustic amenity

#### Objectives

- a) To minimise the impacts of development on the visual privacy and acoustic amenity of adjoining properties, the streetscape and public domain.
- b) To protect the acoustic amenity of dwellings on collector roads.

#### 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:

- i. be obscured by fencing, screens or appropriate landscaping; or
  - ii. 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
  - iii. have sill height of 1.7m above floor level; or
  - iv. have fixed opaque glazing in any part of the window below 1.7m above floor level.
3. The design of dwellings must minimise the opportunity for sound transmission through the building structure, with particular attention given to protecting bedrooms and living areas.
  4. 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.
  5. The internal layout of residential buildings, window openings, the location and design of outdoor living areas and elements (i.e. courtyards, balconies and retaining walls), and building plant equipment should be designed to minimise noise impact and transmission and enhance visual amenity.
  6. Residential subdivision and development must be designed to comply with the NSW Road Noise Policy criteria and must be consistent with the following controls:
    - i. To mitigate the effects of noise on existing residential development to the west of the Caddens Road By-pass, appropriately designed acoustic treatments such as low height walls or other methods/treatments which will achieve NSW Road Noise Policy criteria are to be provided where required along Collector Road 1.  
  
**Note:** Mounding along the linear park is not considered appropriate due to resulting safety and practicality issues.
    - ii. To mitigate the impacts of traffic noise from the Caddens Road By-pass 1 on new development a combination of the following measures is to be used:

- Dwelling setbacks.
  - Internal dwelling layouts designed to minimise noise in living and sleeping areas.
  - Fencing constructed with a suitably solid mass, and
  - Locating courtyards and principal private open space areas away from the noise source in order to comply with the NSW Road Noise Policy.
7. For new residential development along the Caddens Road By-pass, where external traffic noise levels cannot be met at the nearest facade of the dwelling to the noise source, dwellings must be designed to meet the following internal noise levels:

- i. In a naturally ventilated – windows open condition (i.e, windows open up to 5% of the floor area, or attenuated natural ventilation open to 5% of the floor area), or mechanically ventilated windows closed condition:

Sleeping areas	L <sub>Aeq</sub> 1 hour, Day	40dB
	L <sub>Aeq</sub> 1 hour, Night	35dB
Living areas	L <sub>Aeq</sub> 1 hour, Day	45dB
	L <sub>Aeq</sub> 1 hour, Night	40dB

- ii. Where a naturally ventilated – windows open condition cannot be achieved, it will be necessary to incorporate mechanical ventilation compliant with AS1668 and the Building Code of Australia. The noise levels above shall be met with mechanical ventilation or air-conditioning systems not operating. The following L<sub>Aeq</sub> noise levels shall not be exceeded when doors and windows are shut and mechanical ventilation or air conditioning is operating:

Sleeping areas	L <sub>Aeq</sub> 1 hour, Day	43dB
	L <sub>Aeq</sub> 1 hour, Night	38dB
Living areas	L <sub>Aeq</sub> 1 hour, Day	46dB
	L <sub>Aeq</sub> 1 hour, Night	43dB

**Note:** These levels correspond to the combined measured level of external sources and the ventilation system operating normally

**Note:** L<sub>Aeq</sub> 1 hour noise levels shall be determined by taking as the

second highest LAeq 1 hour over the day and night period for each day and arithmetically averaging the results over a week for each period (5 or 7 day week, whichever is highest)

## **3.2 Safety and surveillance**

### **Objectives**

- a) To promote public safety and security through passive surveillance of public spaces.
- b) To ensure that, through casual surveillance, the siting and design of buildings and spaces reduces the opportunity for crime.
- c) To ensure that development encourages people to use streets, parks, cycleways, footpaths, the hilltop avenue and other public places without fear of personal risk.

### **Controls**

1. Dwellings should be designed to overlook streets, lanes and other public or communal areas to provide casual surveillance.
2. For passive surveillance, at least one living area of a dwelling should overlook the street or public open space. In the case of corner lots habitable windows are also be oriented to overlook the secondary street or any cycleway or pedestrian path.
3. Opportunities for casual surveillance from dwellings/studios are to be incorporated into the design of shared driveways and, where rear access is proposed, from laneways.
4. Developments, including open space, are to avoid creating areas for concealment and blank walls facing the street.
5. Pedestrian and communal areas are to have sufficient lighting to ensure a high level of safety and must be designed to minimise opportunities for concealment.
6. DAs for subdivision, public open space and community facilities are to incorporate the principles of Crime Prevention Through Environmental Design (CPTED).

### 3.3 Sustainable building design

#### Objectives

- a) To increase the sense of space within homes and provide well proportioned rooms.
- b) To promote the penetration of daylight deep into rooms.
- c) To ensure that developments are environmentally sustainable in terms of energy and water use.
- d) To maximise opportunities for natural ventilation in residential development.

#### Controls

1. Minimum dwelling floor to ceiling heights shall be as follows:
  - i. Ground floor habitable rooms of two storey single dwellings: 2.65m.
  - ii. Upper floors and all non-habitable rooms: 2.4m.
  - iii. Single storey dwellings: 2.65m.
  - iv. Attics: 1.5m wall height at edge of room with a 30 degree minimum ceiling slope.
  - v. All floors of multi-unit dwellings: 2.4m.
2. The building envelope, depth, location of doors and windows, and internal layout of all residential development is to facilitate cross -ventilation.
3. The main living area of all dwellings is to open directly onto the private open space via either glazed sliding bi-fold or French doors, or similar, to allow for adequate solar access.
4. North and west facing windows are to be provided with appropriate external shading.
5. All dwellings are to incorporate an outdoor clothes line/drying area in a sunny location not visible from a street or public place.

## **4. The Precinct Centre**

### **Objectives**

- a) To ensure that urban design and landscaping encourages pedestrian amenity and community activity.
- b) To provide an attractive, accessible and lively community focal and gathering point for Caddens and the wider Werrington Enterprise, Living and Learning Precinct and its residents, employees and students.
- c) To provide active uses at street level which facilitate safety and passive surveillance.
- d) To provide a mix of retail, residential and commercial land uses.
- e) To create a retail centre based on traditional 'main street' shopping.
- f) To encourage housing forms which provide opportunities for home-based employment and businesses.
- g) To provide a rectilinear road pattern that connects the Precinct Centre to the UWS campus and surrounding residential conservation and employment areas.
- h) To provide opportunities for the location of UWS and TAFE-related facilities such as student services, libraries, meeting rooms, etc.

### **Controls**

1. The Indicative Concept Plan shown at Figure 34 provides an example of how the Precinct Centre might be developed to satisfy controls in this section.
2. Detailed design and planning of the Precinct Centre shall be subject to the formulation of a concept plan as part of a staged development.
3. The road layout should generally be rectilinear in pattern with clear and legible street and pedestrian connections to UWS, TAFE and surrounding residential, employment and open space areas.
4. Development applications for the Precinct Centre are to demonstrate how potential conflicts between uses and activities are to be managed

and minimised.

5. Streets are to be activated and, where possible and appropriate, developments are to incorporate active uses at street level.
6. Public art is to be incorporated at key focal points to promote community identity.
7. Buildings are generally to be built to the street edge and provide a continuous street frontage and continuous non-glazed awning along the street edge.
8. The total maximum gross floor area for retail and commercial development in the Precinct Centre is 12,500m<sup>2</sup>.
9. The above floor area may only be exceeded if the building and uses relate to activities directly associated with UWS and/or TAFE.
10. No one shop (retail premises) is to be greater than 4,000m<sup>2</sup>.
11. The maximum height of any development in the Precinct Centre is 4 storeys.
12. Where appropriate the design of medium density housing is to incorporate opportunities for home based employment.
13. Any supermarket should be located on the southern/wider section of the Precinct Centre and supporting commercial services should be located in the northern section.

**The Precinct Centre is intended to be an attractive community focal point incorporating mixed use (i.e. shops, commercial and housing).**



**Figure 34: Precinct Centre Concept Plan**



# D2 Claremont Meadows Stage 2

## Contents

D2 Claremont Meadows Stage 2.....	3
1. Introduction.....	3
1.1 Area covered by this section .....	3
1.2 Aims of this section.....	7
<b>2. Residential development.....</b>	<b>8</b>
2.1 Multi Dwelling Housing.....	8
2.2 Traditional residential.....	9
2.3 Large Lot Residential adjacent to the M4 Motorway.....	10
2.4 Gateway Site on the Great Western Highway .....	11
2.5 Home-based business activities.....	12
<b>3. Areas of ecological sensitivity .....</b>	<b>13</b>
3.1 Remnant bushland.....	13
3.2 Watercourse and riparian corridors.....	14
3.3 Water cycle.....	15
3.4 Salinity.....	18
3.5 Contaminated land.....	20
3.6 Bushfire hazard .....	22
3.7 Air quality .....	23
<b>4. Community services and recreation .....</b>	<b>24</b>
4.1 Neighbourhood parks.....	24

<b>5. Recognition of surrounding land uses</b> .....	25
5.1 Major roads (Werrington Arterial, Great Western Highway and the M4 Motorway).....	25
5.2 Integration with Claremont Meadows Stage 1.....	35
5.3 South Creek Corridor.....	35
5.4 Former Gipps Street Landfill Site .....	36
<b>6. Public domain</b> .....	37
6.1 Management of the public domain.....	37
6.2 Landscape design .....	38
<b>7. Infrastructure</b> .....	39
7.1 Streets and access .....	39
7.2 Sewer and water.....	42
7.3 Energy supplies.....	42
7.4 Telecommunications .....	43

DRAFT

# D2 Claremont Meadows Stage 2

## 1. Introduction

### 1.1 Area covered by this Chapter

The Claremont Meadows Stage 2 (Figure 1) area covers land bounded by:

- The M4 Motorway to the south.
- The South Creek Corridor to the east.
- The Caddens Release Area and Orchard Hills to the west; and
- The existing Claremont Meadows Estate (Figure 1) and the Great Western Highway to the north.

Claremont Meadows Stage 2 is separated into two distinct precincts and a Gateway Site:

a) Eastern Precinct (Figure 2), which covers land bounded by:

- The M4 Motorway to the south.
- The South Creek Corridor to the east.
- Gipps Street to the west; and
- The former Council tip site to the north.

b) South Western Precinct (Figure 3), which covers land bounded by:

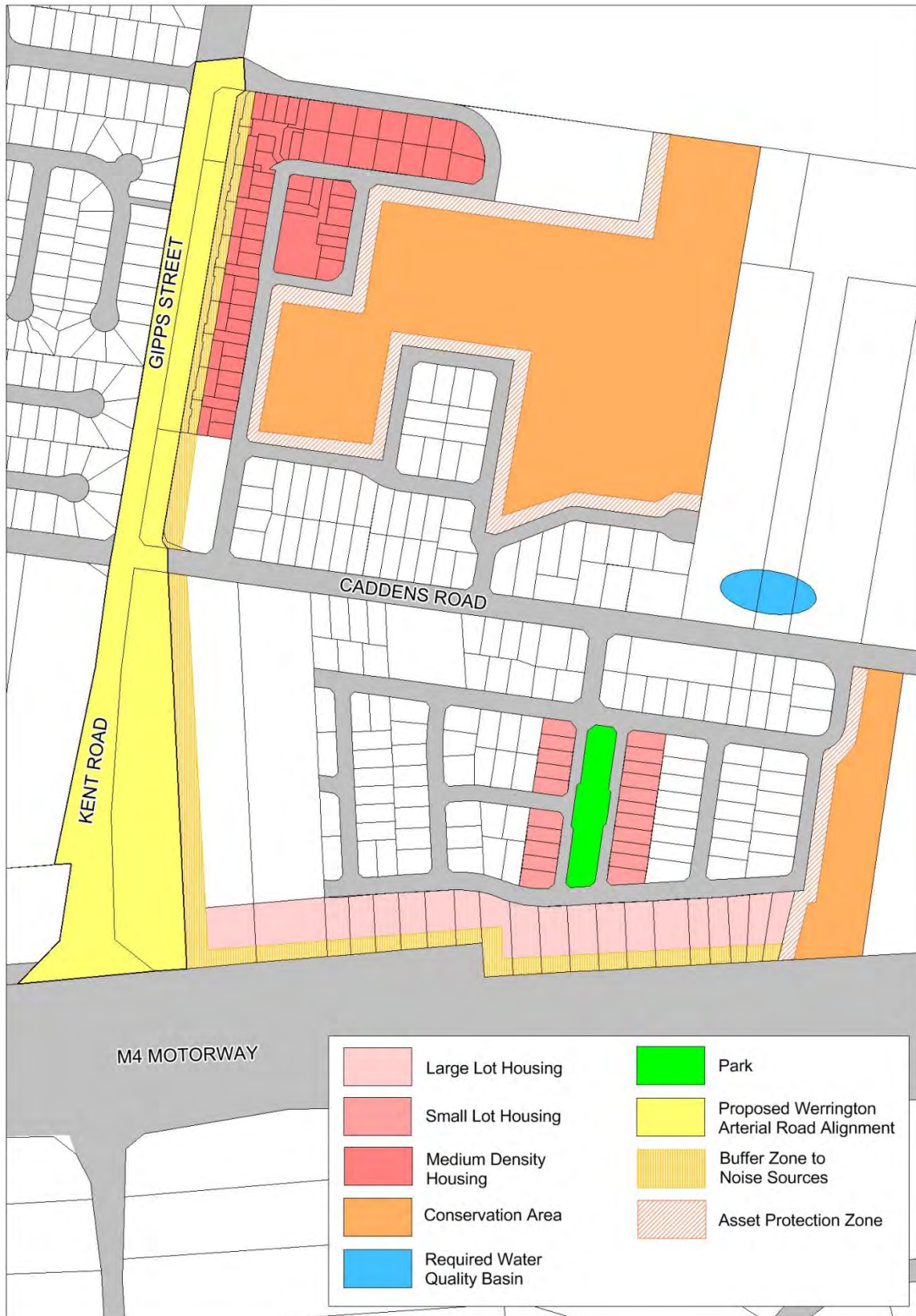
- The M4 Motorway to the south.
- Gipps Street to the east.
- Existing rural residential development to the west; and
- Caddens Road (and the existing Claremont Meadows estate) to the north.

- c) The Gateway Site (Figure 1) is located on the corner of Gipps Street and the Great Western Highway.

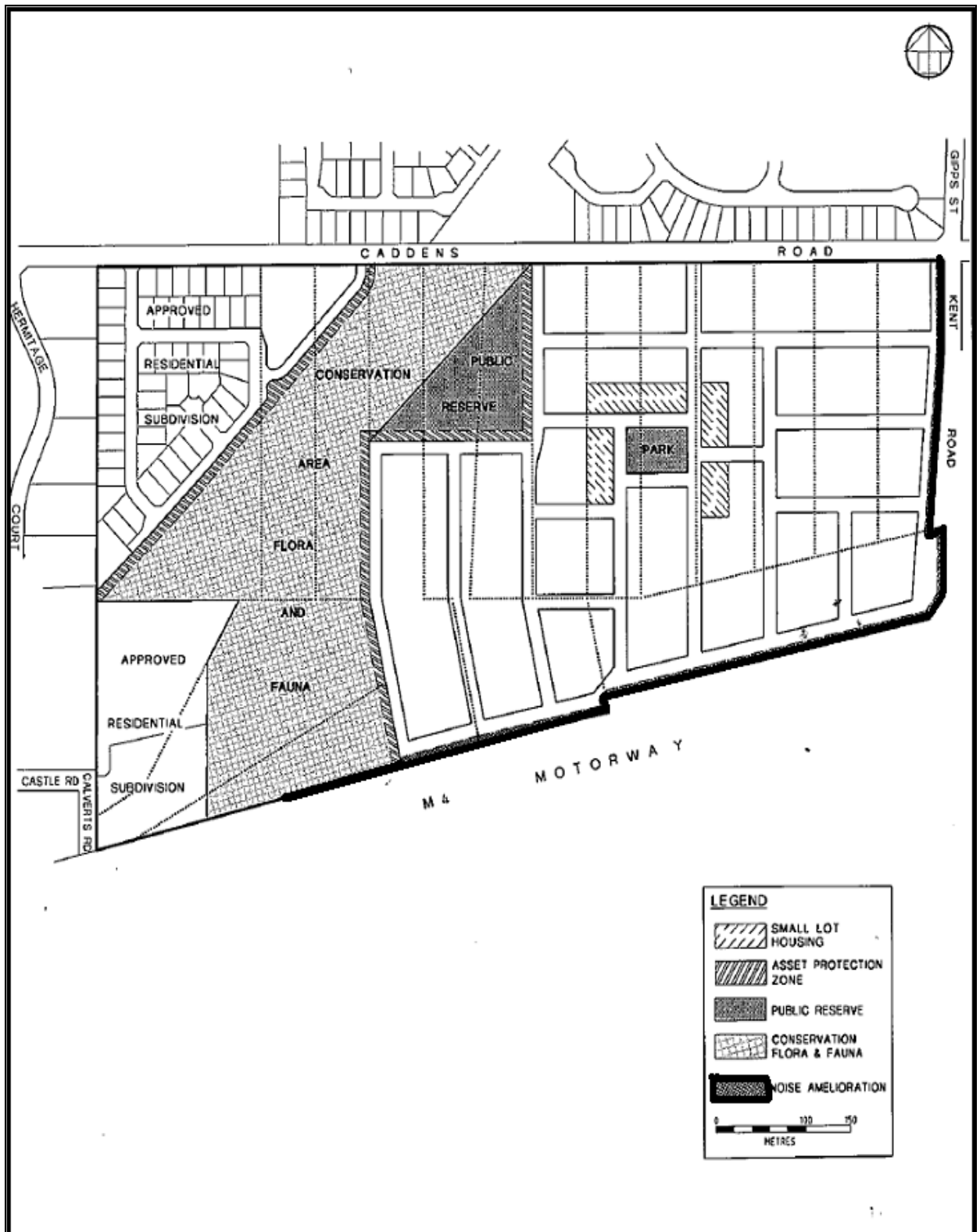
**Figure 1: Land to which this section applies**



**Figure 2: Eastern Precinct**



**Figure 3: South Western Precinct**



## 1.2 Aims of this Chapter

- a) To provide specific guidelines for the preparation and assessment of applications for development in Claremont Meadows Stage 2.
- b) To provide opportunity for a range of housing sizes and types to provide housing choice for future residents.
- c) 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.
- d) To retain, protect and rehabilitate areas of high conservation value.
- e) To promote development that achieves best practice in ecologically sustainable development and enhances the natural values of the site.
- f) To require the consideration of social and economic aspects of sustainable development.
- g) To provide a public domain with landscaping which contribute to biodiversity by using local native species wherever possible and which has high aesthetic quality and is appropriate for its use and location.
- h) To mitigate the potential impact of the M4 Motorway, Gipps Street and the Great Western Highway on the proposed development.
- i) To mitigate the visual impact of the development on the M4 Motorway.
- j) To ensure that the Gateway site on the corner of the Great Western Highway and the current alignment of Gipps Street is developed appropriately as an entrance to Claremont Meadows.
- k) To ensure that surrounding land uses are given due attention in the planning and design of Stage 2, including the:
  - i. South Creek corridor
  - ii. Former tip site
  - iii. Adjacent rural residential development
  - iv. Claremont Creek and the riparian corridor, and
  - v. Conservation areas.

## 2. Residential Development

### 2.1 Multi Dwelling Housing

This section applies to the eastern precinct only on land zoned R3 Medium Density Residential under the LEP. This is to:

- a) Take advantage of the proximity to Sunflower Drive, which provides access to the existing estate and associated facilities.
- b) Recognise that the form of the developable area has been designed to conserve remnant Cumberland Plain Woodland in the east of the precinct.
- c) Recognise that the impact of the proposed Werrington Arterial and the limited dimensions of the developable area requires additional attention to design to obtain a high residential amenity.

#### Objectives

- a) To ensure that the areas set aside for multi dwelling housing achieve a substantially higher density than 'traditional' residential areas.
- b) To ensure that multi dwelling housing is well designed, energy efficient and takes account of surrounding land uses; and
- c) To protect the amenity and quality of life of future residents.

#### Controls

##### Eastern Precinct

1. Development applications must demonstrate that:
  - i. Multi dwelling housing incorporates the principles of water sensitive urban design, including measures to conserve rainwater and measures to minimise the need for potable water.
  - ii. Development has been designed to maximize the number of dwellings with north facing living areas and private open space areas.

- iii. Communal outdoor recreation areas are north facing; and
- iv. Development in the north of the precinct recognises the former tip site as a future recreational resource (both passive and active).

## **2.2 Traditional residential**

This section applies to land zoned R2 Low Density Residential under the LEP which is not within 50m of the road reserve for the M4 Motorway.

### **Objectives**

- a) To ensure that a variety of lot sizes are provided.
- b) To ensure that traditional lots provide opportunity for well designed, energy efficient housing.
- c) To ensure that dual occupancy development is designed cognisant of the amenity of adjacent blocks.

### **Controls**

#### General

1. These provisions will encourage a variety of lot sizes, while still protecting residential amenity.
2. Smaller lots around an area of public open space must:
  - i. Clearly indicate both the proposed public reserve and the area to be developed with smaller lot sizes; and
  - ii. Locate and size the public reserve so that it provides utility and amenity to the entire precinct. Public reserves shall have a minimum site area of 2,500m<sup>2</sup>.
3. Development applications submitted for smaller lot housing around an area of public open space must be integrated (subdivision and building development considered and lodged concurrently).
4. Residential development adjacent to Gipps Street/Kent Road shall provide articulation to building facades and varying setbacks.

5. All other residential development applications will be assessed against the standards specified in the Residential Chapter of Penrith DCP.

### Eastern Precinct

6. Residential development in this precinct must be set out in accordance with the indicative layout illustrated in Figure 2.
  - i. Medium density housing (e.g. multi dwelling housing) in the land zoned R3 Medium Density Residential on Gipps St, near the intersection with Sunflower Drive.
  - ii.  $550\text{m}^2 - 800\text{m}^2$  – provided in the bulk of the precinct.
  - iii. Small lot housing ( $250\text{m}^2 - 400\text{m}^2$ ) – provided immediately around the proposed neighbourhood park; and
  - iv. Large lot housing (over  $1,000\text{m}^2$ ) – provided adjacent to the M4 Motorway.
7. The controls specified in the Residential Chapter of this DCP apply.

### South Western Precinct

8. Residential development in this precinct must be set out in accordance with the indicative layout illustrated in Figure 3.
9. In general:
  - i. Small lot housing around the central park with lot sizes ranging from  $250\text{m}^2 - 400\text{m}^2$  (to be submitted as integrated housing for development application purposes).
  - ii. Conventional lots with a minimum area of  $550\text{m}^2$  and minimum width of 15m; and
  - iii. Large lot residential to the south west off Castle Road; and
  - iv. The controls specified in the Residential Chapter of Penrith DCP apply for all other requirements.

## **2.3 Large Lot Residential adjacent to the M4 Motorway**

This section applies to land zoned R2 Low Density Residential under the LEP and which is **within 50m** of the M4 Motorway road reserve.

## Objectives

- a) To ensure that there remains a visual buffer between residential development associated with Claremont Meadows Stage 2 and the M4 Motorway; and
- b) To provide opportunity for a vegetated link between bushland on Claremont Creek and bushland in the South Creek corridor. Such a link will have both biodiversity and habitat value.

## Controls

1. Development Applications will be assessed against the standards specified in the Residential Chapter of Penrith DCP.
2. That vegetated buffer of 20m depth shall:
  - i. Be maintained along the boundary of lots parallel to the M4 Motorway and be vegetated with regard to the requirements for an Asset Protection Zone.
  - ii. Be planted with species appropriate to the area given the presence of Cumberland Plain Woodland; and
  - iii. Remain free of all structures including garages, carports, swimming pools, tennis courts, gazebos and the like.
3. Lot layouts within the 20m buffer area shall allow for a sufficient building envelope clear. It is expected that to achieve this lots will generally require a minimum depth of 50m; and
4. Building setbacks from the street in this area may be reduced to recognise the impact that the buffer may have on private open space to the rear of the dwelling, which can accommodate recreational structures.

## 2.4 Gateway Site on the Great Western Highway

This section applies to the site on the south eastern corner of the Great Western Highway and Gipps Street; and as indicated in Figure 1.

## **Objective**

- a) To ensure that this high profile site that will act as a gateway to Claremont Meadows is appropriately developed.

## **Controls**

1. Development on this site shall recognise its visual prominence to the Great Western Highway and role as an entry point to Claremont Meadows.
2. Residential development shall be in accordance with the Residential Chapter of Penrith DCP.

## **2.5 Home-based business activities**

### **Objective**

- a) To maximise opportunities for residents to establish and operate small-scale business activities from home.

### **Controls**

1. Development Applications for dwellings with home based businesses shall give consideration to the site planning, housing designs and other physical measures which support home-based business activities, consideration may include:
  - i. dedicated rooms for business activities
  - ii. separate entrances for the residences and for business rooms
  - iii. flexible parking and vehicle access for visitors and/or residents – subject to the scale of activity
  - iv. buildings designed according to traditional residential scale and appearance when viewed from the street
  - v. ‘smart wiring’ of homes to enable consumers to access multi telecommunications facilities (broadband capacity internet, e-commerce, cable TV, lighting, audio, security), and
  - vi. building orientation.

### 3. Areas of ecological sensitivity

Claremont Meadows Stage 2 has two major areas of ecological sensitivity:

- The remnant Cumberland Plain Woodland (endangered ecological community) in the eastern precinct, immediately adjacent to the South Creek corridor, and
- The bushland surrounding Claremont Creek in the south western precinct. Claremont Creek and the riparian corridor in the south western precinct is also considered to be an area of ecological sensitivity.

It is important that development in the vicinity of these areas recognises and minimises the potential for impact on their biodiversity values and ecological integrity. Respect for the ecological sensitivity of these areas is a key part of an overall sustainable development outcome for Claremont Meadows Stage 2.

#### 3.1 Remnant bushland

##### 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.
- c) To ensure appropriate buffer zone edge treatment between development and any adjacent Cumberland Plain Woodland and associated large land snails; and
- d) To ensure that the local community is provided with information about the value of the bushland, to help foster a spirit of caring for it.

##### Controls

1. The proposal shall demonstrate compliance with the Vegetation Management Plan for the specific precinct area.
2. A Biodiversity Management Plan, which includes an interpretation strategy shall be prepared for the proposed development. Examples of

items which could be included in a Biodiversity Management Plan and Interpretation Strategy include (and not limited to):

- i. signage
  - ii. fencing
  - iii. walking tracks
  - iv. street layout, and
  - v. street names.
3. Development Applications shall demonstrate that the Biodiversity Management Plan and its principles have been addressed.

### **3.2 Watercourse and Riparian Corridors**

Claremont Meadows Stage 2 is part of the Claremont Creek and South Creek Catchments, so it is important to ensure that these catchments and also the riparian corridor of Claremont Creek traversing the south western precinct are protected, enhanced and managed adequately.

#### **Objectives**

- a) To protect and rehabilitate Claremont Creek as a natural system.
- b) To protect and rehabilitate a minimum 20m wide riparian corridor along either side of Claremont Creek.
- c) To provide a vegetated link between bushland on Claremont Creek and bushland in the South Creek corridor.
- d) To ensure that the local community is provided with information about the value of Claremont Creek, South Creek and riparian corridors to help foster a need to care for these environmentally sensitive areas.

#### **Controls**

1. Development Applications shall:

- i. Ensure that remnant native vegetation within the riparian corridor is protected and rehabilitated with local provenance species at a density that would occur naturally.
- ii. Ensure there is to be no development within the riparian corridor unless works include:
  - The rehabilitation of aquatic and riparian vegetation and habitat.
  - Demolition and removal of existing structures or works.
  - Crossings for roads, pedestrian pathways, easement services, sewer, utility installation.
  - Stormwater outlets.Such development should be designed and constructed so that ecological connectivity values are not compromised. All other development is to be excluded from within the riparian corridor.
- iii. Treat all stormwater discharge outside of the riparian corridor before it enters the watercourse.

### **3.3 Water cycle**

The eastern precinct of Claremont Meadows Stage 2 drains directly to South Creek, while the south western precinct drains to Claremont Creek. The water quality in both of these watercourses is significantly impacted by urban runoff, making it vital that development in Stage 2 employ best practice in water sensitive urban design. 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.

#### **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 and visual benefits gained from Claremont Creek.

## **Controls**

1. Development Applications shall:
  - i. Demonstrate that future development will not generate undesirable environmental impacts on receiving waters, in terms of quantity and quality. Modelling shall be done on a catchment basis, rather than lot by lot.
  - ii. Identify and incorporate best management practices to control runoff quantity and quality.
  - iii. Include a stormwater management plan which conforms with the EPA guidelines – ‘Managing Urban Stormwater’, applicable development guidelines from Penrith City Council and the Storm Water Management Plans for South Creek.
  - iv. Adopt an integrated approach to the management of wastewater, consistent with:
    - water-sensitive urban design practices, including options for the reuse of stormwater
    - capacity of site soils to absorb run-off
    - existing levels of soil salinity and minimises extent and frequency of perched watertable, and
    - local climate and likely rates of evaporation from open ponds.
  - v. Demonstrate drainage solutions that shall embody appropriate catchment management principles.
  - vi. Include a surface drainage design which:
    - includes any runoff detention and water quality control ponds, swales and channels

- minimises land-take
  - minimises potential breeding areas for mosquitoes
  - limits disturbance to the ground whenever possible
  - utilises landscaped, open space and passive recreational features which contributes to the local amenity
  - ensures engineered structures are integrated with the configuration and character of the wider development and its public domain, and
  - in the case of Claremont Creek, takes the form of a planted banks with water on the surface and incorporates ecological habitats in a minimum 20m wide riparian corridor (measured from top of bank) either side of the creek.
- vii. Take account of the influence of the former tip site, including the possibility of subsurface water movement.
- viii. Shall evaluate opportunities for the integration of water supply and re-use of stormwater, grey water and treated effluent:
- In consultation with authorities such as Sydney Water, NSW Office of Environment and Heritage, NSW Ministry of Health and Penrith City Council.
  - Through investigation of opportunities for the reuse on-site of grey water and treated effluent and recycled stormwater, noting:
    - Rainfall patterns and the assimilative capacity of the site's soils.
    - Landscaped areas available for irrigation with treated effluent; and
    - Impacts of irrigation volumes and salt loads on existing salinity.
2. 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.

### **3.4 Salinity**

Urban development in salinity prone environments must consider the potential for salt damage. Salt is soluble in water and if water gains access to buildings and infrastructure salt can be carried with it.

The entire Penrith LGA landform is subject to areas of either:

- Known salinity.
- High salinity potential.
- Moderate potential, and / or
- Associated with drainage lines identified as having high salinity potential.

#### **Objectives**

- a) To ensure that saline soils, groundwater levels and salinity processes are identified, prior to finalisation of development form; and
- b) To ensure that appropriate measures are taken to protect buildings, infrastructure and the natural environment from deterioration associated with salt attack.

#### **Controls**

1. Development Applications for subdivision shall include a preliminary site investigation, which identifies areas of potential salinity.
2. A Salinity Site Investigation must include:
  - i. Initial site walkover, observations and field tests as well as a desktop review.
  - ii. Site specific soil and groundwater investigations.
  - iii. Clear presentation and Interpretation of all results in terms of the impact of the site salinity processes on the proposed development and, the impact of the development on salinity processes on the site and in the catchment; and

- iv. Management options to be undertaken by the developer to minimise these onsite and offsite, present and future impacts.
3. A remedial action plan must be submitted with any Development Application on land where there is an identified salinity hazard. The plan must contain the following information:
  - i. Remedial objectives.
  - ii. Details of the process and standards by which the land will be remediate.
  - iii. Specific measures that will be undertaken to reduce the risk of salinity to property and structures, vegetation and the environment, and
  - iv. A statement that the implementation of these specific measures will ensure minimal salinity risk to man-made and natural environment in the short and long term on and off the site.
4. In identified salinity hazard areas the following measures must be used for house slabs and other concrete work:
  - i. A layer of sand at least 50mm deep under the slab must be provided.
  - ii. A damp proof membrane (rather than vapour proof membrane) must be laid under the slab.
  - iii. Normal Class 32 Mpa (N32) concrete or sulphate resisting Type SR cement with a water cement ratio of 0.5 must be used.
  - iv. The minimum cover to reinforcement must be 30mm from a membrane in contact with the ground.
  - v. The minimum cover to reinforcement must be 20mm from an internal surface.
  - vi. The minimum cover to reinforcement must be 50mm for strip footings and beams irrespective of whether a damp proof membrane is used; and
  - vii. Admixtures for waterproofing and/or corrosion prevention may be used.

5. In identified salinity hazard areas the following measures must be used for brickwork:
  - i. The damp proof course must be correctly placed to prevent moisture movement.
  - ii. The use of 'exposure clast bricks'.
  - iii. Manufacturer's recommendations regarding suitability for use in saline environments for all bricks and concrete blocks should be followed; and
  - iv. Appropriate mortar must be used and waterproofing may be added below the damp proof course.
6. 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.

### **3.5 Contaminated Land**

Although the majority of Claremont Meadows Stage 2 has been used for rural purposes, there is still the possibility that some areas may be contaminated.

#### **Objectives**

- a) To ensure that contaminated land is identified, prior to finalisation of development form; and
- b) To ensure that a remedial action plan is prepared for any identified areas of contamination.

#### **Controls**

1. Development Applications for subdivision shall include an assessment of possible contamination prepared by a suitably qualified person, which covers the following:
  - i. likelihood of contamination over the subject area, based on previous land uses, and

- ii. assessment of the nature and extent of contamination in areas identified as likely to be contaminated.
2. For those areas not yet tested, Development Applications shall include a contamination assessment and remedial action plan. This plan shall conform to the provisions within *State Environmental Planning Policy (Resilience and Hazards) 2021*.
3. All identified works in the remedial action plan shall be completed and certified prior to linen plan release.
4. Sydney Water has advised that infrastructure cannot be permitted in contaminated ground or in ground that may become contaminated by groundwater or contaminant vapour migration because of possible:
  - i. Breaches of Work, Health and Safety (WHS) obligations to employees during maintenance excavation.
  - ii. Breaches of WHS obligations to employees during maintenance of sewers containing contaminated flows.
  - iii. Contaminant degradation of sewage treatment processes, particularly biological processes.
  - iv. Contamination of the drinking water supply from contaminants diffusing through plastic water mains.
  - v. Contamination of the drinking water supply from contaminants being sucked through rubber ring pipe joints during passage of low pressure transients.
  - vi. Contaminant corrosion or weakening of concrete infrastructure.
  - vii. Contaminant corrosion of rubber rings in pipe joints effecting joint tightness.
  - viii. Hence, Sydney Water requests that arrangements to investigate, remediate and audit infrastructure trench soils both within and beyond development boundaries and to prevent recontamination be put in place before and during infrastructure installation.

### 3.6 Bushfire Hazard

The remnant bushland in both the eastern and south western precinct presents a bushfire hazard, as does the M4 Motorway road reserve. Applicants should refer to relevant documents when preparing Development Applications. These include the NSW Rural Fire Service requirements in *'Planning for Bushfire Protection'*, which is available on the NSW Rural Fire Service website ([www.rfs.nsw.gov.au](http://www.rfs.nsw.gov.au)) and Australian Standard 3959.

#### Objective

- a) To ensure that dwellings are adequately protected from bushfire risk.

#### Controls

##### General

1. Development applications shall clearly identify all bush fire prone land and shall include a bushfire hazard assessment, prepared by a suitably experienced person.
2. Development applications shall demonstrate how bushfire hazard assessment has been taken into account. This may include design features, asset protection zones or similar. This may include hazard presented by adjacent undeveloped lots.
3. Development applications are to be consistent with *'Planning for Bushfire Protection'* and Australian Standard 3959.
4. Some level of bushfire protection must also be provided between residential dwellings and the M4 Motorway reserve. This may be incorporated into the vegetated buffer required to attenuate noise and visual impact, however this buffer will need to be managed to minimise bushfire risk. Details shall be provided in the subdivision application.
5. Roads are to separate all vegetated areas from houses.
6. Main through and perimeter roads to have minimum 8m sealed surface plus footpaths, other roads to have minimum 7m wide sealed surface.
7. Roads beside significant vegetation to be set within a 20m wide road reserve, located within the APZ; and

8. Fire hydrants to be provided to normal urban standards, without on-site supplementary water storage.

#### Eastern Precinct

9. An Asset Protection Zone shall be provided between remnant bushland and residential buildings. There may also be a need to consider hazard presented by adjacent undeveloped lots.
10. The Asset Protection Zone is likely to be required to be 35m wide. There may, however, be circumstances in which the Rural Fire Service will reduce the Asset Protection Zone to 30 m. All applications for subdivision will be referred to the Rural Fire Service and applicants should NOT assume that 30m will be sufficient. Reference should be made to *'Planning for Bushfire Protection'* when proposing an appropriate width for the Asset Protection Zone; and
11. This Asset Protection Zone may include:
  - i. A 10m fuel reduced zone within the Conservation Area.
  - ii. The width of the adjacent road reserve; and
  - iii. Front setbacks to dwellings.

#### South Western precinct

12. The creation of Outer Protection Areas 10m in width within the Flora and Fauna Conservation Areas.
13. Inner Protection Areas 25m in width be maintained within residential areas adjoining the Flora and Fauna Conservation areas; and
14. The creation of Inner Protection Areas 20m in width beside the M4 Motorway and the Public Recreation area adjoining the Flora and Fauna Conservation area and be maintained by property owners.

### **3.7 Air quality**

#### **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.

### **Controls**

1. Use of solid fuel heaters is prohibited.
2. The area of land available for soft landscaping should be maximised.

## **4. Community services and recreation**

### **4.1 Neighbourhood parks**

#### **Objective**

- a) To ensure that parks are adequately sized, located and equipped to meet the needs of the anticipated population of the precinct.

#### **Controls**

1. Each precinct shall provide an appropriate area for a neighbourhood park.
2. Neighbourhood parks shall have the following features:
  - i. a minimum area 2,500 m<sup>2</sup>
  - ii. a central location, accessible to the majority of the population of the precinct.
  - iii. surrounded by a logical road pattern, which provides a safe direct and legible route to the neighbourhood park from the majority of the precinct.
  - iv. suitable embellishment with play equipment, seating, lighting, landscaping and pathways (details to be provided at Development Application stage), and
  - v. shall not be used as detention basins.

## 5. Recognition of surrounding land uses

### 5.1 Major roads (Werrington Arterial, Great Western Highway and the M4 Motorway)

A number of major roads surround and intersect Claremont Meadows Stage 2:

- The M4 Motorway provides a boundary to the south
- The new alignment for the Werrington Arterial along Gipps St separates the eastern and south western precincts; and
- The Great Western Highway adjoins the gateway site in the north.

These roads will have an acoustic, visual and social impact on development and must be considered in all stages of planning.

#### Objectives

- a) To ensure that the negative impact of the roads surrounding and transecting Claremont Meadows Stage 2 is minimised.
- b) To ensure that planning for Claremont Meadows Stage 2 takes account of the noise and vibration associated with major roads; and
- c) To ensure that the visual impact of Claremont Meadows Stage 2 from major roads, particularly the M4 Motorway, is minimised.

#### Controls

##### General

1. Residential development affected by traffic noise associated with Gipps Street, Kent Road, the M4 Motorway, or the Great Western Highway must comply with the NSW Road Noise Policy (Environment Protection Authority).
2. A visual and acoustic protection zone shall be provided along the southern boundary of Stage 2, where it adjoins the M4 Motorway. This protection is to be provided within a 20m landscaped buffer zone and may also include a road, and designed such that it does not have a visual impact on the M4 motorway.

3. Noise solutions must have appropriate regard for urban design outcomes. It is considered that a combination of distance, landscaped mounding/barriers, and dwelling treatment should be used to obtain appropriate protection from noise. Noise solutions shall be developed in conjunction with Transport for NSW (TfNSW). The treatment of all interfaces with major roads shall be negotiated with TfNSW as part of the preparation of applications for development.
4. Development applications for residential development within 50m of Gipps Street, Kent Road, the M4 Motorway or the Great Western Highway shall include a noise study to demonstrate that the relevant noise standards can be complied with.
5. Development applications, which include creation of lots adjoining the M4 Motorway, shall include details of the visual and acoustic barrier, which is to be provided along the southern boundary of Claremont Meadows Stage 2, where it adjoins the M4 Motorway. This barrier is to be provided within a landscaped buffer zone and screened from view from the M4 Motorway (Refer to Figure 8.1 and 8.2), Noise barriers shall demonstrate visual consistency with other noise barriers along the M4 within the Penrith LGA.
6. Development applications for residential development along Gipps Street and Kent Road shall include details of the noise treatment along Gipps Street and Kent Road (Refer Figures 5 and 6). Noise attenuation measures shall integrate with and compliment the design and siting of the proposed residential development; and
7. Full details of construction type, colours, materials and maintenance requirements for any acoustic barriers must be submitted to Council.

#### Eastern Precinct

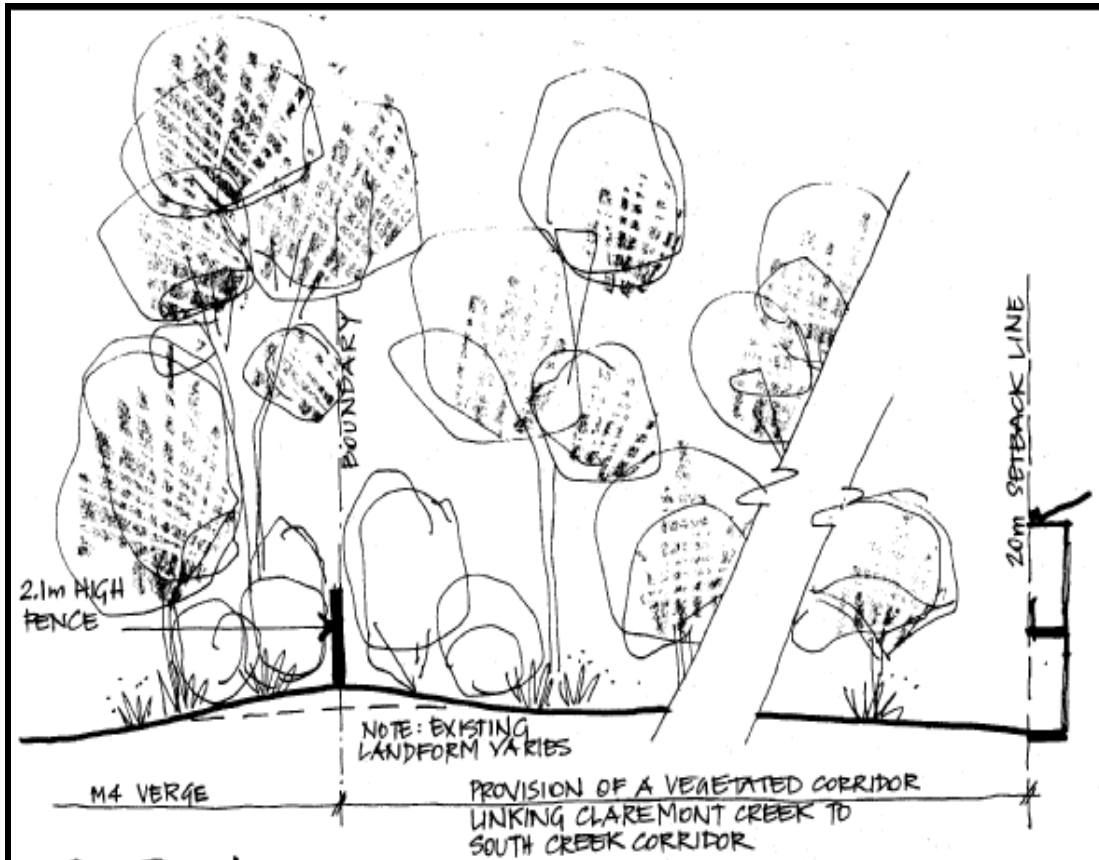
8. A 15m wide buffer is required along Gipps St (north of Caddens Road) and as detailed in Figure 5. The purpose of this buffer is to minimise the impact of the adjacent road on residential development, and to ensure that acoustic barriers do not dominate the residential character of this road. This buffer will be in addition to the road reserve and will provide the opportunity for landscaping, access and acoustic protection. Landscaping is to be undertaken in such a manner that it can accommodate future road widening, consultation with TfNSW is required to determine the most current road widening map. Council may consider

a reduced buffer area if it can be demonstrated that these objectives can be achieved in a lesser area.

9. A minimum 20m buffer is required along Kent Road (south of Caddens Road) as detailed in Figure 6. This buffer shall include, but is not limited to, a landscaped verge, road reserve, footpath and building setback. This measurement is to be taken from the noise wall. In addition to this buffer a minimum 5m landscape strip is required on the other side of the noise wall in accordance with Control (11) below.
10. Any application received for subdivision shall include details in relation to the acoustic treatment and should include:
  - i. Cross-sections of the acoustic treatment including landscaping and shall include one section for each different condition.
  - ii. A View Analysis of the acoustic treatment including landscaping looking from the road (both internal and external road), this should include a photo montage of any acoustic barriers and proposed development in the background.
  - iii. Details of the construction type, colours, materials (minimum masonry) and maintenance of acoustic treatment.
  - iv. Landscaping plan including location of acoustic treatment and maintenance schedule; and
  - v. Stepping and variation in the location of the acoustic barrier with opportunity to provide design elements.
11. A minimum 5m landscape strip is required along the eastern side of Kent Road in front of any acoustic barriers; this landscape strip is exclusive of any pedestrian/cycleways and the road reserve. The purpose of this landscape strip is to minimise the visual impact of the acoustic barrier on residential development, and to ensure that acoustic barriers do not dominate the residential landscape along this road.

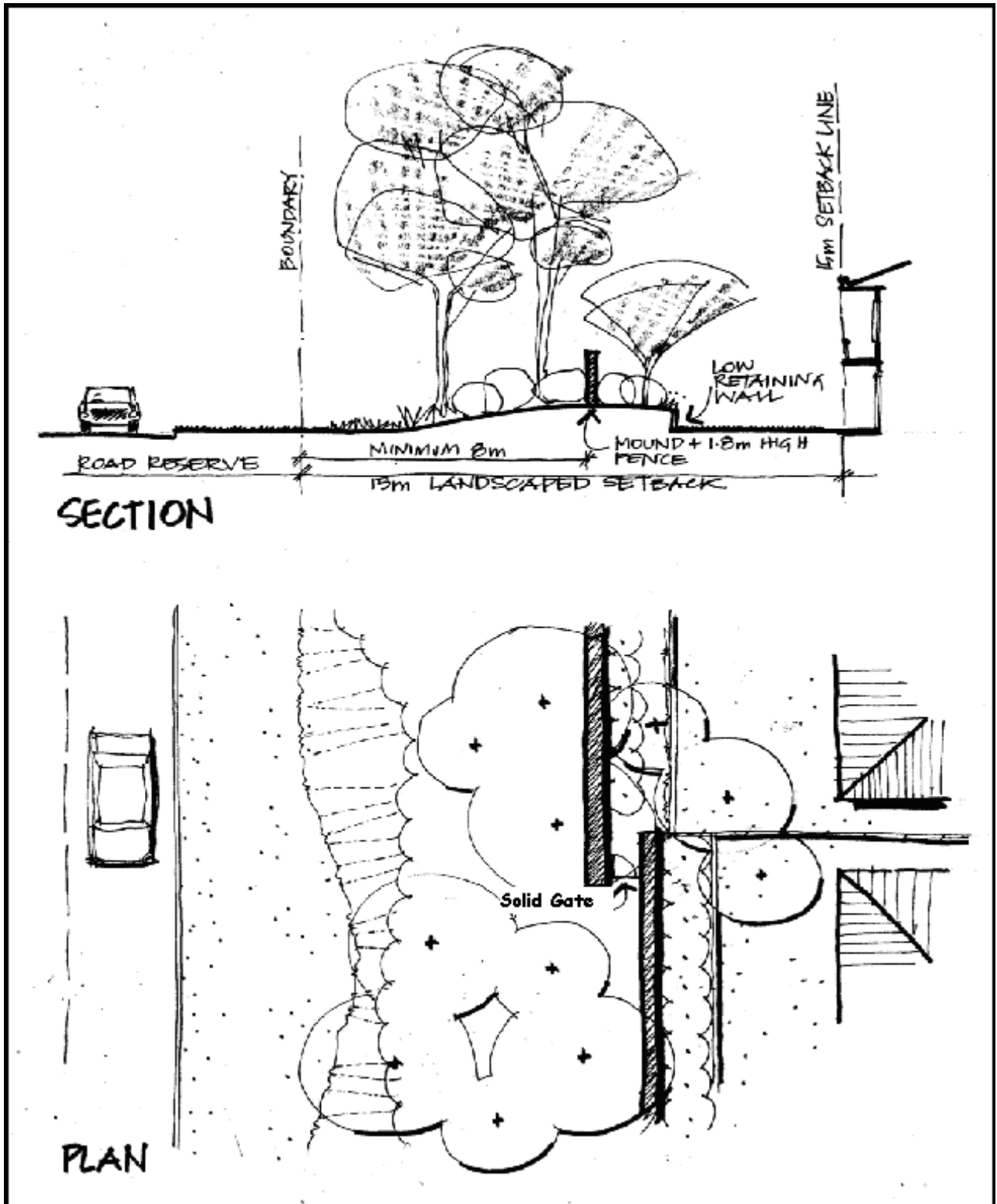
## Eastern Precinct – M4 streetscape

Figure 4: Typical M4 frontage cross-section within the south eastern precinct



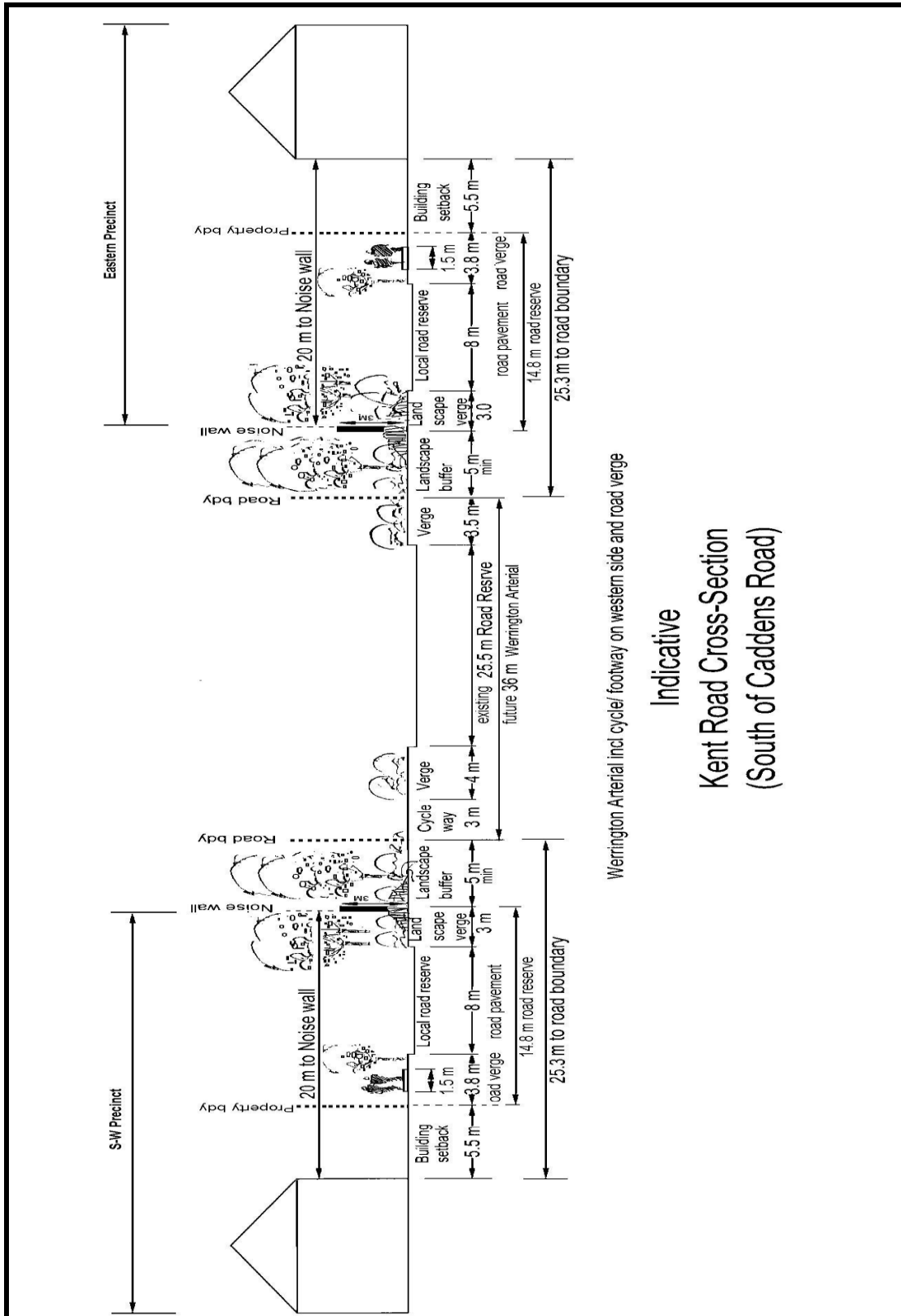
## Gipps Street streetscape

Figure 5: Cross-Section Gipps Street Eastern Precinct North of Caddens Road



## Kent Road streetscape (South of Caddens Road)

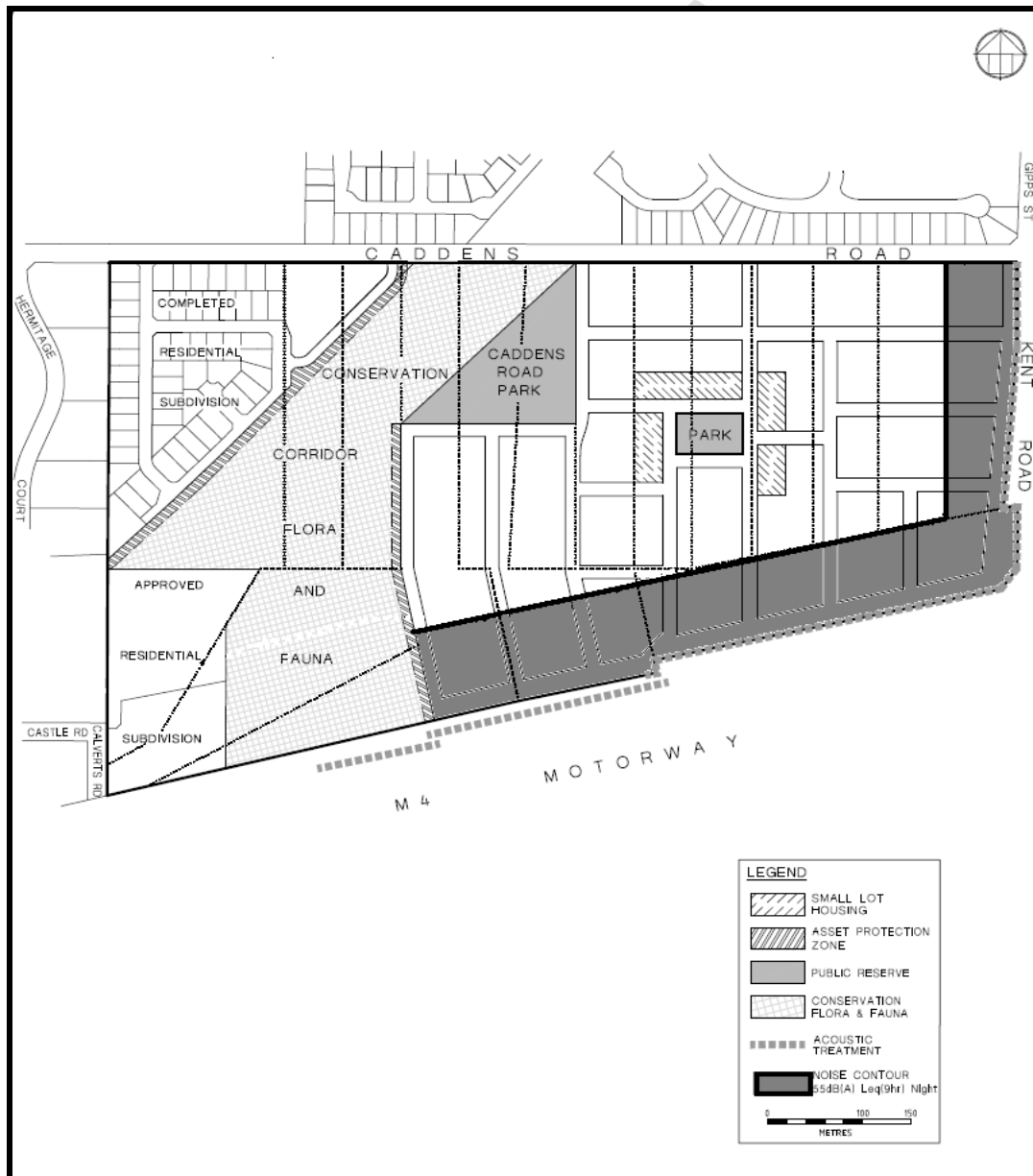
**Figure 6: Typical Cross-Section Kent Road South of Caddens Road**



## South Western Precinct

12. Acoustic barriers/treatment including landscaping along the M4 and Kent Road within the south western precinct shall be constructed prior to subdivision commencing on land within the shaded area as indicated on the map (Figure 7) below:

**Figure 7: Area of Restricted Development due to traffic noise**



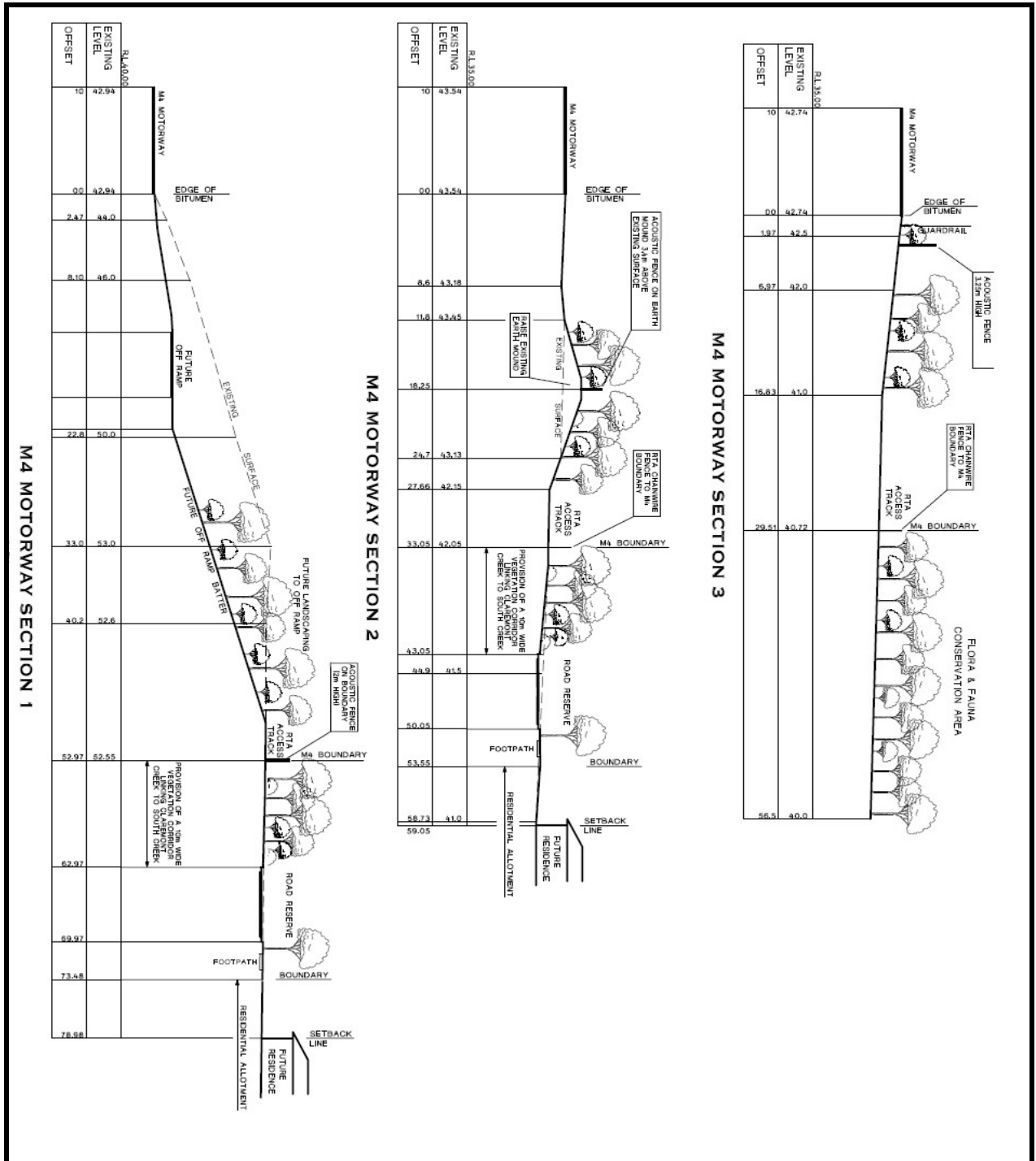
13. A minimum 20m buffer is required along Kent Road as detailed in Figure 6. This buffer shall include, but is not limited to, a landscaped verge, road

reserve, footpath and building setback. This measurement is to be taken from the noise wall. In addition to this buffer, a minimum 5m landscape strip is required on the other side of the noise wall in accordance with Control (15) below; and

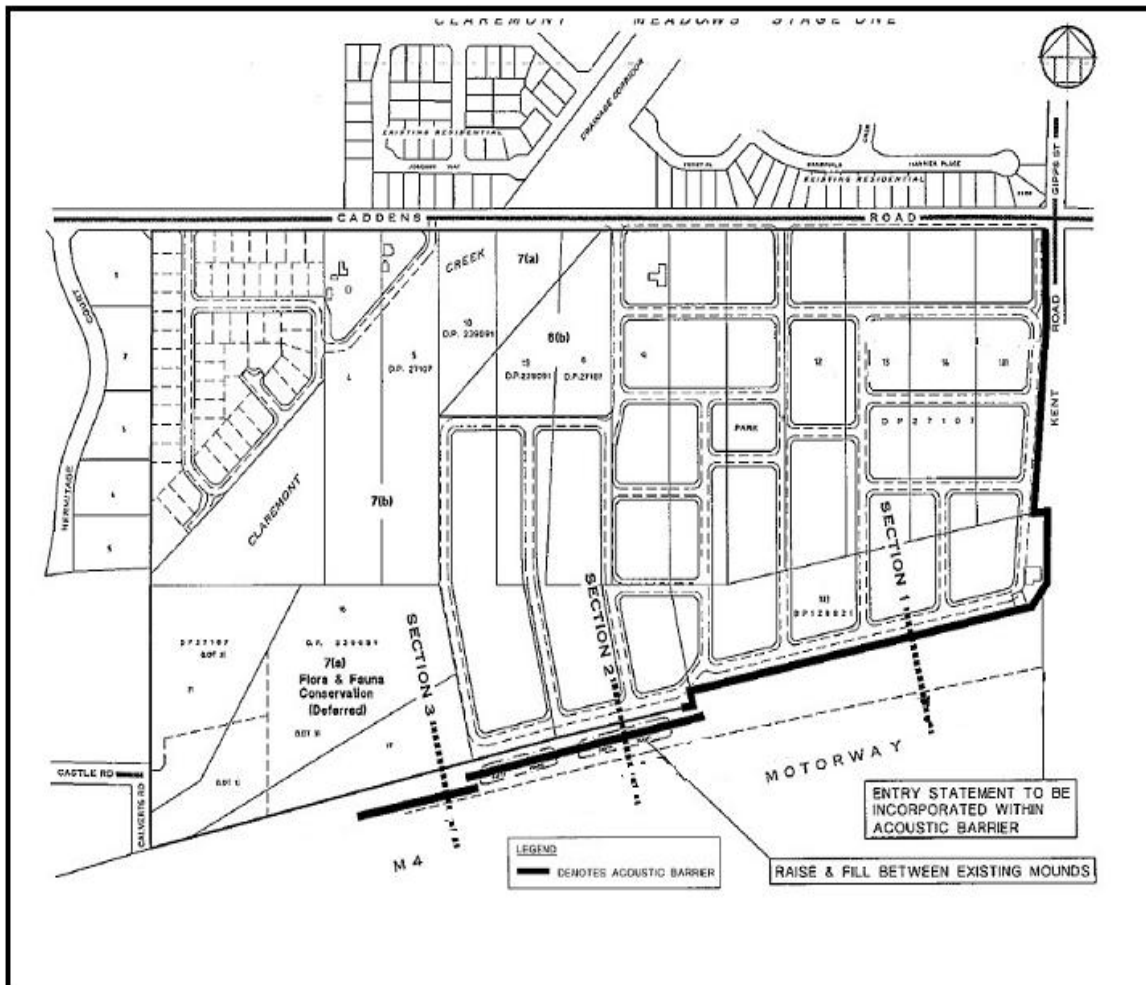
14. Any application received for subdivision within the area shaded in Figure 7 shall include details in relation to the acoustic treatment and shall include:
  - i. Cross-sections of the acoustic treatment including landscaping and shall include one section for each different condition.
  - ii. A View Analysis of the acoustic treatment including landscaping looking from the road (internal and external road), this should include a photo montage of any acoustic barriers and proposed development in the background.
  - iii. Details of the construction type, colours, materials (minimum masonry) and maintenance of acoustic treatment.
  - iv. Landscaping plan including location of acoustic treatment and maintenance schedule; and
  - v. Stepping and variation in the location of the acoustic barrier with opportunity to provide design motif treatment.
15. A minimum 5m wide landscape strip is required along the western side of Kent Road in front of any acoustic barrier; this landscape strip is to be exclusive of any pedestrian/cycleways and the road reserve. The purpose of this landscape strip is to minimise the visual impact of the acoustic barrier on residential development, and to ensure that acoustic barriers do not dominate the residential landscape along this road.
16. Noise Walls shall be constructed in accordance with the traffic noise assessment prepared by PKA Acoustic Consulting dated June 2006 submitted for the south west precinct.

## South Western Precinct

**Figure 8.1: Interface Treatment with M4 and Kent Road South Western Precinct**



**Figure 8.2 : Sections relating to Interface Treatment with M4 detailed in Figure 8.1.**



## 5.2 Integration with Claremont Meadows Stage 1

Integration on Stage 2 with Stage 1 is essential to allow future residents adequate access to services located in the existing estate. As a result it is important that adequate pedestrian, cycle, public transport and motor vehicle access is provided.

### Objectives

- a) To ensure that adequate pedestrian and cycle linkages are provided between Claremont Meadows Stage 2 and the existing estate.
- b) To ensure that planning for Claremont Meadows Stage 2 maximises the benefit of those locations closest to accessing the services in the existing estate.

### Controls

1. The area immediately south of the former tip site should be developed to an appropriate density given its location and zone.
2. Development applications shall demonstrate an appropriate road layout for public transport, by ensuring that there is a loop road within the proposed subdivision layout capable of acting as a bus route.
3. Development applications shall indicate location for a cycle way which connects to existing facilities outside the precinct, including shops, schools and community facilities in the existing Claremont Meadows Stage 1.
4. Development Applications shall make provision for a pedestrian / cycle link in the south western precinct to link with the open space / drainage corridor in the existing estate.

## 5.3 South Creek Corridor

### Objective

- a) To ensure that there is recognition of the South Creek corridor as an environmental asset.

## **Controls**

### Eastern Precinct

1. Development Applications for subdivision for the Eastern Precinct shall take account of the presence of the South Creek Corridor as the eastern boundary of Claremont Meadows Stage 2. Particular consideration shall be given when preparing information in the following areas:
  - i. Drainage, particularly water quality and the treatment of all stormwater discharge outside of the riparian corridor before it enters South Creek.
  - ii. Appropriate edge treatments are in place and that pedestrian pathway systems are located outside the riparian corridor.
  - iii. Biodiversity management and the linkage of remnant vegetation to the riparian corridors.
  - iv. Views and vistas, and
  - v. The locating of water quality treatment measures outside the riparian corridor.

## **5.4 Former Gipps Street Landfill Site**

### **Objective**

- a) To ensure that development takes account of the recreational opportunities of the former Gipps St Landfill site, as well as minimising any negative impacts this site may have.

### **Controls**

#### Eastern Precinct

1. Drainage solutions for the eastern precinct shall take account of the possibility of sub surface water movement associated with the former tip site.
2. Development of sites immediately to the north and south of the former tip site should be designed to maximise opportunities for access to future recreational areas and provide appropriately landscaped edges and footpath treatment.

## 6. Public domain

Council aims to establish a high quality and vibrant urban environment, creating a high level of amenity, convenient access to facilities and services and a feeling of safety and wellbeing for the community.

The public domain is to incorporate design and management requirements for streets, open spaces and parks, drainage and water quality infrastructure, and is to include design and character statements, a schedule of works, delivery timeframes and maintenance requirements for each element.

### 6.1 Management of the Public Domain

#### Objective

- a) To ensure that facilities provided in the public domain can be effectively managed and maintained.

#### Controls

1. 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, and
  - viii. fencing.
2. Development Applications shall include detailed designs and a management and maintenance plan for all facilities proposed for the public domain. This plan shall include a 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 burden of proposed public domain infrastructure.

## **6.2 Landscape Design**

### **Objectives**

- a) To integrate landscaping in the planning and design of buildings; and
- b) To enhance biodiversity within the precinct by using a diversity of appropriate local native plant species in landscaping design.

### **Controls**

1. Landscape strategies and design shall be prepared by a suitably qualified person for each precinct.
2. Landscapes shall be designed to achieve the amenity, environmental, recreational and townscape objectives of this section and the Landscape Design section within the Environmental Management Chapter of this DCP.
3. Design of landscapes shall use a diversity of local native species to minimise need for water and nutrients.
4. Mature vegetation that has habitat, civic or heritage values shall be conserved.
5. Plant species to take account of remnant Cumberland Plain Woodland in the conservation areas.
6. Paving material, lighting, signage and street furniture shall be in accordance with Council guidelines.
7. Existing habitat shall be expanded with new plantings configured to provide continuous corridors.
8. The design of public streets and parks shall:
  - i. facilitate multiple uses

- ii. be consistent with Council's current management policies and practices
  - iii. ensure that landmark locations, key thoroughfares and vistas are complemented and reinforced
  - iv. 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
  - v. provide for the identification of individual neighbourhoods and precincts, and
  - vi. incorporate appropriate local native plant species in the street tree planting.
9. Shelter and shade should be provided for buildings and open spaces, moderating the site's natural microclimate.

## **7. Infrastructure**

Council has a long term goal of delivering quality assets which meet the needs of the community in a sustainable manner. Infrastructure shall comply with the provisions of Australian Standard 1428 – Design for Access and Mobility, wherever relevant.

### **7.1 Streets and Access**

Streets perform a number of functions, including transport, service corridors, and contribution to energy efficiency (through lot orientation) and neighbourhood legibility and amenity. It is important that a proposed road layout take these multiple functions into consideration.

#### **Objectives**

- a) To provide a street network that is appropriate to environmental design objectives and is economically efficient; and
- b) To provide safe and effective access to individual properties which contribute to a distinctive neighbourhood character and provide high standards of amenity.

## Controls

1. Refer to the Transport, Access and Parking Chapter of this DCP for the various road types.
2. The road network shall be designed to accommodate multiple purposes, including:
  - i. Safe and efficient access for pedestrians (including alternative forms of pedestrian activity), cyclists and vehicles which links existing and new infrastructure, public transport services, shopping centres, community facilities and recreation areas. Footpath gradient, safety and surface material must be considered when developing the street pattern.
  - ii. Underground routing of service infrastructure.
  - iii. Appropriate access for emergency vehicles.
  - iv. Contribution to traditional townscape character via street tree amenity including shade to footpaths.
  - v. Provision of vistas to landmarks within the precinct and beyond, and
  - vi. Establishment of appropriate solar access for lots, open spaces and buildings.
3. Roads shall be designed:
  - i. In accordance with relevant Council policy and design standards and be based on forecast traffic flows (refer to the Transport, Access and Parking Chapter of this DCP).
  - ii. To facilitate a configuration of neighbourhood streets appropriate to the desired solar orientation of dwellings.
  - iii. To provide safe pedestrian access, and vistas towards landmarks and central destinations within the precinct and beyond, including identification of possible future pedestrian facilities.
  - iv. To limit the number of four-way intersections and where they occur, indicate their management.

- v. To control traffic speeds, incorporating safe pedestrian crossings to central destinations; and
  - vi. To incorporate designated pedestrian footpaths, dimensioned and finished to service each precinct according to its desired function and character.
4. The streets around the conservation areas and the proposed neighbourhood parks within each sub precinct shall be two way low speed environments. Development Applications shall include details on the measures proposed to achieve this.
5. Development Applications shall include cross sections for each type of road proposed in the master plan, including:
  - i. Residential streets.
  - ii. The possible future bus route.
  - iii. The low speed environment surrounding the park; and
  - iv. Perimeter roads adjacent to conservation areas and the incorporation of the Asset Protection Zones in the perimeter road.

Cross sections shall indicate overall road reserve, carriageway width, footpath width, location of parking, proposed street tree planting and lighting.

6. Road widths shall comply with relevant Council policy.
7. A physical barrier is to be provided along the edge of the conservation areas and the proposed neighbourhood park to prevent vehicle access.
8. Street trees shall not be planted in the road carriageway. Street tree species selected shall respect the scale and development in the street and not compromise services including lighting; and
9. Provision shall be made for any road features (including pedestrian crossings, traffic calming, bus shelters and intersection treatment) anticipated to be needed in the future, when Claremont Meadows Stage 2 has been fully developed.

## 7.2 Sewer and Water

### Objective

- a) To ensure that development is adequately supplied with sewer and water services.

### Controls

1. Evidence that the precinct can be adequately serviced shall be provided.
2. Services shall be planned and designed in conjunction with Sydney Water, including:
  - i. a Section 73 Certificate be obtained from Sydney Water, and
  - ii. compliance with build-over easement restrictions.
3. Consultation with the Department of Climate Change, Energy, the Environment and Water is required prior to locating sewer and water utilities in and adjoining riparian corridors for their requirements.

## 7.3 Energy Supplies

### Objective

- a) To ensure that the site is adequately supplied with energy.

### Controls

1. Evidence that the precinct 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; and
3. Consultation with the Department of Environment and Heritage is required prior to locating gas and electricity utilities in and adjoining riparian corridors for their requirements.

## 7.4 Telecommunications

### Objective

- a) To incorporate contemporary telecommunications infrastructure that provides access to broadband services to residents and facilitate home businesses.

### Controls

1. Demonstrate that the precinct can be adequately serviced with telecommunications infrastructure.
2. Information on contemporary telecommunications services shall be provided, including availability and location of service corridors. Shared service corridors shall have the capacity to accommodate technology advances and any increases in demand.
3. Modern telecommunications infrastructure shall be provided with the capacity to support multiple telecommunications services, such as high speed internet (including broad band), voice and data systems, and community intranet, and
4. Prior to the submission of a development application, the developer shall negotiate the planning and design of services with Telstra and any other key providers.
5. Consultation with the Department of Climate Change, Energy, the Environment and Water is required prior to locating telecommunications infrastructure in and adjoining riparian corridors for their requirements.

# D3 Cranebrook Part A Waterside

## Contents

Part A – Waterside.....	3
1. Waterside Corporate.....	3
1.1 Preliminary.....	3
1.2 Site layout.....	5
1.3 Site development controls.....	5
1.3.1 Floodway and lake system.....	5
1.3.2 Catchment water quality.....	6
1.3.4 Management of the lakes system.....	8
1.4 Built form controls.....	10
1.4.1 Site and building works.....	10
1.4.2 Access and parking.....	11
1.4.3 Acoustic requirements.....	12
1.4.4 Streetscape.....	13
1.4.5 Building envelopes.....	14
1.4.6 Built form – corner of Andrews and Castlereagh Roads.....	15
1.4.7 Built form – Lateral 1.....	16
1.4.8 Built form – neighbourhood facilities.....	17
1.4.9 Landscaping and open space.....	17
1.5 Ownership and management.....	18
1.5.1 Management principles.....	19
2. Waterside Residential.....	22

2.1 Preliminary .....	22
2.1.2 Aims and Principles of this Section .....	24
2.1.3 Urban structure and staging.....	27
2.1.4 Approval Process.....	29
2.1.5 Specific information relating to the R1 General Residential and C2 Environmental Conservation zones .....	30
2.1.6 Wetlands Protection .....	31
2.1.7 Ownership & management under the community scheme legislation	33
<b>2.2 Development Requirements</b>	<b>33</b>
2.2.1 Floodway, Drainage and Site Works.....	33
2.2.2 Urban Design .....	42
2.2.3 Acoustic requirements.....	53
2.2.4 Landscape planting and open space.....	57
2.2.5 Roads and car parking .....	66
2.2.6 Residential development.....	73
2.2.6.1 Dwelling types.....	73
2.2.6.2 Residential development controls.....	79

# 1. Part A – Waterside

## Background

This section of Penrith DCP applies to Waterside, which includes both the employment and residential components as identified in Figure 1.

Waterside is a 54 hectare residential and employment precinct located approximately 2km north of Penrith City Centre and adjacent to the Penrith Lakes Scheme.

The locality is characterised by a mix of residential, industrial and recreational uses. Large industrial activities are located to the south on the opposite side of Andrews Road. Grey Gums Reserve is located immediately to the east of the site with the residential suburb of Cranebrook located further to the east. The Penrith Lakes Scheme, including the Sydney International Regatta Centre and the White Water Stadium, are located to the west on the opposite side of Castlereagh Road.

## 1. Waterside Corporate

### 1.1 Preliminary

#### Purpose of this section

The purpose of this section is to guide development of the Waterside Corporate Precinct.

#### Land to which this Section applies

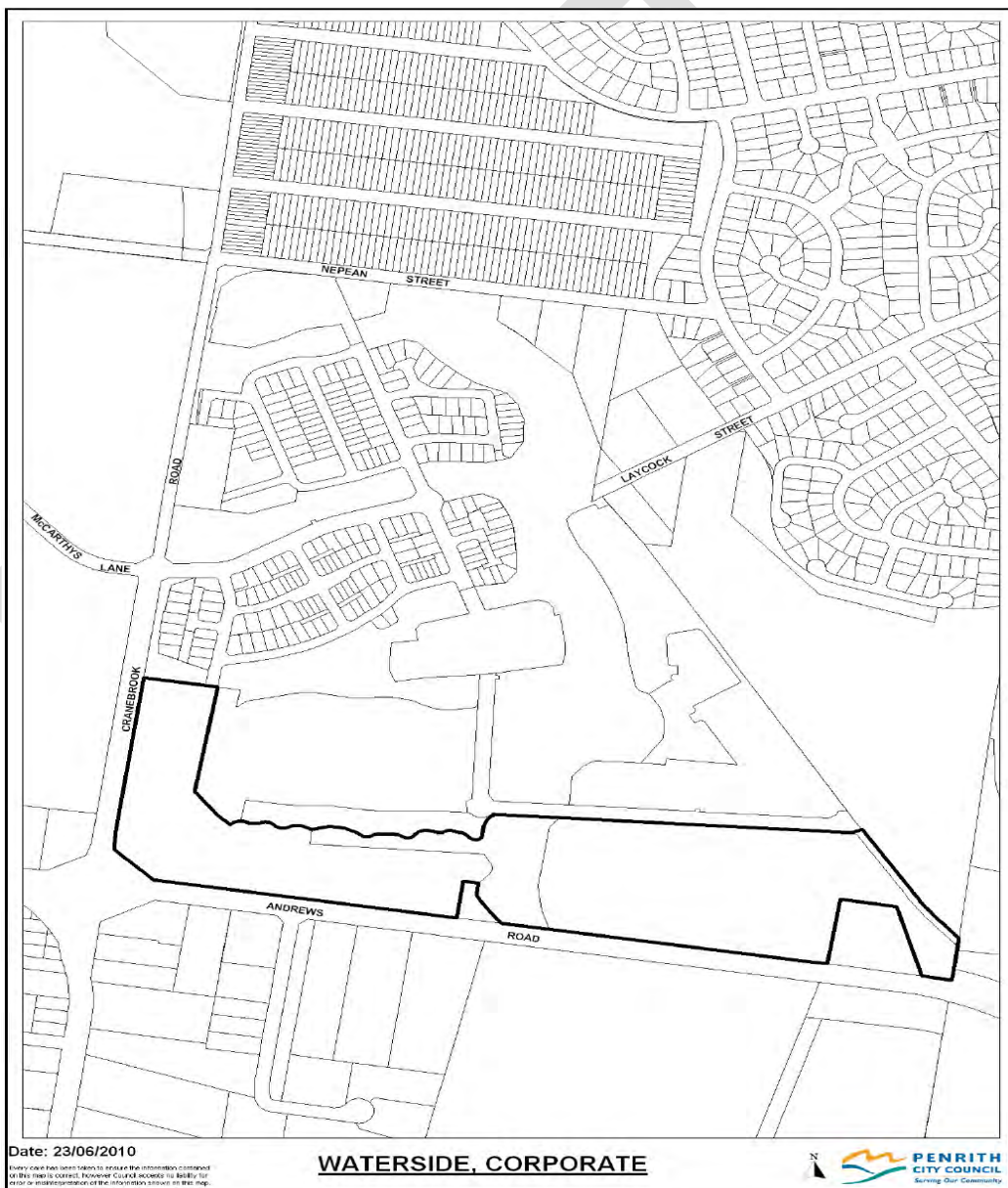
This section applies to the land shown on Figure 1 below.

#### **General objectives**

- a) To provide a clear planning framework for development of the site.
- b) To maintain and enhance the views through and across the subject land to the Penrith Lakes, the Nepean River and the Mountains.
- c) To encourage development that enhances the area's gateway location to Penrith and Penrith Lakes.
- d) To minimise any adverse impact to residential development from noise as a result of industrial development.

- e) To manage stormwater runoff, water quality and flooding in a safe, effective and environmentally responsible manner.
- f) To provide opportunities for employment, visitor accommodation, child care facilities, neighbourhood shops and community facilities.
- g) To ensure the visual quality and the operating function of Waterside Corporate and the lakes system complement future development in the adjoining residential zone and achieve an appropriate and suitable interface between the two zones.

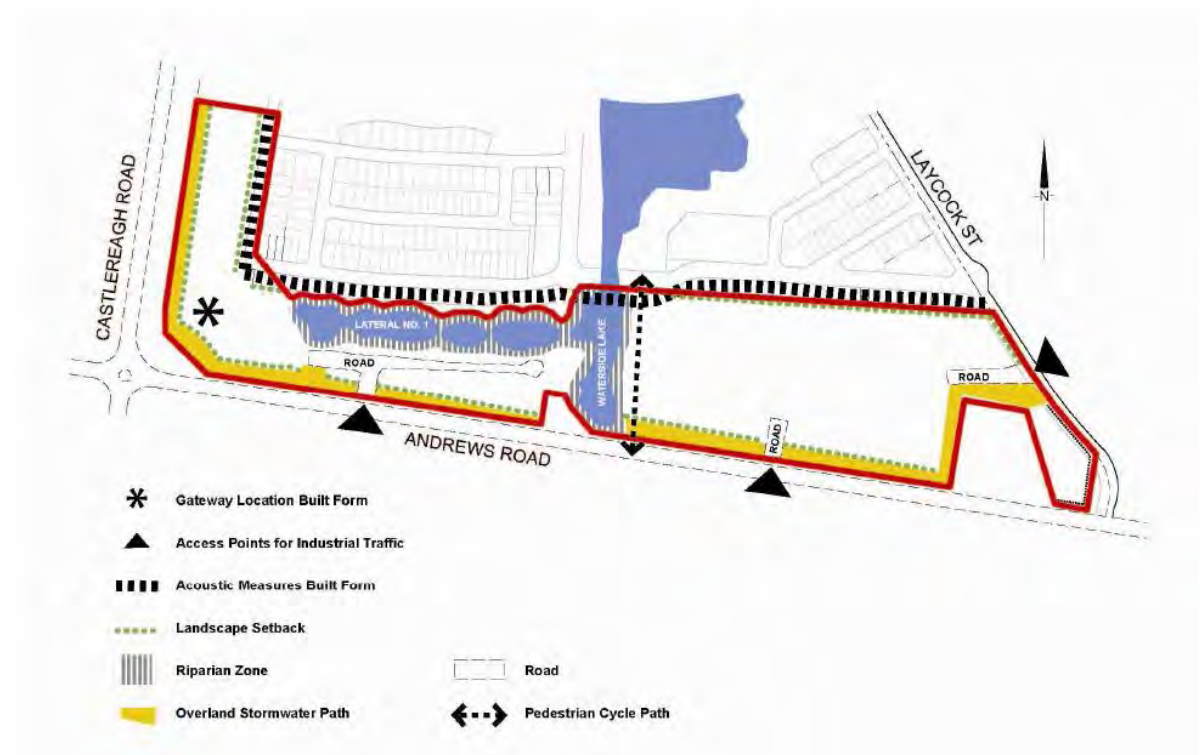
**Figure 1: Land to which the 'Waterside Corporate' Part applies.**



## 1.2 Site layout

The site is to be developed generally in accordance with the Key Design Elements shown in Figure 2. Council will consider variations to this layout where it can be demonstrated that the objectives of this section of the DCP can be met.

**Figure 2: Key design elements (Waterside Corporate)**



## 1.3 Site development controls

### 1.3.1 Floodway and lake system

#### Objectives

- To ensure development of the site is compatible with the flooding characteristics of the locality.
- To ensure no adverse impact from flooding is experienced upstream and downstream as a result of development of this land.
- To ensure that development is appropriately protected from flood inundation.

## Controls

1. The floodway and lake system shall be located generally in accordance with Figure 2.
2. The floodway/main lake system shall have a width no less than that determined by Council having considered both flood conveyance requirements and modelled pre/post development flood impacts/variances for the 1% AEP (Annual Exceedance Probability), 0.5% AEP and 0.2% AEP local catchment and Nepean River flood events.
3. The lakes and lake foreshores (particularly the depth and grading) shall be designed to maximise safety.
4. Habitats, including islands, shall be constructed in each of the major lakes generally as indicated in Figure 2: Key design elements (Waterside Corporate) to provide habitat for local flora and fauna.
5. The floodway and lake system and their habitats are to be constructed and operated so as not to be conducive to mosquito breeding.
6. A recirculation system for the lakes shall be provided. The system must comprise components which will:
  - i. Minimise the likelihood of stratification of lakes, if this is necessary due to lake depth; and
  - ii. Allow for full or partial draining of the lakes for maintenance purposes.

### 1.3.2 Catchment water quality

#### Objectives

- a) To ensure that an adequate and environmentally sustainable method of controlling surface water and storm water is implemented.
- b) To ensure appropriate water quality standards are maintained throughout the system and that post development water quality is an improvement on pre development water quality.
- c) To maintain adequate water quality levels throughout the lakes system at all times.
- d) To ensure that water quality standards are not compromised for the lakes system.

## **Controls**

1. Water quality is to be improved and maintained by every proposed development.
2. Adequate velocity and the controlled flow of water through the system shall be maintained at all times, to ensure the quality of the water and to reduce mosquito populations.
3. Water quality shall be enhanced by trapping and removing all debris. Gross pollutant traps are to be provided where the floodway enters the property at the Andrews Road boundary and where drainage from the south western corner of the public reserve enters the property at its eastern boundary.
4. Macrophyte planting is to be provided around the perimeter of the lakes to assist in the filtering of nutrients.
5. The use of fertilisers and other sources of nutrients may adversely impact on water quality and shall be minimised.
6. A process for monitoring the quality of discharges from this land is required to ensure system performance is maintained. This process, and agreed outcomes, shall be established through negotiation with the Penrith Lakes Development Corporation, Council, Department of Climate Change, Energy, the Environment and Water. The monitoring process shall include maintenance of nutrient levels, and shall be undertaken on a regular basis. Details of the program shall be submitted with the development application/s for the construction of the lakes system.

### **1.3.3 Water quantity**

#### **Objective**

- a) To ensure adequate circulation and stable water levels through the lake system and branch waterways.

#### **Controls**

1. A permanent water level shall be maintained within the lakes and lateral waterways.
2. An internal pumping system must be installed to enable the pumping of water between lakes, and the maintenance of water quality.

3. The pump system shall be enclosed, or provided with acoustic treatment or barriers, to ensure residents are not affected by the noise generated by its operation.
4. Water levels in the lakes and all laterals shall comply with the approved Water Management Plan (see 1.3.4 control (3)(iii)).

### **1.3.4 Management of the lakes system**

#### **Objectives**

- a) To ensure the maintenance of the water management system (floodway, lakes, lateral waterways and stormwater drainage) to appropriate design and environmental standards; and
- b) To encourage innovative design solutions to complement the management of water within the catchment.

#### **Controls**

1. A management plan for the regular maintenance of the lakes system shall be established and enforced. This shall include regular mowing and maintenance of the verges, pruning, structural and operational maintenance of the system, dewatering and desilting the lakes and ponds, and removal and replanting of the macrophytes as required.
2. Council shall not issue development consent for a proposal to subdivide or develop the site unless satisfactory arrangements have been made with Council for the ongoing maintenance and management of the lakes system.
3. As part of a development application submitted for construction of the lakes system, the following issues must be addressed:
  - i. A proposal, which outlines the agreed responsibilities of all relevant parties, for the ownership and management of the lakes system. Satisfactory arrangements regarding this matter must be achieved prior to granting development consent for construction of the lakes system or subdivision of land;
  - ii. Means of improving water quality compared with existing water quality (at the time of submission), and the proposed water quality monitoring regime; and

- iii. A Water Management Plan for the maintenance of the lakes system, including a schedule of proposed maintenance activities, annualized operational costs, and capital replacement costs. The Water Management Plan should also address:
- The water quality and quantity discharge details, including expected changes in water quality and quantity to the existing system due to development (low flows, high flows, total over average rainfall year).
  - A plan for monitoring the quality of water discharge from the site.
  - The management of pollutants, such as oils, grass clippings, etc.
  - The control of exotic flora and fauna.
  - Stormwater controls.
  - Groundwater effects (including any plans to draw from the groundwater for supply).
  - Sewer requirements (impact on existing sewer system and lake system).
  - Emergency controls.
  - The handling of water during the various stages of construction, as well as the final system (including site water management plan and sediment and erosion control measures).
  - The incorporation of water management facilities.
  - The process of handling contaminated fill, if required.
  - Wastewater reuse and its impact on outflow (quality and quantity).
  - Internal pumping and the impact on outflow.
  - A Construction Management Plan in relation to leaching or deposition of materials into the lakes system and control of runoff.
  - A program for mosquito control.

- Any other relevant matter identified in this section.

## **1.4 Built form controls**

### **1.4.1 Site and building works**

#### **Objectives**

- a) To ensure that development meets sound environmental and flood planning practices and standards.
- b) To make adequate provision for stormwater runoff in and through Waterside.
- c) To ensure that any contaminated land found on the site is properly managed and remediated to a level appropriate for the subject development.

#### **Controls**

1. All buildings on the site shall be designed and built such that their structural integrity can withstand flood flows generated by a flood equivalent to the Nepean River 'Flood of Record' - equating to the 0.5% AEP Flood Event. Damage potential is to be determined considering flood duration, flood depth and flow velocity such that buildings do not sustain structural damage or loss of load bearing capacity following immersion. Council will be guided by reference to available documentation provided in the 'Nepean Floodplain Management Strategy' in its determination as to whether flood compatible building design and material selection have been adequately considered. Appropriate modelling and mapping is to be undertaken to determine those areas of the site, which when fully developed, would present landform/development characteristics where special flood compatible building design is required.
2. All lots should have their finished surface at least 0.5m above the 1% AEP flood level generated by local catchment or Nepean River flood flows, whichever generates the higher flood levels.
3. Where finished ground levels are not 0.5m above the 1% AEP flood event level, all floor levels shall be constructed a minimum of 0.5m above the flood level.

4. Finished surface and ground levels shall fall to property boundaries and along roads to achieve adequate drainage.
5. Stormwater from individual lots shall be captured and stored, where feasible, for future use in landscape maintenance. Dispersed points of discharge to the waterway system (using roads, paths or open spaces) shall be provided. This may include a piped drainage system and grassed swales through open space areas.
6. Roof and surface water not reused on each lot is to be discharged into the lake system in a controlled manner.
7. All stormwater being discharged into the lake system is to be free of harmful pollutants, contaminants, grass litter and biodegradable matter.
8. The stormwater system shall be designed and constructed in accordance with Council's engineering standards.
9. A Stage 2 Environmental Site Assessment must be submitted to Council as part of any development application for bulk earthworks.
10. Any contaminated land must be remediated in accordance with the land management requirements of this DCP.

#### **1.4.2 Access and parking**

##### **Objectives**

- a) To ensure safe and functional vehicle access and parking arrangements.
- b) To prevent direct vehicular access to or from any development and Castlereagh Road and/or Andrews Road.
- c) To provide a functional link between Waterside Residential and Waterside Corporate but to discourage unnecessary commercial traffic movements through the residential zone.
- d) To ensure safe, accessible and functional pedestrian and bicycle movement.

##### **Controls**

1. The significant entries to Waterside Corporate shall be located generally in accordance with Figure 2: Key design elements (Waterside Corporate). The type, size and specific location of the entry must be supported by a

detailed traffic analysis prepared by an appropriately qualified professional.

2. Roads within Waterside Corporate shall be constructed above the 1% AEP flood level.
3. Access to or from Andrews and Castlereagh Roads shall only be permitted via an approved road. Individual driveways for site-specific developments will not be permitted.
4. Access to or from the neighbourhood facilities will be via Road 3 as shown in Figure 2.
5. Bus bays/shelters are to be provided to specifications and at locations to be determined by Council.
6. An evacuation plan for Waterside Corporate shall be developed in conjunction with the State Emergency Service. Details of this plan shall be submitted to Council prior to occupation of any building.
7. Below ground parking is not permitted.
8. Parking within the front building setback may be considered where it can be shown that the objectives of Section 3.1.4.9 Landscaping and Open Space will be achieved.
9. Publicly accessible bicycle/pedestrian paths are to be provided as indicated in Figure 2: Key design elements (Waterside Corporate).
10. Pedestrian pathways and cycleways shall be linked to provide a safe, integrated and continuous pedestrian/cycle network around the lake system and within the site.

### **1.4.3 Acoustic requirements**

#### **Objectives**

- a) To minimise any adverse impact to residential development of noise from nearby industrial development; and
- b) To ensure that the design of any acoustic measures contribute to the visual amenity of Waterside and are suitably integrated with the built form and landscaping of the site.

## Controls

1. All development applications are to be accompanied by an acoustic report or noise impact statement prepared by a qualified acoustic consultant as follows:
  - i. Where development is to provide the principal acoustic buffer between residential and industrial development, an acoustic report is required to demonstrate the development will satisfy the noise criteria of Waterside Clause of Penrith LEP 2010, and
  - ii. All other development proposals are to be accompanied by a noise impact statement prepared in accordance with and demonstrating compliance with the noise and vibration requirements of this DCP.
2. All acoustic measures must be designed to:
  - i. be compatible with the flood characteristics of the estate.
  - ii. integrate with adjoining buildings.
  - iii. be aesthetically and visually pleasing.
  - iv. be compatible with the locality when viewed from both the residential and industrial areas of the estate.
  - v. be constructed of robust and readily maintained materials that also minimise opportunities for vandalism.
  - vi. integrate with and accommodate the pedestrian/cycle network, riparian areas and landscaping within the estate, and
  - vii. creatively respond to site characteristics and constructed with visually permeable elements where they cross water bodies.

### 1.4.4 Streetscape

#### Objectives

- a) To enable flexibility in building height and design to provide variety in facades and external appearance.
- b) To ensure that development creates a varied streetscape consistent with the envisaged built form scale in the locality.

- c) To ensure the design and appearance of buildings and/or development, particularly when viewed from the waterways, other public places and Cranebrook is of a high standard.
- d) To coordinate lighting design and solutions across Waterside Corporate.

## **Controls**

1. Buildings adjacent to the residential zone are to be of a scale and design sympathetic to nearby residential dwellings.
2. Development adjacent to residential houses should reflect the change in both detailing and massing and should not overlook private open spaces.
3. Architectural design along Andrews Road should be of a high standard, utilising quality materials and finishes.
4. Development is to provide a general image of buildings within a green setting, through the combination of appropriate setbacks and landscaping.
5. The aesthetic appeal of the street is to be maintained while providing a primary service role for vehicular and pedestrian access.
6. Roof plant must be effectively screened from view.
7. To soften the effect of development, landscaping must be of an appropriate scale and size consistent with the bulk and scale of buildings.
8. Service areas are to be placed to the rear or side of buildings, unless it can be established that they will not impact adversely on visual amenity or the acoustic requirements of this Section.
9. An integrated design for lighting is to be implemented throughout the site that is also complementary to the Waterside Residential lands.

### **1.4.5 Building envelopes**

#### **Objectives**

- a) To provide a visual and supplementary acoustic barrier between residential and industrial development.

- b) To enhance the views through and across the subject land to Penrith Lakes, the Nepean River and the Blue Mountains.
- c) To provide quality urban design at an appropriate scale.
- d) To provide appropriately landscaped setbacks to roads and along boundaries adjoining residential and riparian areas.
- e) To provide building envelopes consistent with the scale of adjoining development, the desired streetscape and future amenity of the locality.

## Controls

1. The setbacks of buildings from the boundary are to be in accordance with Table 1: Building Setbacks below.
2. Minor variations in setbacks will be considered where they will contribute to a varied and attractive streetscape and do not compromise relevant objectives.

**Table 1: Building setbacks**

Location	Minimum setback
Andrews Road	10m
Castlereagh Road	10m
Laycock Street	9m
Buildings fronting secondary and internal roads	5m
Buildings on lots adjoining residential land and riparian corridors	5m

### 1.4.6 Built form – corner of Andrews and Castlereagh Roads

#### Objectives

- a) To enhance the gateway location at the intersection of Andrews Road and Castlereagh Road through strong built forms.
- b) To reflect the gateway location with well-designed buildings incorporating a strong corner element.

- c) To provide built form with additional architectural emphasis, such as varied building height, distinctive roof forms, articulated wall elements and bold use of materials.
- d) To provide a suitable acoustic barrier to residential development to the north.
- e) To ensure that car parking is not visually intrusive.

### **Controls**

1. Buildings are to address Andrews and Castlereagh Roads.
2. Front facades are to provide visual interest through articulation and the use of architectural treatments such as projections, indentations and roof elements.
3. Elevations are to display a variety of different materials and textures but endeavour to have a cohesive outcome.
4. Parking is to be visually unobtrusive and blend in and respect the overall character of the built form.
5. Any multi-storey car parking is to be integrated into the built form and screened from public view by appropriate landscaping and creative use of materials, e.g. perforated screens.

### **1.4.7 Built form – Lateral 1**

#### **Objective**

- a) To provide access arrangements, building orientation and building design that address the riparian corridor.

#### **Controls**

1. Buildings are to front Lateral 1.
2. The front and rear elevations of buildings are to provide visual interest through articulation and architectural treatments, such as projections, indentations and roof elements.
3. The Andrews Road frontage of this section of the site is to be densely planted to enhance the presentation of development.

## **1.4.8 Built form - neighbourhood facilities**

### **Objectives**

- a) To provide a neighbourhood shop, cafes, restaurants and related facilities and services for the local residential community and workers in the locality.
- b) To provide a destination and gathering point for the residential and worker community.
- c) To provide a high level of connectivity for pedestrians and cyclists between the facilities and residential development and employment lands.
- d) To provide active street frontages and consolidate activity around a central area.
- e) To ensure that parking is unobtrusive and suitably landscaped.

### **Controls**

- 1. Any views to the lakes and riparian areas are to be maximised.
- 2. The neighbourhood facilities are to be linked into the broader cycle/pedestrian network.
- 3. Parking areas are to be interspersed with areas of landscaping to soften the visual expanse of hard paving.

## **1.4.9 Landscaping and open space**

### **Objectives**

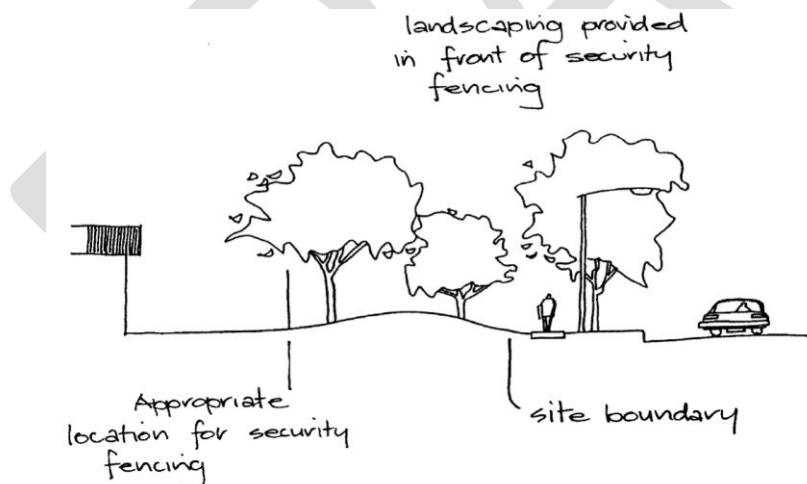
- a) To provide landscaping which screens and softens building mass and roof form, particularly when viewed from adjoining roads and surrounding areas.
- b) To provide open spaces which are safe and inviting to use.
- c) To ensure the grouping of landscaped areas between adjoining developments, consolidate open space areas and allow a greater density of tree planting; and

- d) To provide high quality and consistent themed landscaping to Castlereagh Road and Andrews Road frontages of the site.

## Controls

1. The design of open space areas and buildings shall enhance existing views and create opportunities for additional views within and through the site.
2. The front building setback and setbacks to all public areas must be landscaped to soften building mass and roof forms.
3. The building setback adjoining residential development must be landscaped and used for that purpose only.
4. Landscaping must comprise canopy trees under planted with suitable shrubs and/or groundcover.
5. Landscaping along the Castlereagh Road and Andrews Road frontages of the site is to be of a consistent theme, comprised predominantly of native species.

**Figure 3: Example of preferred landscaping design**



## 1.5 Ownership and management

Waterside Corporate will be subdivided under the community scheme legislation. This will enable the creation of individual lots under Torrens Title, Strata Schemes and Community Property for the shared rights and responsibilities of the Community Association, and the dedication of land to Council. It also ensures that the lakes system can be properly managed

without unreasonable demands on Council resources. Under the proposed system, the Community Association will be able to maintain and embellish publicly accessible land to a higher standard than is readily achievable with Council resources.

### **1.5.1 Management principles**

1. The lake system within Waterside is owned and managed by the Community Association. The lake system consists of:
  - i. The 5 main lakes, the lateral lakes, and the water contained within the lakes.
  - ii. The open space surrounding the lakes and below the 1% AEP.
  - iii. The culverts and weirs that are not within the road reserves.
  - iv. The pump system to maintain water levels and water quality; and
  - v. The water quality devices, such as gross pollutant traps, macrophyte planting and grass swales.
2. Arrangements for the maintenance of areas within the development, including the lake system, the internal road system and any other publicly accessible areas shall be made prior to the granting of development consent for construction of the lakes system or subdivision of land and are indicated in Table 2: Management designation below.
3. The road system for the development, except the private accessways, shall be dedicated to Council.
4. Public access shall be provided and maintained at all times to the parks and bicycle/pedestrian pathways identified in Figure 2: Key design elements (Waterside Corporate).
5. The Community Association shall maintain the lake system, open space areas around the lakes and all bicycle/pedestrian pathways. The Community Association must remove litter that may collect among the macrophyte planting.
6. The Community Association shall maintain landscaped areas within the median strips, roundabouts and footpaths.

7. The access ways are to be created as restricted neighbourhood property to ensure that the restricted neighbourhood property users will pay for the maintenance and upkeep of those areas.

**Table 2: Management designation**

Element	Owned By	Maintained By	Cleaned By
Road System	Penrith City Council	Penrith City Council	Community Association
Utility Services	Service Provider	Service Provider	Service Provider
Garbage Services	Penrith City Council	Penrith City Council	Penrith City Council
Acoustic Barrier	Community Association	Community Association	Community Association
Community Facilities <sup>N1</sup>	Community Association	Community Association	Community Association
Community Property <sup>N2</sup>	Community Association	Community Association	Community Association
Landscaping <sup>N3</sup>	Penrith City Council, Community Association and Neighbourhood Association	Community Association	Community Association
Road Bridges	Penrith City Council	Penrith City Council	Community Association
Road Retaining Wall	Penrith City Council	Penrith City Council	Community Association
Pedestrian Bridges	Community Association	Community Association	Community Association
Main Weirs	Community Association	Community Association	Community Association
Road Culverts	Penrith City Council	Penrith City Council	Penrith City Council
Low Flow Weirs	Community Association	Community Association	Community Association

Element	Owned By	Maintained By	Cleaned By
Road Stormwater Pipelines and Pits	Penrith City Council	Penrith City Council	Community Association
Road Pit Socks	Penrith City Council	Penrith City Council	Community Association
Gross Pollutant Traps	Penrith City Council	Penrith City Council	Penrith City Council
Recirculation System	Community Association	Community Association	Community Association
Macrophyte Planting	Community Association	Community Association	Community Association
Grass Swales	Penrith City Council	Penrith City Council	Community Association
Lake Warning Signs and Fences	Community Association	Community Association	Community Association

**Table notes:**

- N1. The Community facilities are defined as facilities for the use of proprietors and occupiers of the community scheme.
- N2. The Community property is defined as property owned and maintained by the Community Association.
- N3. The Landscaping on the site is owned by different parties, yet all of it is maintained by the Community Association. Penrith City Council owns the public roads, medians, footpaths in public roads, roundabouts and woodland reserve. The Community Association owns all open space areas associated with the lakes and community property. The Neighbourhood Association owns all neighbourhood property.

## 2. Waterside Residential

### 2.1 Preliminary

#### Purpose of this section

The purpose of this section is to guide residential development of the Waterside area.

#### Land to which this section applies

This section applies to the land shown on Figure 4 below.

**Figure 4: Land to which the 'Waterside Residential' Part applies.**



## 2.1.1 Vision for Waterside

The development at Waterside has evolved in response to on-site and surrounding physical characteristics. The majority of residential traffic will access the site via Castlereagh Road and Laycock Street.

The development is to deliver a broad range of dwelling types that have high levels of amenity and good access to on-site open space areas and facilities.

Landscaping will separate the buildings in the Corporate and Residential zones. The proposed residential development will be separated from the light industrial buildings by dense landscaping to be contained in building setbacks, roadway verges and median strips. This landscaping will provide a transition between the different land uses and building types.

Development of Waterside is to:

- Utilise and enhance the natural characteristics of the land to create a unique community identity and special residential environment.
- Meet sound environmental planning practices and standards and satisfy ecologically sustainable design principles.
- Maintain and enhance the views through and across the subject land to the Penrith Lakes, the Nepean River and the Mountains.
- Minimise any adverse impact on residential development from noise on adjacent roads and nearby industrial development.
- Manage the collection, storage, disposal and impacts of stormwater in an environmentally sustainable and responsible manner.
- Retain and enhance the existing wetlands adjacent to Nepean Street.
- Enable a diverse range of housing forms and densities to meet the needs of different age groups and family compositions.
- Demonstrate a high standard of residential amenity and urban and architectural design quality.

## 2.1.2 Aims and Principles of this Section

### Aims of this Section

- a) To provide a clear planning framework for development in the area.
- b) To ensure that development meets sound environmental planning practices and standards and encourage development which satisfies ecologically sustainable design principles.
- c) To protect the environmental heritage of the area, whether it is of historic, aesthetic, architectural, archaeological, natural, cultural, Aboriginal or other significance.
- d) To utilise and enhance the natural characteristics of the land to provide opportunities for a unique community identity and special residential environment.
- e) To supplement and enhance the landscape character of the area.
- f) To maintain and enhance the views through and across the subject land to the Penrith Lakes, the Nepean River and the Mountains.
- g) To encourage development which enhances the area's gateway location to Penrith and Penrith Lakes.
- h) To minimise any adverse impact, to residential development, of noise from traffic on adjacent roads and nearby industrial development.
- i) To responsibly manage drainage, water management and flooding.
- j) To retain and enhance the existing wetlands adjacent to Nepean Street.
- k) To provide opportunities for visitor accommodation.
- l) To ensure that development occurs in an orderly and economic way; and

### Development Principles

1. The management of the lake system will be determined by agreement between all major parties, and will be kept within the ownership of the Community Association. The lake system consists of:
  - i. The 5 main lakes, the lateral lakes, and the water contained within the lakes.

- ii. The open space surrounding the lakes and below the 1% AEP.
  - iii. The culverts and weirs that are not within the road reserves.
  - iv. The pump system to maintain water levels and water quality; and
  - v. The water quality devices, such as gross pollutant traps, macrophyte planting, and grass swales.
2. Arrangements for the maintenance of areas within the development, including the lake system, the internal road system and any other publicly accessible areas shall be made prior to the granting of development consent for construction of the lakes system or subdivision of land and are indicated in Table 3.
3. The road system for the development, except the private accessways, shall be dedicated to Council.
4. Public access shall be provided and maintained at all times to the parks and bicycle/ pedestrian pathways identified in Figure 11.
5. The Community Association shall own and manage all open space with the exception of the Woodland Reserve, which is to be rehabilitated and dedicated as public reserve.
6. The Community Association shall maintain the lake system, open space areas around the lakes and all bicycle/pedestrian pathways. The Community Association must remove litter that may collect among the macrophyte planting.
7. The Community Association shall maintain landscaped areas within the median strips, roundabouts and footpaths.
8. The access ways are to be created as restricted neighbourhood property, to ensure that the restricted neighbourhood property users will pay for the maintenance and upkeep of those areas.
9. Dwellings are to be designed to accommodate home-based telecommunications facilities, with shared antenna/television aerials (if necessary) for dwellings on each residential 'island'.

**Table 3 – Management designation under Community Management Statement**

Element	Owned By	Maintained By	Cleaned By
Road System	Penrith City Council	Penrith City Council	Community Association.
Utility Services	Service Provider	Service Provider	Service Provider
Garbage Services	Penrith City Council	Penrith City Council	Penrith City Council
Acoustic Barrier	Community Association	Community Association	Community Association
Community Facilities <sup>1</sup>	Community Association	Community Association	Community Association
Community Property <sup>2</sup>	Community Association	Community Association	Community Association
Landscaping <sup>3</sup>	Penrith City Council, Community Association & Neighbourhood Association	Community Association	Community Association
Road Bridges	Penrith City Council	Penrith City Council	Community Association
Road Retaining Wall	Penrith City Council	Penrith City Council	Community Association
Pedestrian Bridges	Community Association	Community Association	Community Association
Main Weirs	Community Association	Community Association	Community Association
Road Culverts	Penrith City Council	Penrith City Council	Penrith City Council
Low Flow Weirs	Community Association	Community Association	Community Association

Element	Owned By	Maintained By	Cleaned By
Road Stormwater Pipelines and pits	Penrith City Council	Penrith City Council	Community Association
Road Pit Socks	Penrith City Council.	Penrith City Council.	Community Association
Gross Pollutant Traps	Penrith City Council	Penrith City Council	Penrith City Council
Recirculation System	Community Association	Community Association	Community Association
Macrophyte Planting	Community Association	Community Association	Community Association
Grass Swales	Penrith City Council.	Penrith City Council.	Community Association
Lake Warning Signs and fences	Community Association	Community Association	Community Association

#### Table notes

- N1. The community facilities are defined as facilities for the use of proprietors and occupiers of the community scheme.
- N2. The Community property is defined as property owned and maintained by the community Association.
- N3. The Landscaping on the site is owned by different parties, yet all of it is maintained by the Community Association. The PCC owns the public roads medians, footpaths in public roads, roundabouts and woodland reserve. The Community Association owns all open space areas associated with the lakes and community property. While the Neighbourhood Association owns all neighbourhood property.

### 2.1.3 Urban structure and staging

The Waterside Residential Master Plan establishes the urban structure for the planning and development of the subject land. The Plan is illustrated at Figure 5.

**Figure 5: Waterside residential master plan**



The following design principles underpinning the Master Plan must be addressed at subdivision stage:

1. Development will be located around the lakes system, community centre and open space areas which will provide focal points for the new community.
2. Housing type and density will be provided and located as indicated in Figure 8.
3. The development is to deliver a broad range of dwelling types that have high levels of amenity and good access to on-site open space areas and facilities.

4. The area will be legible and accessible to the general public. It will incorporate a bus route, cycle routes and walking tracks as indicated in Figure 11.
5. Dense landscaping contained in setbacks and road reserves will separate the buildings in the Corporate and Residential zones.
6. The road layout will accord with Figure 10 to minimise traffic movements, with the majority of residential traffic to access the site via Castlereagh Road.
7. The staging of the development within the R1 General Residential zone is proposed to generally progress southward and eastward towards the Laycock Street extension. This progressive delivery of the residential development is to accord with the recommendations of the approved Acoustic Strategy as adopted in Council's Meeting dated 8 March 2010.

#### **2.1.4 Approval Process**

1. A Concept Plan shall be submitted for Council's consideration prior to submission of specific applications for development. Separate Concept Plans for each zone may be submitted if, in the opinion of the Council, an appropriate and suitable interface between the zones is demonstrated.
2. Each Concept Plan will be reported to Council and, if adopted, will establish in more detail the character, density and built form for development in each zone.
3. Each Concept Plan shall demonstrate that the development will satisfy the quantitative and qualitative controls of this section, and shall include:
  - i. An indicative site plan for the lakes, floodway, waterways, development and subdivision (including a provisional staging plan), which provides sufficient detail to enable assessment against the provisions of the LEP and this section.
  - ii. A plan of existing significant trees (identifying those which will be retained).
  - iii. A plan for the management and maintenance of the water system, including any relevant documentary evidence of agreement/s with relevant authorities/bodies.

- iv. A report assessing the significance of identified Aboriginal sites (including those already known to exist) and a plan detailing the location of any Aboriginal sites.
  - v. A report assessing the significance of existing and potential heritage items, and a statement assessing the impact of the proposed development on those items, and the curtilage and vicinity of those items, and
  - vi. An acoustic report in accordance with the provisions of Table 5, which:
    - Identifies the noise environment of the subject land (including a plan of existing noise contours);
    - Provides an assessment of the impact of external noise sources (in particular, industrial and traffic noise); and
    - Proposes acoustic measures to mitigate any noise impacts.
4. Any subsequent application for development shall include:
- i. Details of the proposed development.
  - ii. Detailed excavation plans for the relevant land, showing the location of all cut and fill works and finished ground levels.
  - iii. An acoustic report detailing any necessary site-specific acoustic measures in accordance with the provisions of Table 5.
  - iv. Information which demonstrates the proposal complies with the relevant LEP and the provisions contained in this section (including any approved Concept Plan); and
  - v. A written description (and samples) of external materials and colours for proposed buildings, fencing, pavements, roads, landscape planting, and special treatments or features.

### **2.1.5 Specific information relating to the R1 General Residential and C2 Environmental Conservation zones**

1. Master Plans have been submitted to Council for the Waterside Precinct for the subject lands. They were placed on public exhibition and adopted by Council as amendments to this Part.

2. Specific requirements for these zones are generally listed under separate headings, except where it was more appropriate to fully incorporate the specific requirements without the use of a separate heading.
3. Applications for development in the R1 General Residential and the C2 Environmental Conservation zones must generally comply with both the specific requirements listed for that area and the general provisions of this Section, where relevant.

### **2.1.6 Wetlands Protection**

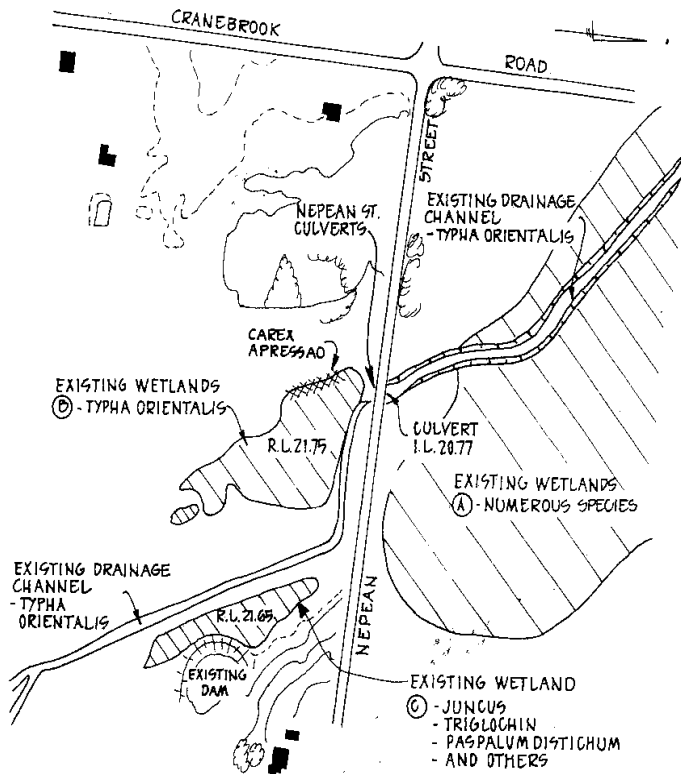
The area of the site north of Nepean Street is zoned C2 Environmental Conservation under the provisions of the Penrith LEP 2010. The wetlands area is also identified as 'Mapped Wetland 156' under the provisions of the *Sydney Region Environmental Plan No. 20 - Hawkesbury Nepean River*. Wetland 156 is mapped as a perennial wetland despite areas of the wetland being dry at various times of the year.

The wetlands cover a total area of approximately 8.2ha in three sections, fragmented by Nepean Street and an existing drainage channel. For the purposes of discussion, the three 3 fragmented areas of Wetland 156 are labelled as A, B and C (refer to Figures 6 and 7). Wetland Area A is the largest, comprising approximately 7.5ha, or 91.5% of the overall area. Wetland Area A is located to the north of Nepean Street, and will not be disturbed. Wetland Areas B and C comprise the remaining 0.7ha, or 8.5%. These two areas are located within the proposed residential area and will be disturbed.

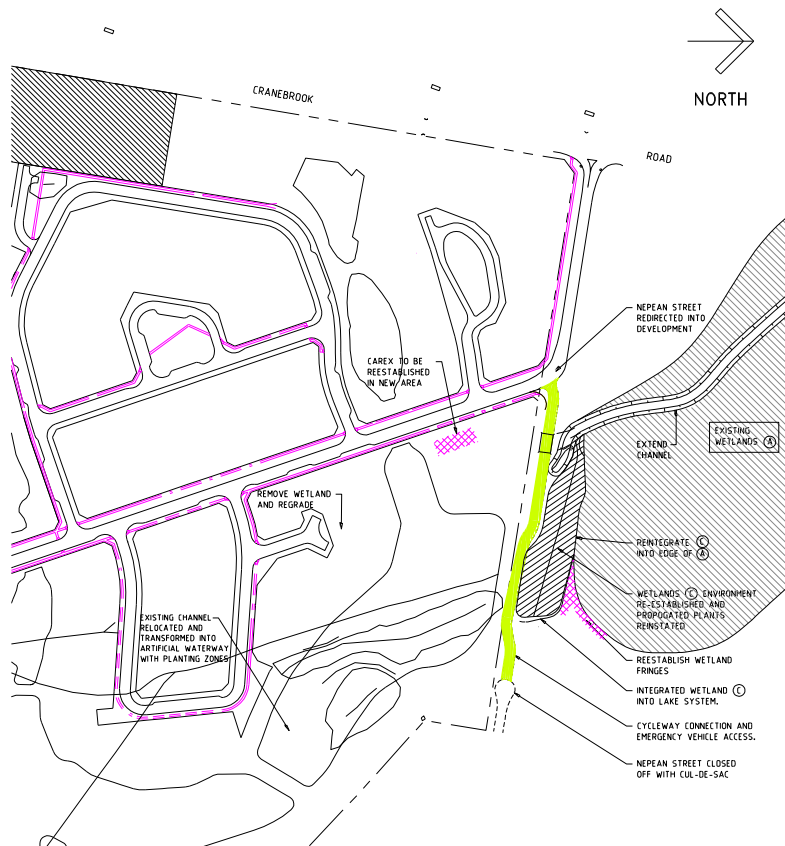
It is proposed to enlarge Area A by closing Nepean Street to through traffic; removing the carriageway of the closed section of Nepean Street; and extending Wetland Area A from the north of Nepean Street to the R1 General Residential zone. The rehabilitation will form one large wetland rather than three fragmented parts (refer to Figure 7). The loss of wetland remnant Areas B and C will be compensated by the enlargement of wetland Area A and the construction of the lake system.

The development of the lake system, in conjunction with the rehabilitation of the wetland, will increase the amount of habitat available for native fauna by approximately 222m<sup>2</sup>. The wetland rehabilitation will maintain and or potentially improve ecological biodiversity.

**Figure 6 - Existing conditions of mapped wetland 156**



**Figure 7: Proposed Wetlands Rehabilitation**



## **2.1.7 Ownership and management under the community scheme legislation**

The R1 General Residential zone will be subdivided under the community scheme legislation. This will enable the creation of individual lots under Torrens Title, Strata Schemes, and Community Property for the shared rights and responsibilities of the Community Association, and the dedication of land to the Council. It also ensures that the lakes system can be properly managed without unreasonable demands on Council resources.

Under the proposed system, the Community Association will be able to maintain and embellish publicly accessible land to a higher standard than is readily achievable with Council resources. The ongoing management and maintenance of the R1 General Residential zoned land will be the subject of a Community Management Statement. The C2 Environmental Conservation zone will not form part of the Community Scheme. This area will remain under separate title.

## **2.2 Development Requirements**

The objectives and specific requirements for elements of any development of the subject land are detailed in the following sections.

### **2.2.1 Floodway, Drainage and Site Works**

#### **Objectives**

##### General Objectives

- a) To encourage the enhancement of the natural characteristics of the land to provide opportunities for a unique community identity and special residential environment.
- b) To protect the environmental heritage of the area, whether it is of historic, aesthetic, architectural, archaeological, natural, cultural, Aboriginal or other significance.
- c) To maintain biodiversity by providing and increasing habitat for native fauna.

### Floodway and Lake System Objectives

- d) To ensure no adverse impact from flooding is experienced upstream and downstream as a result of development of this land by the incorporation of a floodway into the lakes system.
- e) To ensure that development is appropriately protected from flood inundation.

### Catchment Water Quality Objectives

- f) To ensure that an adequate and environmentally acceptable method of controlling surface water and storm water is implemented.
- g) To ensure appropriate water quality standards are maintained throughout the system and that post development water quality is an improvement on pre development water quality.
- h) To maintain adequate water quality levels throughout the lakes system at all times.
- i) To ensure that water quality standards are not compromised for the Lakes system.

### Water Quantity Objectives

- j) To ensure adequate circulation and stable levels of water through the lake system and branch waterways.

### Management of the Lakes System Objectives

- k) To ensure the maintenance of the water management system (floodway, lakes, lateral waterways and stormwater drainage) to appropriate design and environmental standards.
- l) To ensure the maintenance of the water management system to appropriate design and environmental standards.
- m) To encourage innovative design solutions to complement the management of water within the catchment.

### Wetland Protection Objectives

- n) To maintain the quantity of water reaching the Nepean Street wetland.

- o) To ensure the retention and enhancement of the existing wetlands adjacent to Nepean Street.

#### Stormwater Drainage Objectives

- p) To make adequate provision for stormwater runoff in and through the estate.
- q) To ensure the drainage system adequately protects road pavements.
- r) To encourage use of water-permeable paving such as hollow blocks with gravel centres.

#### Earthworks Objectives

- s) To ensure appropriate erosion and sedimentation control of bulk earthworks construction.

#### Contaminated Land Objectives

- t) To ensure that any contaminated land found on the site is properly managed and remediated to a level appropriate for the subject development.

#### Aboriginal Cultural Heritage and Non-Aboriginal Heritage Objectives

- u) To appropriately manage the Aboriginal cultural heritage of Waterside.
- v) To protect and preserve items of local heritage significance.
- w) To ensure that identified items of local heritage significance are adequately recorded by archival means as part of this development, if demolition is deemed necessary.

### **Controls**

#### Floodway and Lake System

1. The floodway and lake system shall be located generally in accordance with this sections relevant map/s.
2. The floodway/main lake system shall have a width no less than that determined by Council having considered both flood conveyance requirements and modelled pre/post development flood

impacts/variances for the 1% AEP, 0.5% AEP and 0.2%AEP local catchment and Nepean River flood events.

3. The lakes and lake foreshores (particularly the depth and grading) shall be designed to maximise safety.
4. Additional habitats, including islands, shall be constructed in each of the major lakes generally as indicated on Figure 12 to provide a habitat for local flora and fauna.
5. A recirculation system for the lakes shall be provided. The system must comprise components which will:
  - i. Minimise the likelihood of stratification of lakes, if this is necessary due to lake depth;
  - ii. Allow for full or partial draining of the lakes for maintenance purposes; and
  - iii. Prevent the formation of habitat conducive to mosquito breeding.

#### Catchment Water Quality

6. Water quality shall be improved and maintained by each proposed development.
7. Adequate velocity and the controlled flow of water through the system shall be maintained at all times, to ensure the quality of the water and to reduce mosquito populations.
8. Water quality shall be enhanced by trapping and removing all debris. Gross pollutant traps are to be provided where the floodway enters the property at the Andrews Rd boundary and where drainage from the south western corner of the public reserve enters the property at its eastern boundary.
9. Macrophyte planting is to be provided around the perimeter of lakes edges to assist in the filtering of nutrients.
10. The use of fertilisers and other sources of nutrients may adversely impact on water quality and shall be minimised.
11. A process for monitoring the quality of discharges from this land is required to ensure system performance is maintained. This process, and

agreed outcomes, shall be established through negotiation with the Penrith Lakes Development Corporation, Council and NSW Office of Environment and Heritage. The monitoring process shall include maintenance of nutrient levels, and shall be undertaken on a regular basis. Details of the program shall be submitted with development application/s for the construction of the lakes system.

12. A management plan for the regular maintenance of the lakes system shall be established and enforced. This shall include regular mowing and maintenance of the verges, pruning, structural and operational maintenance of the system, dewatering and de-silting the lakes and ponds, and removal and replanting of the macrophytes as required.
13. A draft management plan shall be submitted with development application/s for the construction of the lakes system.

#### Water Quantity

14. A permanent water level shall be maintained within the lateral waterways.
15. An internal pumping system must be installed to enable the pumping of water between lakes, and the maintenance of water quality.
16. The pump system shall be enclosed, or provided with acoustic treatment or barriers, to ensure residents are not affected by the noise generated by its operation.
17. Water levels in the Lakes and all laterals shall comply with the approved water management plan.

#### Management of the Lakes System

18. Council shall not issue development consent for a proposal to subdivide or develop the site unless satisfactory arrangements have been made with the Council for the ongoing maintenance and management of the lakes system.
19. As part of a development application submitted for construction of the lakes system, the following issues must be addressed:
  - i. A proposal which outlines the agreed responsibilities, of all relevant parties, for the ownership and management of the lakes system. Satisfactory arrangements regarding this matter must be achieved

prior to granting development consent for construction of the lakes system or subdivision of land.

- ii. Means of improving water quality compared with existing water quality (at the time of submission), and the proposed water quality monitoring regime.
- iii. A Water Management Plan for the maintenance of the lakes system, including a schedule of proposed maintenance activities, annualized operational costs, and capital replacement costs. The Water Management Plan should also address:
  - The water quality and quantity discharge details, including expected changes in water quality and quantity to the existing system due to development (low flows, high flows, total over average rainfall year).
  - A plan for monitoring the quality of water discharge from the site.
  - The management of pollutants such as oils, grass clippings etc.
  - The control of exotic flora and fauna.
  - Stormwater controls.
  - Groundwater effects (including any plans to draw from the groundwater for supply).
  - Sewer requirements (impact on existing sewer system and lake system).
  - Emergency controls.
  - The handling of water during the various stages of construction, as well as the final system (including site water management plan and sediment and erosion control measures).
  - The incorporation of water management facilities.
  - The process of handling contaminated fill, if required.
  - Wastewater re-use and its impact on outflow (quality and quantity).
  - Internal pumping and the impact on outflow.

- A Construction Management Plan in relation to leaching or deposition of materials into the lakes system and control of runoff; and
- A program for mosquito control and any other relevant matter identified in this section.

### Wetland Protection

20. An Environmental Impact Statement (EIS), in accordance with the provisions of the *Environmental Planning and Assessment Act 1979*, must be submitted for any works which will impact on Mapped Wetland No.156.
21. The rehabilitation of Mapped Wetland No. 156 shall be generally be in accordance with the concept plan shown in Figure 7: Proposed wetlands rehabilitation, unless this is varied by the EIS process described above.
22. Appropriate erosion and sedimentation control measures must be provided for any development in Waterside, to ensure no sediment from that development enters the wetland system.
23. Plantings for the rehabilitated wetland area must be consistent with existing natural species to blend both natural and made elements.

### Stormwater Drainage

24. All components of the drainage system shall be designed to convey the 1% AEP flow. Pipe networks within roads shall convey the 20% AEP with the road carriageway containing additional flows up to the 1% AEP. Requirements set out in the subdivision section of this DCP must be complied with.
25. Dispersed points of discharge to the waterway system (using roads, paths or open spaces) shall be provided. This may include a piped drainage system and grassed swales through open space areas.
26. Ground waters shall be protected from the impacts of any surface waters.
27. Innovative design solutions for stormwater management are encouraged. On-site stormwater detention, dual water supply and / or reuse shall be considered, and details provided for Council's consideration.

28. Any proposed drainage system shall be designed to protect road pavements.
29. The stormwater drainage system shall be designed to facilitate maintenance of footpath and road reserve areas.
30. Roof and surface water not reused on each lot is to be discharged into the lake system in a controlled manner.
31. All stormwater being discharged into the lake system is to be free of harmful pollutants, contaminants, grass litter and biodegradable matter.
32. The stormwater system shall be designed and constructed in accordance with the requirements of the Engineering Works requirements in the Appendices of this DCP and the accompanying guidelines.

#### Earthworks

33. All earthworks shall be undertaken in accordance with the NSW Government's *"Managing Urban Stormwater. Soils and Construction Manual"* (Volume 2A, January 2008) and shall minimise the potential for soil loss and pollution.
34. Full details of soil erosion and sediment control measures shall be submitted with all subdivision or development applications which will involve soil disturbance.

#### Contaminated Land

35. Geotechnique Pty Ltd. undertook a Preliminary Environmental Site Assessment in February 1999. The assessment involved:
  - i. A desktop study of all available information from the NSW Environmental Protection Authority, Lands Title Office and Land Information Centre.
  - ii. Review of soils and geological maps; and
  - iii. Site reconnaissance to identify the presence of potential contaminants.

The report concluded that the site should be suitable for the proposed development, subject to further contamination investigation and subsequent remediation, if required.

36. A Stage 2 Environmental Site Assessment must be submitted to Council as part of any development application for bulk earthworks;
37. Contaminated land must be remediated to an acceptable level prior to commencement of any earthworks in the affected area; and
38. Remediation shall involve the treating and / or mitigating of the contaminants to the satisfaction of an EPA qualified auditor, and in accordance with Land Management section within the Environmental Management Chapter of this DCP).

#### Aboriginal Cultural Heritage

39. A fully comprehensive archaeological survey of the subject land is to be undertaken to identify surface remains and areas of potential artefact bearing deposit.
40. Archaeological and cultural sensitivity maps are to be prepared.
41. A program of subsurface testing is to be undertaken in the areas of archaeological or cultural sensitivity or subsurface potential to determine the presence or absence of sites and their archaeological or cultural significance.
42. If any sites are found, an Aboriginal Cultural Heritage Management Plan may be required.
43. If an Aboriginal Cultural Heritage Management Plan is required, that plan must be submitted prior to commencement of construction of the lake system. Should it be deemed that any aspect of that construction will compromise any aboriginal cultural material, prior consultation with the National Parks and Wildlife Service and the Deerubbin Local Aboriginal Land Council (DLALC) is required.
44. Proposed earthworks shall be assessed by members of the DLALC. Onsite monitoring by the DLALC during excavation in the vicinity of identified or potentially significant sites may be required.
45. All Aboriginal cultural heritage assessment and archaeological investigation should be conducted in consultation with the DLALC.

## 2.2.2 Urban Design

### Objectives

#### General Objectives

- a) To recognise the unique setting of the site, and to express Penrith's role as a regional city, in the development of essential design elements for buildings within the estate.
- b) To protect the environmental heritage of the area, whether it is of historic, aesthetic, architectural, archaeological, natural, cultural, Aboriginal or other significance.

#### Design Elements Objectives

- c) To encourage development which satisfies principles of Environmentally Sustainable Development.
- d) To enhance views through and across the subject land to Penrith Lakes, the Nepean River and the Blue Mountains.
- e) To achieve a range of housing forms and densities.
- f) To provide opportunities for visitor accommodation,
- g) To provide a level of development that complements and enhances the waterways system.
- h) To maintain adequate building envelopes to achieve appropriate levels of scale consistent with landscaping, the desired streetscape, and the desired future amenity.

#### External Materials and Finishes Objectives

- i) To ensure that external materials and finishes complement the landscaping and urban design of the development.
- j) To enhance the streetscape and roovescape through the use of a diverse range of materials and finishes.
- k) To encourage the use of high quality external materials and finishes.

### Energy Efficiency Objective

- l) To promote energy efficient development and minimise the need for artificial lighting, heating or cooling.

### Site and Building Works Objectives

- m) To ensure that development meets sound environmental planning practices and standards.
- n) To provide a satisfactory and appropriate level of landscaping.
- o) To ensure that the design and establishment of development, community facilities, open space and waterways is undertaken in an integrated fashion.
- p) To encourage the most effective, orderly and economic provision of service infrastructure for the area.
- q) To ensure that site facilities are effectively integrated into the development, and that they are contemporary, practical, attractive and easily maintained.

### Advertising Objectives

- r) To prevent the proliferation of advertising signs.
- s) To allow signage and advertising which is complementary to the R1 General Residential built form, and does not detract from a high quality urban environment.

### **Specific Objectives for the R1 General Residential zone**

- t) To provide a suitable interface between R1 General Residential and the E2 Environmental Conservation zones.
- u) To encourage the use of the open space areas by providing an interconnected pathway system through the entire estate.

### Residential Diversity

- v) To deliver a broad range of dwelling types that have high levels of amenity and good access to on-site open space areas and facilities.

### Building Envelopes

- w) To maintain views of Penrith Lakes, the Nepean River and the Blue Mountains for the residents of Cranebrook.
- x) To provide a variety of facades and external appearances, to create a distinctive image for the estate.

### External Materials and Finishes Objectives

- y) To maximise the use of recycled materials, or components in which recycled materials have been used.

### Privacy

- z) To ensure visual privacy between dwellings.
- aa) To avoid overlooking of living spaces in buildings and private open spaces.

### Energy Efficiency

- bb) To minimise the need for artificial lighting, heating or cooling.
- cc) To ensure reasonable access to sunlight for living spaces within buildings and open spaces around buildings.
- dd) To encourage the siting, design and construction of dwellings that will receive the maximum benefit from solar energy and provide for energy conservation measures.
- ee) To allow for active solar energy devices such as domestic water heaters and / or use of solar energy for all household power requirements,

### Fencing

- ff) To ensure fencing complements development style.
- gg) To ensure fencing does not contribute to problems relating to safety and overlooking.

## **Controls**

### Design Elements

1. The design and appearance of each building and/or development, particularly when viewed from the waterways, other public places and

Cranebrook must be of a high standard which meets the design requirements of the section.

2. The design of each building and/or development must satisfy ecologically sustainable design principles.
3. An integrated design for lighting and signage is to be implemented throughout the estate.
4. The wetlands at the northern end of the estate shall not be adversely affected by any development.

#### External Materials and Finishes

5. The external finishes of all development are to be:
  - i. Durable, high quality, low maintenance materials.
  - ii. Compatible with the overall design and form of the estate.
  - iii. Considered in association with proposed planting and landscape treatment; and
  - iv. Considered in the context of their ability to mitigate acoustic impact.
6. Roof materials shall not be highly glazed or reflective.
7. Large areas of reflective materials will not be accepted.
8. Fencing must integrate with the built form and landscape character, with a continuity and consistency to its design (form, material and colour).

#### Energy Efficiency

9. Winter solar penetration should be maximised and summer solar penetration minimised.
10. Natural ventilation opportunities should be maximised.

#### Site and Building Works

11. All buildings on the site shall be designed and built such that their structural integrity can withstand flood flows generated by a flood equivalent to the Nepean River 'Flood of Record'- equating to the 0.5% AEP Flood Event. Damage potential is to be determined considering flood

duration, flood depth and flow velocity such that buildings do not sustain structural damage or loss of load bearing capacity following immersion. Council will be guided by reference to available documentation provided in the 'Nepean Floodplain Management Strategy' in its determination as to whether flood compatible building design and material selection have been adequately considered. Appropriate modelling and mapping is to be undertaken to determine those areas of the site which when fully developed would present development characteristics where special flood compatible building design is required.

12. All lots should have their finished surface at least 500mm above the 1% AEP flood level generated by local catchment or Nepean River flood flows, whichever ever generates the higher flood levels.
13. Where finished ground levels are not 0.5m above the 1% AEP flood event level, dwellings shall be constructed with habitable floor levels a minimum of 0.5m above the flood level.
14. Water quality, downstream of any proposed development, shall be improved and maintained throughout any construction and/or development works.
15. Stormwater on each lot shall be captured and stored, where feasible, for future use in landscape maintenance.
16. Recycling of stormwater for garden irrigation shall be implemented by the provision of on-site stormwater detention to standards specified by Council.
17. Finished surface and ground levels shall fall to property boundaries and along roads to achieve adequate drainage.
18. Soil erosion and sediment control measures shall be in accordance with the NSW Governments' *"Managing Urban Stormwater. Soils and Construction Manual 2004"* (Landcom, 2004). Details shall be submitted to Council with each development application.

#### Site Facilities

19. Waste and recycling facilities are to be provided in accordance with the Waste Management Section of this Plan.

20. A Waste Management Plan is required to be submitted with any development application for demolition, construction and or use of residential, commercial and industrial development.

### Advertising

21. All advertising is to comply with the advertising and signage requirements of this plan and be:

- i. Constructed of high quality durable materials
- ii. Considered in conjunction with the design and construction of buildings; and
- iii. Contained wholly within the site.

22. Hoardings may be displayed during construction, subject to Council's approval, and must be removed upon completion of the relevant building/s.

23. Real Estate signs may be displayed during periods of sale, providing the signs are located within the relevant property boundaries, and not located on footpaths and other pedestrian areas.

24. The Community Association shall be responsible for the cleaning of any graffiti that occurs within the estate.

### Residential Densities

25. Development shall establish a range of housing densities and forms across the estate:

26. Subdivision may be in the form of 'A' type lots, 'B' type lots, 'C' type lots, 'D' type lots and 'E' type lots (Refer to the Residential Development part of this Section).

27. A mix of housing lots and types shall be generally consistent with the residential densities and lot layout shown in Figure 8: Residential Densities; and

- i. The notional yield for each of the 'dwelling types' are outlined in Table 4.

28. The location of the 'dwelling types' shall comply with the requirements of the section except where it can be demonstrated that:

- i. the overall density of the proposed development parcel will still be achieved, and
- ii. the proposed densities, range of lot sizes, and built form/designs still achieve the aims, objectives and requirements of the section.

### Streetscape and Amenity

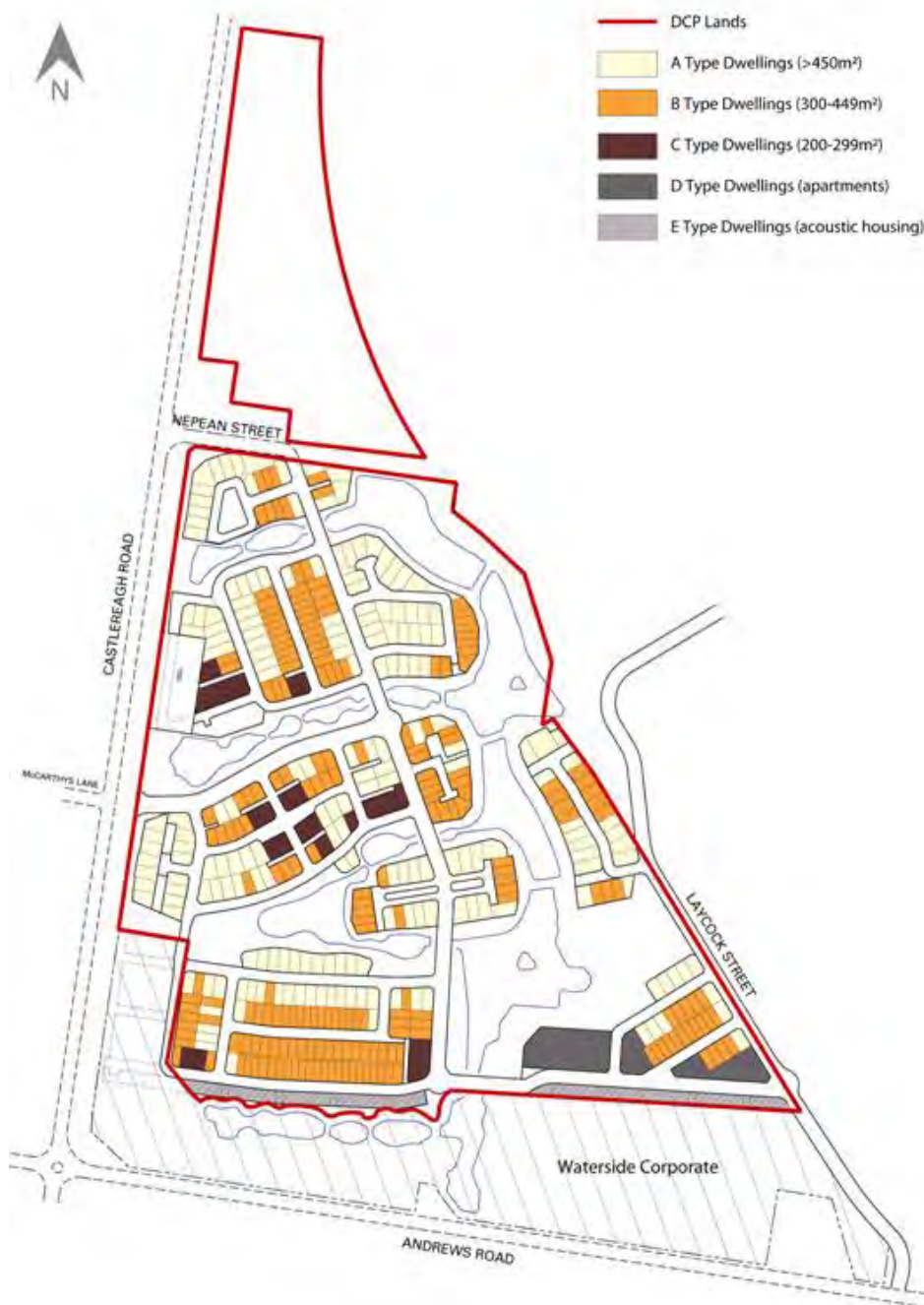
29. A mixture of housing designs shall be provided, to create attractive and varied streetscapes.
30. Dwellings adjoining pathways and access ways should be designed, through placement of living spaces and windows, in such a way that the public areas can be observed from the dwellings. This is to increase security and to encourage a sense of ownership by the occupants.
31. Buildings, materials and fencing should be articulated and designed to integrate pathways and access ways. This is intended to increase security and create a sense of ownership.
32. Dwellings adjoining public open spaces, pathways and waterways shall be provided with outdoor spaces in which privacy can be ensured without obstructing the important public views.
33. The streetscape, dwelling designs and site layouts should generally reflect the indicative concept site plans in Section 2.2.6.1 Dwelling Types.

**Table 4: R1 General Residential Design Elements**

Design Elements	'A' Type Dwellings	'B' Type Dwellings	'C' Type Dwellings	'D' Type Dwellings	'E' Type Dwellings
% of notional yield	34%	38%	7%	5%	16%

Note: Percentages based on yield, not developable area.

**Figure 8: Residential densities**



### Building Envelopes

34. Variations in setbacks and building heights may be considered where they will not compromise the objectives of this section, and will contribute to a varied and attractive streetscape.
35. Any changes in scale of 'D' type dwellings, adjacent to lower density residential housing, should reflect the change in both detailing and mass.

36. Design and built form of 'D' Type dwellings are to be considered in accordance with relevant principles of *State Environmental Planning Policy (Housing) 2021*.
37. 'E' type dwellings are to be designed to be groups of interconnecting dwellings made up of approximately 7 to 11 dwellings.
38. Each group of 'E' type dwellings are collectively not to have site coverage of more than 60% of the total site area.
39. Parking under buildings shall be considered to be a storey if it is more than 1.5m above finished ground level.
40. Projections permitted into the setback areas include eaves, sun hoods, gutters, down pipes, flues, light fittings, electricity or gas meters. Any of these elements may project a maximum of 1.0m.

#### External Materials and Finishes

41. Material selection must take into account the life cycle effect of their manufacture, use and disposal to minimise the effect on the environment. The following environmental factors shall be considered in such analysis:
  - i. environmental impact throughout their life cycle.
  - ii. energy use throughout their life cycle.
  - iii. carbon dioxide emission during manufacture, use and disposal.
  - iv. toxicity content and toxin production during manufacture, use and disposal.
  - v. reactive organic compound content.
  - vi. rare and non-renewable material content.
  - vii. potential for re-use or recycling.
  - viii. re-use or recycled material content.
  - ix. transport and distribution requirements.
  - x. thermal comfort.
  - xi. maintenance.

- xii. durability; and
  - xiii. cost.
42. No materials or construction techniques are to be used which may in some way leach or deposit pollutants into the ecological system of the lakes. A Construction Management Plan must be submitted to Council for approval prior to commencement of construction. The Construction Management Plan must address:
- i. the type of the staging and timing of construction
  - ii. building materials used
  - iii. the measures to prevent any leaching or deposition of materials into the lake system
  - iv. the method of sorting waste for recycling, e.g. separation of metal, concrete and timber in individual containers prior to transportation from the site, and (v) control of stormwater runoff; and placement and storage of building related elements.

### Privacy

43. Visual privacy shall be achieved by:
- i. using windows that are narrow, translucent or have distorted glass,
  - ii. ensuring windows do not face directly onto the windows, balconies or courtyards of adjoining dwellings, and
  - iii. screening opposing windows, balconies and courtyards.
44. Windows, doors and balconies, particularly those above ground level, shall be designed or placed to minimize overlooking of neighbouring outdoor open spaces.

### Energy Efficiency

45. Any development or buildings for residential purposes shall:
- i. be designed to ensure that the northern facade of new dwellings, and 50% of their private and / or landscaped open space (including the main area), receive a minimum of 3 hours direct sunlight between the hours of 9am and 3pm on 21 June each year.

- ii. be designed and located to ensure that adjoining residential buildings and 50% of their private and / or landscaped open space (including the main area), receive a minimum of 3 hours direct sunlight between the hours of 9am and 3pm on 21 June each year.
- iii. include ceiling insulation to an equivalent thermal rating of at least R2.0 and wall insulation to an equivalent thermal rating of at least R1.5; and
- iv. include protection from the entry of summer sunlight by shading devices on external openings to habitable rooms.

46. All dwellings shall be designed to achieve relevant BASIX requirements.

#### Site Facilities

47. Outdoor clothes-drying areas for multiunit housing (other than for 'D' type dwellings) shall be provided in separate enclosures, to maximise security. These drying areas should be screened from the public view.

48. A central reception aerial / master antenna shall be provided for any proposed development of more than two dwellings. Satellite dishes shall be screened from any public place. Details of any proposed aerial, antenna or dish shall be submitted with the development application.

49. Dwellings are to be designed to accommodate home-based telecommunications facilities and information technologies, by allowing for:

- i. Additional telephone lines and outlets
- ii. Additional electrical outlets; and
- iii. Satellite or cable-based reception.

#### Fencing

50. The type, style and design of the fencing must complement surrounding buildings and the landscape design.

51. The following types of fencing are prohibited:

- i. Colorbond; and
- ii. Mesh wire fencing; and

- iii. Chain link fencing.
- 52. Fences bounding the edge of the lake system shall have a maximum height of 1.5m.
- 53. Fences bounding pathways and access ways shall be no higher than 1.8m.
- 54. Fencing and courtyard walls forward of the building line shall be a maximum of 1.2m, with exception of 'E' type dwellings.
- 55. Side fences (to the rear of the building line) and rear fences shall not exceed 1.8m.

### **2.2.3 Acoustic requirements**

#### **Objectives**

##### General Objectives

- a) To ensure that development meets sound environmental planning practices and standards.
- b) To minimise any adverse impact, to residential development, of noise from traffic on adjacent roads and nearby industrial development.
- c) To ensure that the residential uses of this site do not restrict, by way of additional noise controls or requirements, future development or expansion of adjacent industrial activities.
- d) To ensure that the design of any acoustic measures contribute to the visual amenity of Waterside and are suitably integrated with the built form and landscaping of the site.

#### **Specific Objectives for the R1 General Residential zone**

- e) To facilitate residential development by requiring acoustic barriers along Castlereagh Road.
- f) To facilitate residential development by ensuring appropriate acoustic measures along Andrews Road.
- g) To require acoustic barriers that are aesthetically appealing.

**Table 5: Acoustic reports**

Submission	Details
Acoustic Report with each Concept Plan.	Proposed acoustic measures for the estate
Acoustic Report with each Development Application.	Site-specific acoustic measures for each proposed development.
Certificate Of Compliance when the lake system and waterways have been completed.	Compliance required with outdoor noise criteria in residential areas.
Certificate Of Compliance when any relevant acoustic barrier/s or buildings have been completed.	Compliance required with outdoor noise criteria in affected areas prior to proceeding with residential development.
Certificate of Compliance prior to occupancy of each residential building.	Compliance required with internal noise criteria in affected areas.

## Controls

### Acoustic Requirements

1. An acoustic report, prepared by an accredited acoustic consultant approved by Council, shall be submitted at each relevant stage of development, as specified in Table 5.
2. A certificate of compliance, prepared by an accredited acoustic consultant approved by Council, shall be submitted at each relevant stage of development, as specified in Table 5.
3. If Council considers that an acoustic report or certificate of compliance does not adequately address all relevant issues, or provide all relevant information, Council may require additional acoustic surveys to be undertaken or the submission of additional information.
4. Noise attenuation measures along Andrews Road and Castlereagh Road shall be designed to be consistent with the landscape setting of the estate.
5. Noise attenuation measures shall consist of a range of treatments such as (but not limited to) landscaped mounds, varied setbacks, appropriate

building designs, acoustic treatments (such as double glazing) and acoustic barriers.

6. Noise attenuation measures shall integrate with and complement the design and siting of the proposed residential development.
7. Landscape planting in any acoustic measures shall comply with the Landscape Design section within the Environmental Management Chapter of this DCP.

#### Noise Measurement Criteria

8. A minimum of 2 weeks' measurement of ambient noise levels, which provides a minimum of 150 valid data samples.
9. A minimum of 1 week's measurement of traffic noise.
10. A minimum of 2 weeks measurement of industrial noise, which provides a minimum of 150 valid data samples, for each of the specified time periods, being:
  - i. noon to 4.00pm (day time)
  - ii. midnight to 4.00am (night time).
11. A minimum of 4 logger points, at the worst affected locations as specified by Council, within the Waterside site.
12. A minimum of 2 logger points for control monitoring, at relevant locations specified by Council, outside the Waterside site (e.g. Graham Close and Echo Place).

#### Noise Prediction Criteria

13. The acoustic report is to include, where relevant, predictions using a recognized calculation procedure, such as the Calculation of Road Traffic Noise (CORTN) or the FHWA method and the latest available annual average daily traffic volume figures supplied by Transport for NSW or Council.
14. The acoustic report is to recognise, where relevant, future traffic noise levels, given anticipated changes in usage.

## Report & Certificate Information

15. The following information, where relevant, shall be provided with each acoustic report or certificate:
- i. Details of local topography, existing and proposed buildings, and exposed or shielded situations which may affect the results (*and any relevant allowances made*).
  - ii. Details of meteorological conditions during the periods of acoustic measurement.
  - iii. The measured noise levels for all noise sources in 9, 10 and 11 above.
  - iv. The predicted traffic noise levels at specified locations, being the midpoint of each site boundary and, where relevant, 1m from the external facade walls of each floor of any building.
  - v. Details of outdoor noise levels relevant to the calculated interior noise levels for each building.
  - vi. The sound insulation performance ratings of external facade walls in terms of individual components and composite construction (*test result data may be required*).
  - vii. Plans and sections of the site detailing buildings, logger locations and other relevant details; and
  - viii. A statement of opinion confirming compliance with the relevant acoustic criteria.

## Acoustic Requirements – R1 General Residential zone

16. Dwellings in the R1 General Residential zone shall not be occupied unless the indoor and outdoor noise levels comply with the provisions of the Waterside Clause in Penrith LEP 2010.
17. Acoustic barriers shall be provided along the site's Castlereagh Road frontage. The acoustic barriers must be designed to achieve compliance with the provisions of the Waterside Clause in Penrith LEP 2010.
18. The acoustic barriers may comprise a combination of earth mounding, timber, steel, bricks, concrete and transparent acrylic and may be integrated with residential development such as in the case of 'E' type dwellings.

19. Dense landscaping shall be provided between the acoustic barriers and Castlereagh Road to maintain aesthetic appeal.
20. Where the 'Building Interior Noise Criteria' outlined in the LEP are exceeded, after construction of the acoustic barrier along Castlereagh Road, additional sound-rated glazing for affected rooms may be required.
21. An acoustic report, prepared by an accredited acoustic consultant approved by Council, shall be submitted with any development application for a dwelling, which verifies compliance with the relevant provisions of the Waterside Clause in Penrith LEP 2010.

## **2.2.4 Landscape planting and open space**

### **General Objectives**

- a) To ensure that development meets sound environmental planning practices and standards.
- b) To enhance the landscape character of the area.
- c) To enhance the views through and across the subject land to Penrith Lakes, the Nepean River and the Blue Mountains.
- d) To ensure that the design and establishment of development, community facilities, open space and waterways is undertaken in an integrated fashion.
- e) To provide open spaces which are safe and inviting to use.
- f) To encourage the most effective, orderly and economic provision of service infrastructure for the area.
- g) To preserve the natural landscape where feasible and provide habitat for native fauna.
- h) To encourage planting of species appropriate to both the development and the locality.
- i) To retain significant trees wherever possible.
- j) To provide landscaping which screens and softens building mass and roof form, particularly when viewed from surrounding areas.

- k) To encourage the grouping of landscaped areas between adjoining development to consolidate open space areas and allow a greater density of tree planting.
- l) To encourage landscaping that is suitably integrated with acoustic treatment, particularly along the boundaries of the site.

## **Specific Objectives for the R1 General Industrial zone**

### Tree Preservation

- m) To preserve the natural landscape where feasible, and provide habitat for native fauna.

### Landscaping

- n) To embellish the site through quality landscaping.
- o) To encourage the planting of species consistent with the overall estate development and surrounding locality.

### Planting

- p) To encourage the planting of species consistent with the overall estate development and surrounding locality.
- q) To encourage the planting of trees that when mature are similar in scale to the specific developments.
- r) To provide screening where required and to 'soften' building masses through appropriate tree planting layout and species selection.
- s) To encourage the grouping of landscaped areas between adjoining developments to consolidate open space areas that allow a greater density of tree planting.

### Landscaped Open Space

- t) To ensure that adequate landscaped open space is provided for residential development, and

### Private Open Space

- u) To ensure that adequate private open space is provided for residential development.

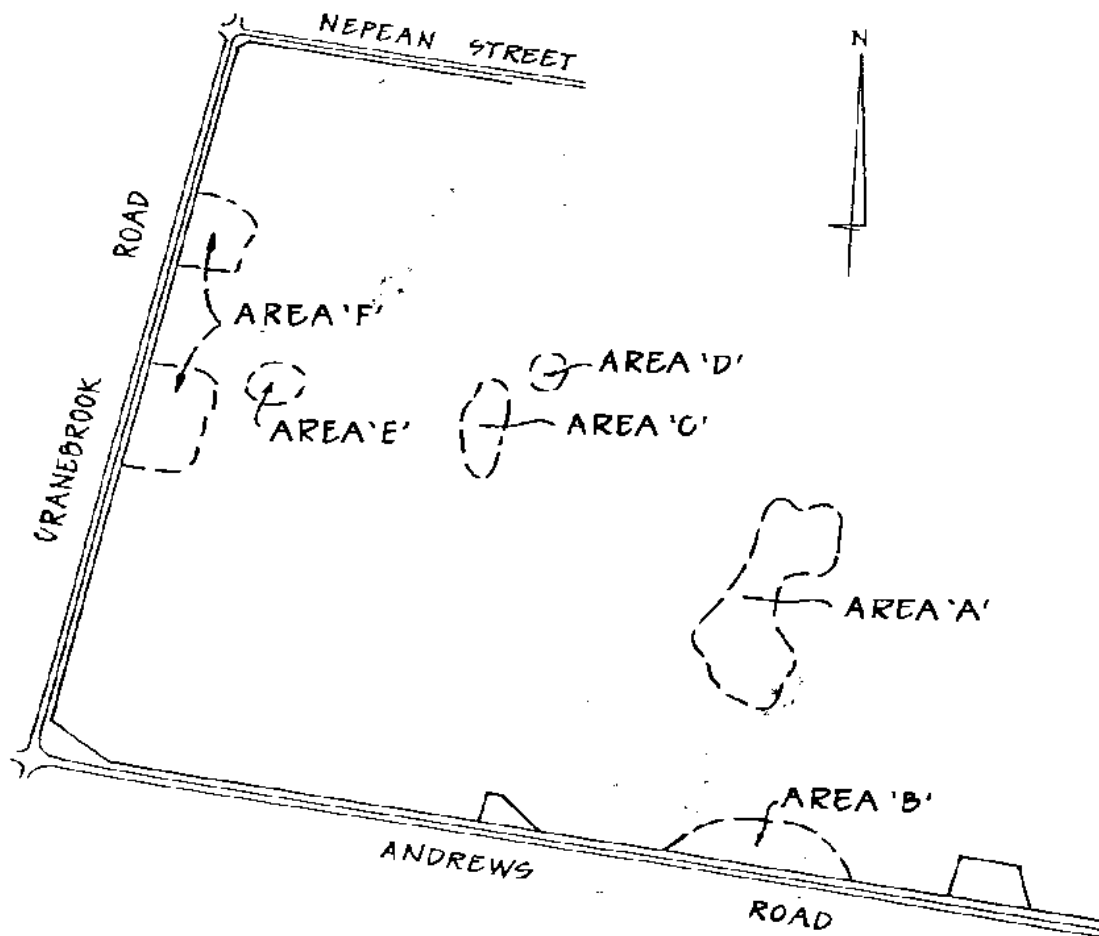
## Controls

### Design Elements

1. Design of open space areas and buildings shall enhance existing views and create opportunities for additional views within and through Waterside.
2. Dwellings shall face towards streets, open spaces, footpaths and cycleways to provide for visual surveillance of public spaces.
3. A minimum 40m separation shall be provided between dwellings and/or other buildings on opposite edges of a lake or lateral waterway.
4. Existing trees are to be preserved when possible, and supplemented by additional landscape planting.
5. Pedestrian pathways and cycleways shall be linked to provide a safe, integrated and continuous pedestrian/cycle network around the lake system and within the development.
6. Pathways must not be fenced from view, except where they are short straight paths between properties, with both ends visually open.
7. Evergreen and flowering hedges are encouraged as a strong visual component of all streetscapes.
8. Super-advanced tree planting shall be planted along all roadways, and fast-growing species are encouraged.
9. Large canopy native trees which are common to this region, including those species currently present, shall be planted along the major roads and throughout the open space areas and shall consist of species such as:
  - i. Casuarina cunninghamiana
  - ii. Casuarina glauca
  - iii. Eucalyptus amplifolia
  - iv. Eucalyptus moluccana
  - v. Eucalyptus tereticornis

- vi. *Melaleuca linariifolia*
  - vii. *Schinus areira*
10. Planting along avenues, and feature planting in the open space areas shall consist of species such as:
- i. *Acer negundo*
  - ii. *Celtis australi*
  - iii. *Gleditsia 'sunburst'*
  - iv. *Lagerstroemia indica*
  - v. *Populus deltoids*
  - vi. *Populus yunnanensis*
11. Landscape planting in shareways and access ways shall consist of small scale plantings such as:
- i. *Callistemon citrinus*
  - ii. *Callistemon viminalis*
  - iii. *Camellia sasanqua*
  - iv. *Lagerstroemia indica*
  - v. *Magnolia grandiflora*
  - vi. *Melaleuca linarifolia*
  - vii. *Melaleuca styphelioides*
  - viii. *Robinia psuedoacacia "Frisia"*
12. Water edge treatment is subject to Council being satisfied that public safety and maintenance have been adequately addressed.

**Figure 9 – Existing vegetation on site (Plan courtesy of Bowdens Group)**



### Tree Preservation

13. The 5 factors in Section 7.3 of the *Biodiversity and Conservation Act 2016* must be taken in account and be addressed in any development application that may impact on vegetation within mapped 'Area A' in Figure 9 Existing vegetation on site.
14. A rehabilitation and management plan shall be prepared for the stand of trees mapped as Area A, which includes a requirement for the removal of the weeds that currently exist on the site, and to ensure its future use as a public reserve. A planting regime will be required in conjunction with a management regime to suppress further weed growth.
15. Care should be taken to ensure that the Grey Box *E. Moluccana* is not affected or impacted upon by altering the existing hydrological processes in the course of earthworks or any other works.

## Landscaping

16. Plant species shall generally be chosen from the suggested species list provided in Table 6: Suggested Species List.
17. The Castlereagh Road, Nepean Street and Laycock Street frontages are to be densely planted between the boundary alignment and the carriageway.
18. Sydney Water and Integral Energy are to be consulted with regard to the location of landscape planting along Castlereagh Road, to prevent any conflict with service provision.
19. No imported topsoil is to be used. All existing topsoil must be stockpiled and rehabilitated on the site.

## Planting

20. Landscape planting and built elements shall be used to provide internal privacy without obstructing views from dwellings.
21. Property owners are encouraged to plant species from the suggested species list provided in Table 6.
22. The planting of *Typha orientalis* - *Cumbungi* is prohibited due to the adverse impact that species has on waterway systems.
23. 2m wide landscaped areas are to be provided between car parking aisles.
24. In car parking areas, trees should be planted every 10 spaces in defined planting nibs a minimum of 2m wide.

## Landscaped Open Space

25. The following minimum landscaped open space requirements apply for each dwelling type:
  - i. A' type dwellings 50% of site area
  - ii. B' type dwellings 40% of site area
  - iii. C' type dwellings 35% of site area
  - iv. D' type dwellings 35% of site area

- v. E' type dwellings 20% of site area
26. Any landscaped area having a dimension less than 2.0m shall not be included in the calculation of landscaped open space for A, B and C Type dwellings only.
27. Private open space is included in the calculation of landscaped open space.
28. Notwithstanding Control 25, where single story dwellings are proposed, the minimum landscaped open space requirements are as follows for A and B Type dwellings:
- i. A' type dwellings 50% of site area (where allotments are >550m<sup>2</sup>)
  - ii. A' type dwellings 40% of site area (where allotments are 450-550m<sup>2</sup>)
  - iii. B' type dwellings 30% of site area

#### Private Open Space

29. An area of usable private open space, at ground level as a garden or courtyard, or as a balcony, shall be provided for each dwelling
30. 'A' 'B' 'C' and 'E' type dwellings are to have a minimum of 20% of the lot area allocated as private open space which is to include:
- i. A principal area of 24m<sup>2</sup> with a minimum dimension of 4m, directly accessible from a major living area of the dwelling; and
  - ii. At least 65% of the private open space is to be unroofed soft landscaping excluding swimming pools and outdoor rooms.
31. Upper storey 'E' type dwellings are to have a minimum of 20% of the lot area allocated as private open space which is to include a principal area of 24m<sup>2</sup> with a minimum dimension of 4m, directly accessible from a major living area of the dwelling.
32. Private Open space for 'D' type dwellings is to be determined by design.
33. The principal area of private open space shall be located to:
- i. have direct access from the living room(s),

- ii. to receive at least 3 hours of sunlight between 9am – 3pm on June 21 each year,
  - iii. maximise privacy for the residents and neighbours, and
  - iv. minimise overshadowing from adjoining properties.
34. Private open space can be made up of more than 1 courtyard provided that 1 area has a minimum area of 24m<sup>2</sup> and a minimum width of 4.0m.
35. Where the siting and location of 'D' type dwellings prevents adequate solar access to private open space, an alternative building design providing private open space in the form of roof terraces, may be considered.

**Table 6: Suggested species list**

Native Trees	
Angophora floribunda	Rough-barked Apple
Casuarina cunninghamiana	River Oak
Casuarina glauca	Swamp Oak
Eucalyptus amplifolia	Cabbage Gum
Eucalyptus crebra	Narrow-leaved Ironbark
Eucalyptus elata	Peppermint
Eucalyptus globoidea	White Stringybark
Eucalyptus maculata	Spotted Gum
Eucalyptus moluccana	Grey Box
Eucalyptus sideroxylon	Pink Flowered Iron Bark
Eucalyptus tereticornus	Forest Red Gum
Ficus hillii	Hills Weeping Fig
Lophostemon confertus	Brush Box
Melaleuca decora	Paperbark
Melaleuca linariifolia	Snow in Summer
Melaleuca quinquenervia	Broad-leaved Paperbark
Melaleuca styphelioides	Prickly-leaved Paperbark
Tristaniopsis laurina	Water Gum

Native Shrubs	
Acacia implexa	Hickory
Acacia decurrens	Sydney Green Wattle
Acacia parramattensis	Parramatta Green Wattle
Callistemon sp.	Bottle Brush
Daviesia ulicifolia	Gorse Bitter-pea
Dillwynia juniperina	Prickly Parrot-pea
Dodonaea viscosa purpurea	Hop Bush
Grevillea 'Honey Gem'	Grevillea
Indigofera australis	Native Indigo
Native Aquatic Plants	
Carex appressa	Tall Sedge
Cyperus gunnii	Spike
Elaeocharis acuta	Rush
Elaeocharis sphacelata	Common Rush
Juncus usitatus	Tassel Cord-rush
Resteo tetraphyllus	
Scirpus validus	
Exotic Street Trees	
Fraxinus oxycarpa	Claret Ash
Gleditsia "Sunburst"	Honey Locust
Lagerstroemia indica	Crepe Myrtle
Pistacia chinensis	Chinese Pistacia
Prunus sp	Cherry
Sapium sebiferum	Chinese Tallowood
Ulmus parvifolia	Chinese Elm
Zelkova serrata	Japanese Elm
Grasses and Accents	
Agrostis avenacea	Blown Grass
Cymbopogan refractus	Barbed Wire Grass

Carex appressa	Tussock Sedge
Cyperus exaltatus	Tall Flat-sedge
Cyperus polystachyos	
Dianella revoluta	Spreading Flax Lily
Danthonia sp	Wallaby Grass
Dichelachne micrantha	Short-hair Plume Grass
Echinopogon caespitosus	Tufted Hedgehog Grass
Eragrostis elongata	Lavender Grass
Gahnia sieberiana	Red-fruited Saw-sedge
Hermarthriz uncinata	Matgrass
Lomandra longifolia	Spiny-headed Mat-rush
Microlaena stipoides var stipoides	Weeping meadow Grass
Phragmites australis	Common Reed
Poa labillardieri Eskdale	Tussock Grass
Themeda australis	Kangaroo Grass

## 2.2.5 Roads and car parking

### Objectives

#### General Objectives

- a) To ensure the road network is designed and constructed to provide long term performance with minimal maintenance.
- b) To ensure that development meets sound environmental planning practices and standards.
- c) To ensure a safe and efficient internal road system, and a safe and secure environment for pedestrians and cyclists.
- d) To prevent direct vehicular access to or from any development from designated roads (Castlereagh Road).
- e) To ensure the provision of safe, convenient and attractive car parking areas throughout the estate for the use of residents and visitors.

- f) To encourage the most effective, orderly and economic provision of service infrastructure for the area.
- g) To provide distinct, functional and attractive entrances to the development.
- h) To avoid disruptions to through traffic travelling along Castlereagh and Andrews Roads.
- i) To clearly define road hierarchies through effective planting.
- j) To provide convenient and functional public transport routes.
- k) To ensure that adequate on-site parking is provided to meet the needs of each development.
- l) To ensure parking area layout enhances the function and appearance of the development.
- m) To screen parking areas from public view.
- n) To ensure that underground parking entrances and loading docks do not dominate building facades and do not detract from the streetscape.

#### Road Network Objectives

- o) To provide distinct, functional and attractive entrances to the site.
- p) To avoid disruptions to through traffic travelling on the main thoroughfares of Castlereagh Road and Andrews Road.
- q) To delineate road hierarchies through effective road planting.
- r) To provide convenient, safe and publicly accessible bicycle/pedestrian paths.
- s) To provide convenient and functional public transport routes.

#### On-Site Parking and Pedestrian Access Objectives

- t) To ensure each development provides adequate parking on site to accommodate all parking demands generated by the development.
- u) To encourage the development of a parking layout which enhances the function and appearance of the development.

v) To ensure that garage doors and entrances to underground car parking areas do not dominate building facades and do not detract from the desired streetscape.

w) To ensure safe and functional pedestrian movement.

## **Controls**

### Road Network and Design

1. All roads shall be generally designed and constructed in accordance with the road widths outlined in the Transport, Access and Parking Chapter of this DCP and the Road Hierarchy shown at Figure 10.
2. The significant entries to the estate shall be located generally in accordance with Figure 12.
3. All roads into and within the estate shall be landscaped with super-advanced trees and plants.
4. Roads within the estate shall be constructed above the 1% AEP flood level.
5. Direct vehicular access from any designated road shall not be permitted, other than access for existing dwellings, or access via the defined entries to the estate.
6. Access for developments, from Castlereagh Road or the 'Entry Avenue' off Laycock Street, shall only be permitted via an approved road. Individual driveways for site-specific developments will not be permitted.
7. Roads within the estate shall be designed to minimise traffic speeds, maximise traffic and pedestrian safety and provide visual reinforcement for different functions by the use of a variety of surface materials and colours.
8. Roundabouts shall be constructed to specifications, and at locations, to be determined by Council. Specifically roundabouts or similar control mechanisms will be required at the intersections of:
  - i. McCarthy's Lane and Castlereagh Road.
  - ii. Andrews Road and Laycock Street.
9. All roads are to be sign posted at their design speed.

10. On completion of the Laycock Street extension, Nepean Street shall be closed and rehabilitated.
11. Bus bays/shelters are to be provided to specifications, and at locations, to be determined by Council.
12. The bus shelters must be constructed from high quality materials and designed to complement the surrounding streetscape.
13. Traffic calming devices shall be provided to specifications, and at locations, to be determined by Council.
14. An evacuation plan for the residents and visitors of the estate shall be developed in conjunction with the State Emergency Service. Details of this plan shall be submitted to Council prior to occupation of any residential development.

#### Pedestrian / Cycleway Network

15. Publicly accessible bicycle / pedestrian paths are to be provided in the locations shown on the map at Figure 11: Land Accessible to the Public.
16. A physical barrier and median strip refuge must be provided where the bicycle / pedestrian paths intersect with a roadway.
17. Parking areas are to be designed to minimise vehicular / pedestrian conflict. A pedestrian pathway connection between the car parking areas and the building access points shall be provided.

**Figure 10 – Road hierarchy**



**Figure 11 – Land accessible to the public**



### Garage Requirements

18. Garages must not dominate the streetscape.
19. Where an access way is provided to a lot, garages are to be at the rear of the site.
20. Where there are no access ways, garages should be carefully integrated with the built form of the dwelling.
21. Garages facing rear access ways should be positioned to create a private open space for the dwelling while allowing for views from the dwelling to the access way.

22. To maintain access way security, habitable rooms over garages are encouraged.

**Figure 12: Key design elements (Waterside Residential)**



## 2.2.6 Residential development

This Part provides more detail objectives and performance criteria for a variety of typical development forms.

### Objectives

Residential development in Waterside shall be designed to:

- a) Provide specific controls for residential development in Waterside.
- b) Be compatible in scale with the mass and character of adjacent building types.
- c) To ensure development is appropriately scaled to suit the dwelling's local context.

#### 2.2.6.1 Dwelling types

The dwelling types which reflect the controls in the next section are described as follows:

##### 'A' type Dwelling – Custom House Lots

Lots 450m<sup>2</sup> or greater, sold as land upon which housing, constructed by any builder, may be constructed provided the design complies with this section and any adopted Design Guidelines. The house will generally be detached, in single or two storey form. Lot modules are *generally* a 15m or greater frontage and a 30m or greater depth.

**Figure 13: Type 'A' Dwelling example**



'B' type Dwelling – Designer Lots

Lots 300m<sup>2</sup> or greater, but less than 450m<sup>2</sup>, sold as land to the public, upon which, housing, constructed by one of only three pre-selected builders, using pre-approved designs (complying with this section and any adopted Design Guidelines) may only be constructed. The house may be either attached or detached, single, part single and part two storey (to avoid overshadowing of solar courts) or two storeys. Lot modules are *generally* 10m x 30m (with zero lot line) or 12.5m x 30m. Garages may be on the lot boundary.

**Figure 14: Type 'B' dwelling example (1)**

**TYPE B DWELLING**



**Figure 15: Type 'B' dwelling example (2)**

## TYPE B DWELLING



## 'C' type Dwelling – Terrace & Courtyard Lots

Lots 200m<sup>2</sup> or greater, but less than 300m<sup>2</sup>, which have had the final house design submitted and approved at the subdivision stage. The house will be either attached (i.e. one of two terraces) or detached on a zero lot line with a courtyard.

**Figure 16: Type 'C' dwelling example**

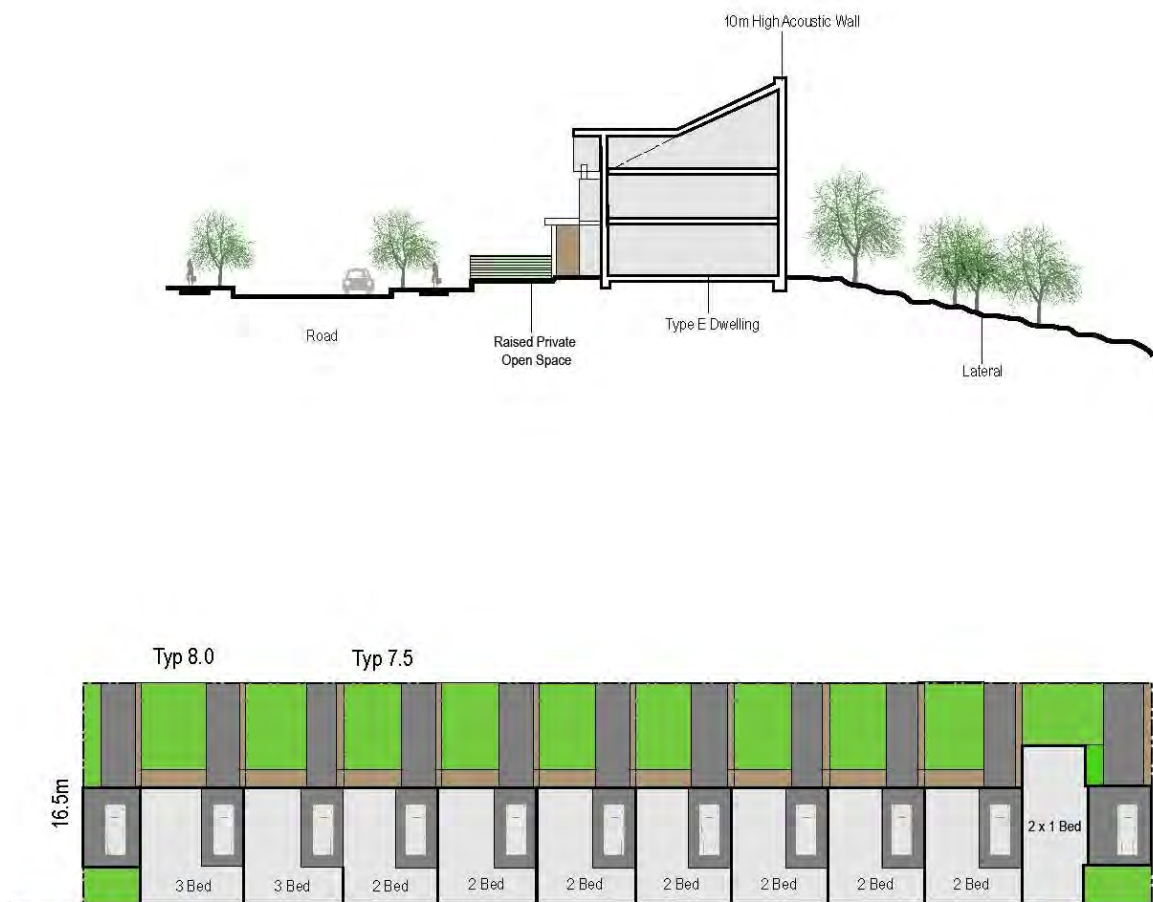


'D' type Dwelling means three (3) storey multi-unit housing.

'E' type Dwelling - these dwellings are designed to provide acoustic attenuation for parts of the R1 General Residential zoned land to ensure compliance with the Waterside Clause of Penrith LEP 2010. They are to be constructed as interconnected terraces comprising of two to three storeys with single garages. Each dwelling is to be integrated into the design of an acoustic wall, which will form the rear wall of the dwellings and will not have any openings. A principle private open space area for each dwelling is to be located to the front of the dwelling, which is to be sufficiently separated from the adjacent street and ensures adequate privacy for occupants. These dwellings may be Torrens or Strata titled.

**Figure 17: Type 'E' dwelling example**

### TYPE E DWELLING



## 2.2.6.2 Residential development controls

Design Element	'A' Type Dwellings	'B' Type Dwellings	'C' Type Dwellings	'D' Type Dwellings	'E' Type Dwellings
Height (max)	2 storeys	2 Storeys	2 Storeys	3 Storeys	3 Storeys
Front Setback (min)	4.5m	4.5m	3.5m	4.5m setback or see State Government's "Residential Flat Design Code" for guidance	4.5m
Front setback – Porches and verandahs (min)	3m	3m	2.5m	Refer to State Government's "Residential Flat Design Code" for guidance	2.5m
Side Setbacks (min)	0.9m	0m on one side, single storey only	0m on one side, single storey only	Refer to State Government's "Residential Flat Design Code" for guidance	0m on both sides
	2.5m to secondary street for corner lots	0.9m alternate side and for upper floor	0.9m alternate side and for upper floor		2.5m to secondary street for corner lots
		2.5m to secondary street for corner lots	2.5m to secondary street for corner lots		
Rear Setbacks (min)	4m for single storey	4m for single storey	4m for single storey	Refer to State Government's "Residential Flat Design Code" for guidance	0m
	6m for upper floor	6m for upper floors (2m incursion for 20%)	6m for upper floors (2m incursion for 20%)		

Design Element	'A' Type Dwellings	'B' Type Dwellings	'C' Type Dwellings	'D' Type Dwellings	'E' Type Dwellings
		0m for rear garage	0m for rear garage		
Landscape d Open Space Area (min)	50% of site area	40% of site area	30% of site area	35% of site area	20% of site area
Landscape d Open Space – Single Storey Dwellings (min)	40% of site area where lot is < 550m <sup>2</sup>	30% of site area	30% of site area	N/A	N/A
Private Open Space Area (min)	20% of lot area	20% of lot area	20% of lot area	Refer to State Government's "Residential Flat Design Code" for guidance	20% of lot area, or an area of 24m <sup>2</sup> for upper floor dwellings

# D3 Cranebrook Part B – Neighbourhood Centre

## Contents

D3 Cranebrook.....	2
1. Community land / group neighbourhood centre Cranebrook.....	2

DRAFT

## D3 Cranebrook

### Part B – Cranebrook Neighbourhood Centre

#### 1. Community land / group neighbourhood centre Cranebrook

##### Controls

1. Development in the Cranebrook Neighbourhood Centre, as shown in Figure 18, should be consistent with Figure 18 below.

**Figure 18: Cranebrook Community Land/Group Neighbourhood Centre**



# D3 Cranebrook Part C

## Rural Residential Development

### Contents

Part C – Cranebrook Rural Residential Development.....	2
1. Introduction.....	2
1.1 Land to which this chapter applies.....	2
1.2 General objectives.....	2
2. Specific objectives and policies.....	3
2.1 Access and roads.....	3
2.2 Subdivision and layout.....	9
2.3 Built structures.....	10
2.4 Landscape.....	16
2.5 Community facilities.....	16
2.6 Services.....	17
2.7 Water supply/effluent disposal.....	17
2.8 Drainage.....	18
3. Maps.....	18

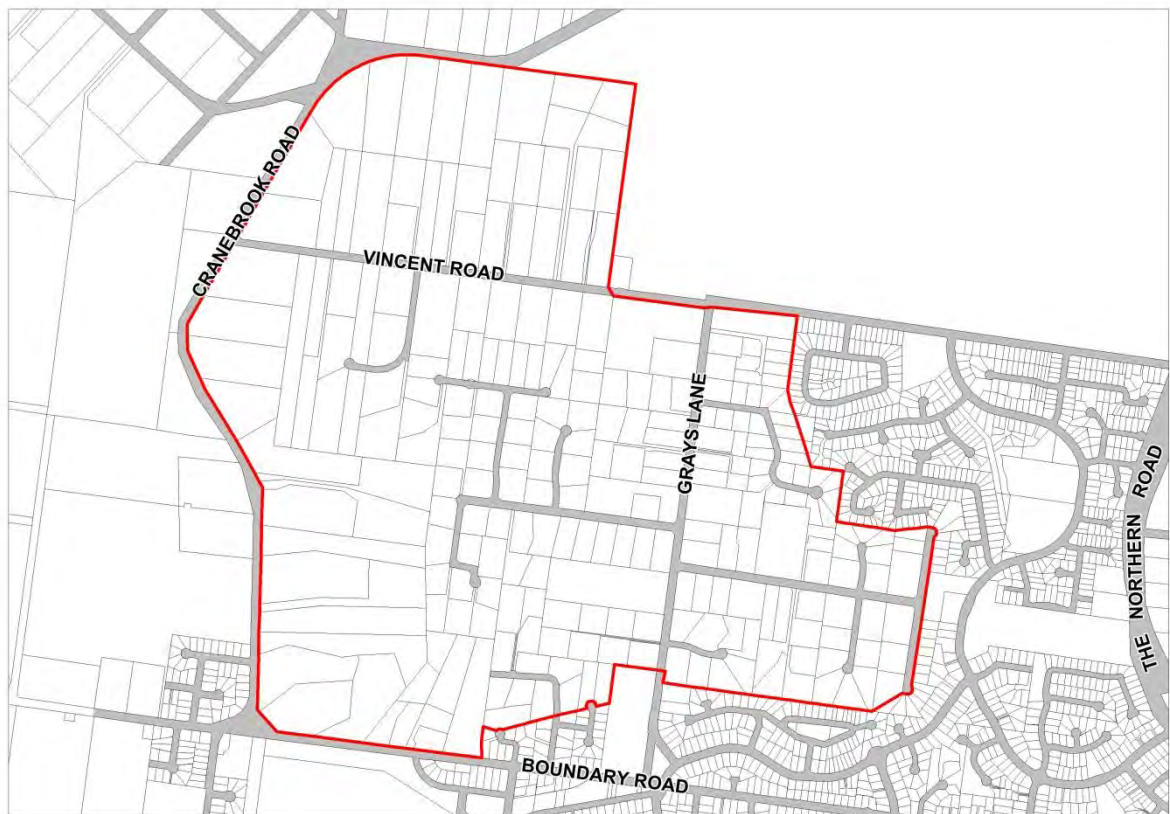
# Part C – Cranebrook Rural Residential Development

## 1. Introduction

### 1.1 Land to which this chapter applies

This chapter of the Penrith Development Control Plan 2014 (DCP) applies to land located in the vicinity of Cranebrook Road, Boundary Road and Vincent Road, Cranebrook as shown in Figure 1 below.

**Figure 1: Land to which this Part applies**



### 1.2 General objectives

- a) To maintain a flexible, objectives-based approach to future detailed planning and development in the area.
- b) To recognise and respect the environmental quality, rural character and existing lifestyle characteristics of the area, whilst enabling further development opportunities.

- c) To encourage development in a manner that assists the establishment of a community with its own identity, which is integrated with its surroundings.

Further detailed objectives are provided for specific aspects of development.

## **2. Specific objectives and policies**

### **2.1 Access and roads**

Rural residential development in Cranebrook will necessitate the construction of new roads, and result in an increase in traffic using existing roads.

#### **Objectives**

- a) To preserve the rural character and streetscape of existing roads in the area.
- b) To encourage a standard of road design for new roads which:
  - i. Complements the rural character and streetscape of existing roads in the area.
  - ii. Reflects the function of the road.
- c) To minimise encroachment of urban area traffic, and particularly to the denial of through-vehicular access from the residential release area to Linden Crescent.
- d) To encourage the provision of internal roads.
- e) To make provision for upgrading existing roads.
- f) To encourage the shared use of roads and road reserves by pedestrians and cyclists.
- g) To encourage identity for the rural community.
- h) To enhance opportunities for further subdivision if required in the future.
- i) To encourage direct road access and the minimisation of battle-axe lots as found in traditional rural subdivision and development.

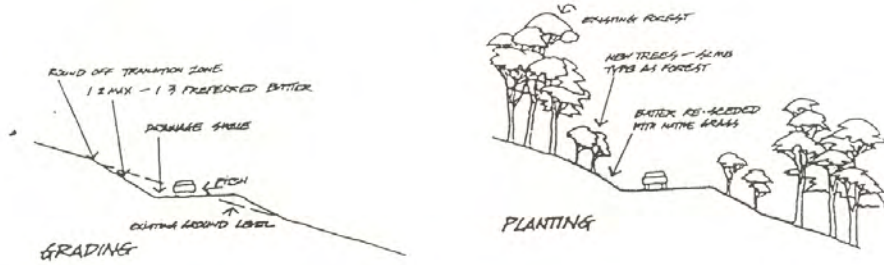
## Controls

1. The road reservation requirements in this Chapter override those outlined in the Transport, Access and Parking Chapter of this DCP where they are inconsistent.
2. All new roads and access ways are to be constructed to the following requirements:
  - i. Road reservation – 20m.
  - ii. Road construction – 6m centre seal, to be constructed in accordance with Council’s standard for rural roads.
  - iii. Grass table drains to be provided in all circumstances, except for steep areas where concrete drainage will be required.
  - iv. One way cross falls may be considered in appropriate circumstances.
  - v. Battle axe access – 20m, to provide for road reservation potential with 3m sealed driveway.
3. Council may agree to a narrower road reservation where the Developer can satisfactorily demonstrate that:
  - i. The objectives of Penrith LEP and this DCP can still be achieved.
  - ii. All services can be adequately accommodated within the road reservation, together with landscaping.
  - iii. Rural style fencing is provided.
  - iv. The engineering requirements can be satisfied.
4. All roads and accessways should complement the rural character and streetscape of the existing streets in the area.
5. A low density of development is maintained along the Vincent Street frontage.
6. No through vehicular access shall be permitted between the Cranebrook residential release and Linden Crescent.
7. On-street parking is discouraged. Parking demand from new development should be accommodated on-site.

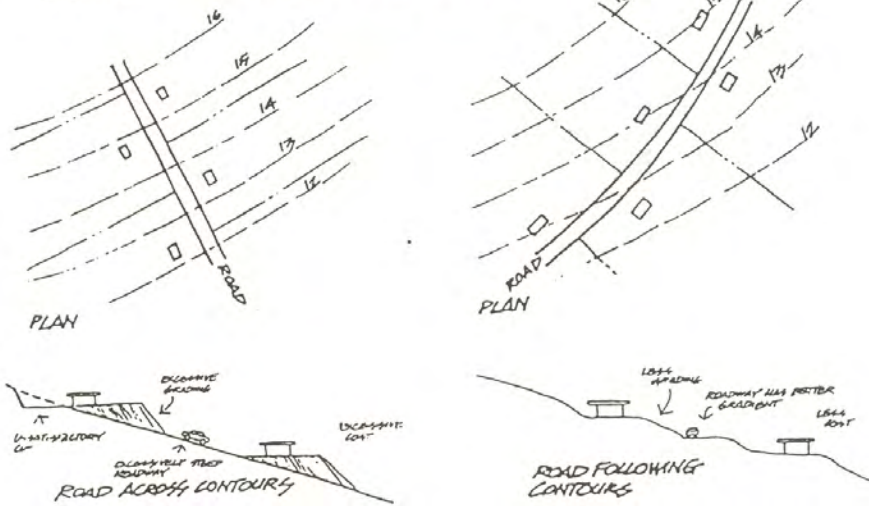
8. All new roads should be designed for low traffic volumes. Road reservation treatments should provide for safe access by pedestrians and cyclists.
9. A programme of landscaping and street planting will be undertaken along
  - i. Existing roads.
  - ii. Proposed roads.
10. Landscaped threshold treatment should be given at the entrance to all new roads.
11. All access roads and driveways should follow the natural contours where possible.
12. Existing sealed roads in the area may need to be upgraded in some areas to satisfy the likely traffic increases. This may be achieved by:
  - i. Development contributions, where the total cost of significant works is divided proportionately by the number of new lots to be created; or
  - ii. Conditions of development consent, where each subdivision provides for specialised work adjacent to their property.
13. Figures 3 – 8 show some road concepts, access layout and landscaping.
14. In general, subdivision should provide public road frontage to new lots. Battle-axe frontage for new lots is discouraged.

**Figure 2: Roadside treatment and layout on slope**

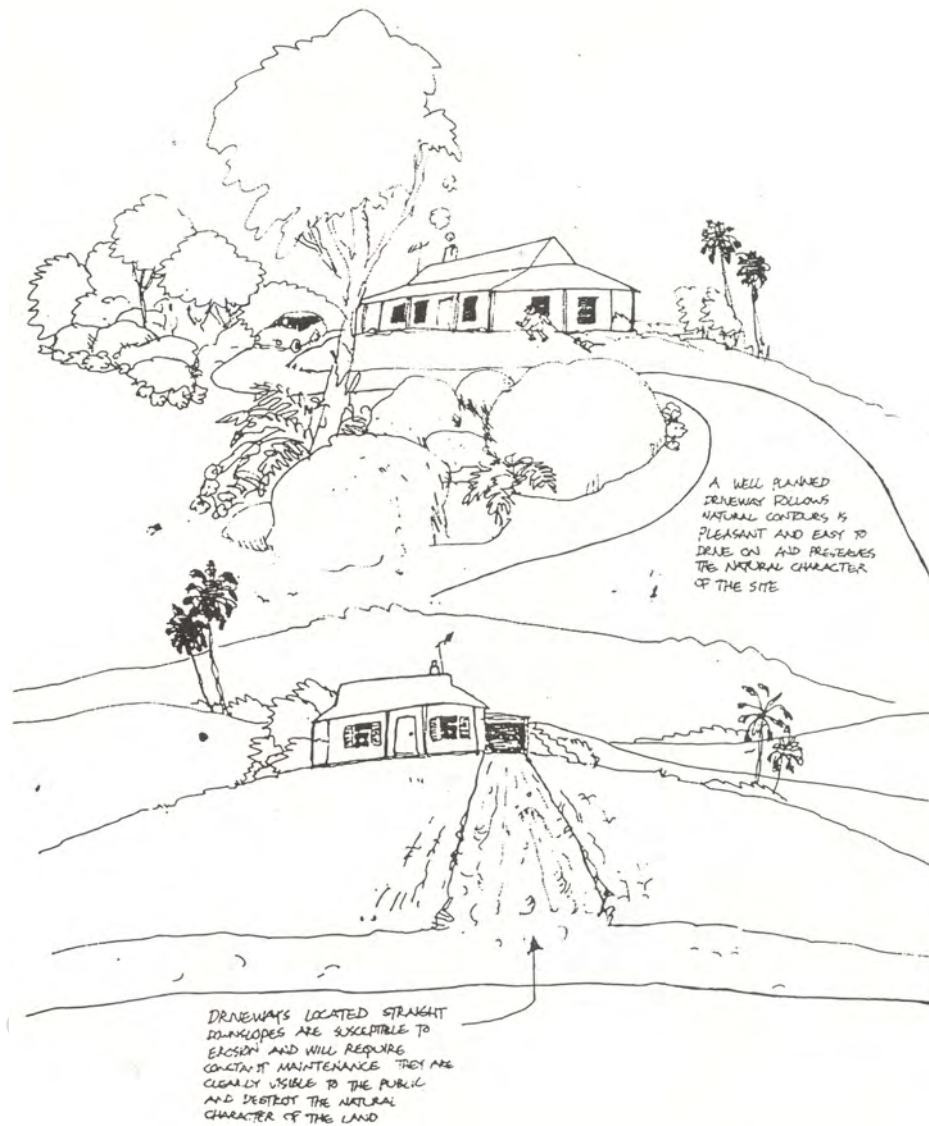
### ROADSIDE TREATMENT



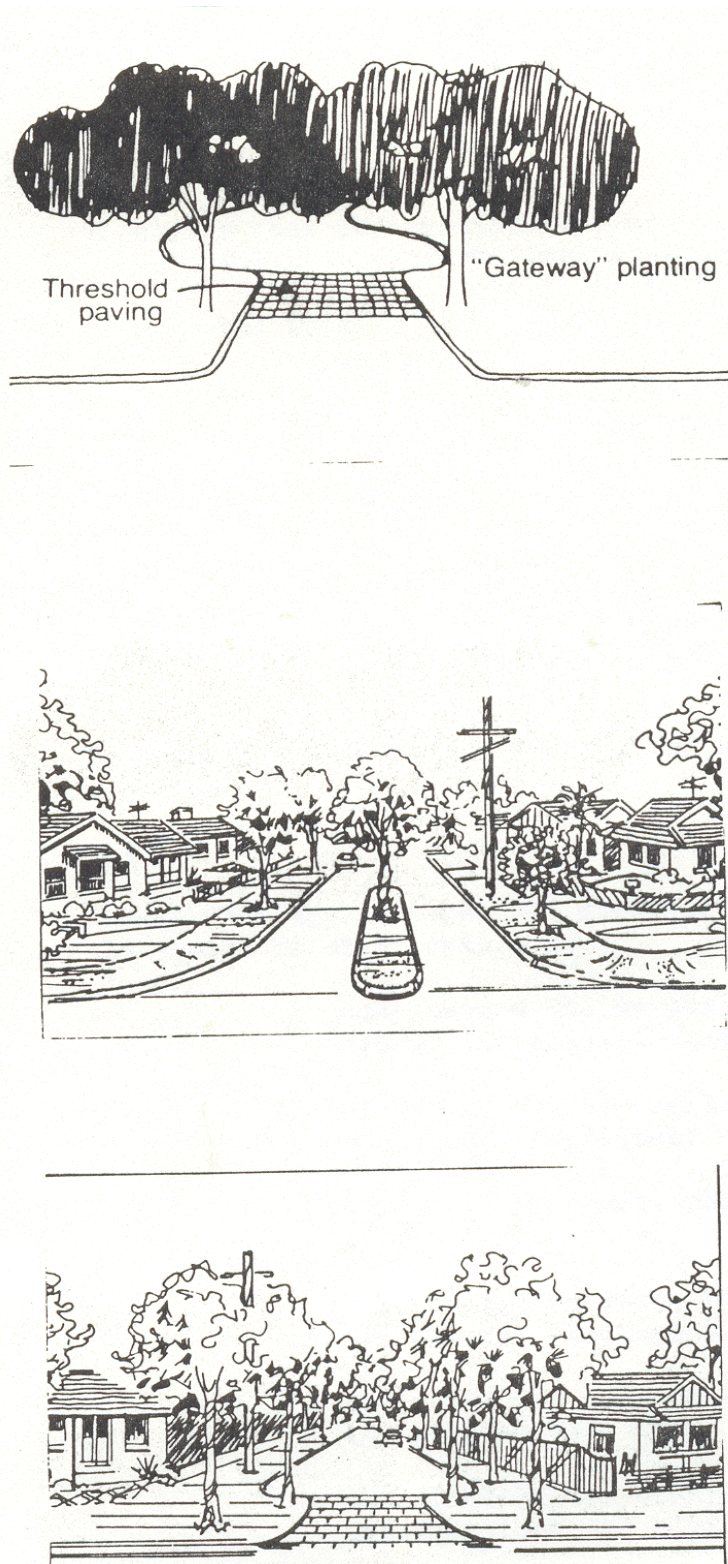
### ROAD LAYOUT ON SLOPE



**Figure 3: Example of access layout and landscaping (1)**



**Figure 4: Example of access layout and landscaping (2)**



## 2.2 Subdivision and layout

The minimum lot sizes in Cranebrook are to be in accordance with the LEP. The following provisions provide additional objectives and controls for subdivision in the Cranebrook rural area.

### Objectives

- a) To ensure that any subdivision, or likely subsequent development, achieves a scheme that recognises and maximises the opportunities offered by the physical attributes and rural character of the area.
- b) To encourage direct road access and the minimisation of battle-axe lots, as found in traditional rural subdivision and development.
- c) To achieve adequate protection of valuable items of heritage significance.
- d) To provide a gradual transition of density controls between the Cranebrook urban and rural areas, running generally east to west.
- e) To enhance opportunities for further subdivision if required in the future.

### Controls

1. Development applications for subdivision should ensure that any subdivision or other development:
  - i. Complements the natural features of slope, aspect and elevation of the land.
  - ii. Maintains the strong landscape presence along the ridgelines.
  - iii. Maintains the rural character and visual quality of the area.
  - iv. Retains and enhances the existing vegetation and natural drainage courses.
  - v. Minimises the effects of intrusive elements in the landscape (e.g. overhead utilities).
  - vi. Maximises in lot design valuable opportunities for sunlight and views.
  - vii. Retain existing dams wherever possible.

2. In general, subdivision should provide public road frontage to new lots.
3. Battle-axe frontage for new lots is discouraged.
4. Subdivided lots of a simple shape will be encouraged, with boundaries responsive to physical features. Applicants should refer to Figure 8 on the following page for examples. Awkward irregular lots and long thin lots will be discouraged. A maximum depth to width ratio of 1:4 is generally to be applied.
5. In that land within the C4 Environmental Living zone where there is discretion for further subdivision, applications for subdivision should also:
  - i. Nominate future dwelling locations (once approved, future dwelling locations will be identified by means of a restriction on the property title.).
  - ii. Address the impact on existing vegetation and landscape and provide supporting landscape proposals.
6. All subdivision in the vicinity of an item of Environmental Heritage shall maintain a suitable curtilage.

## **2.3 Built structures**

### **Objectives**

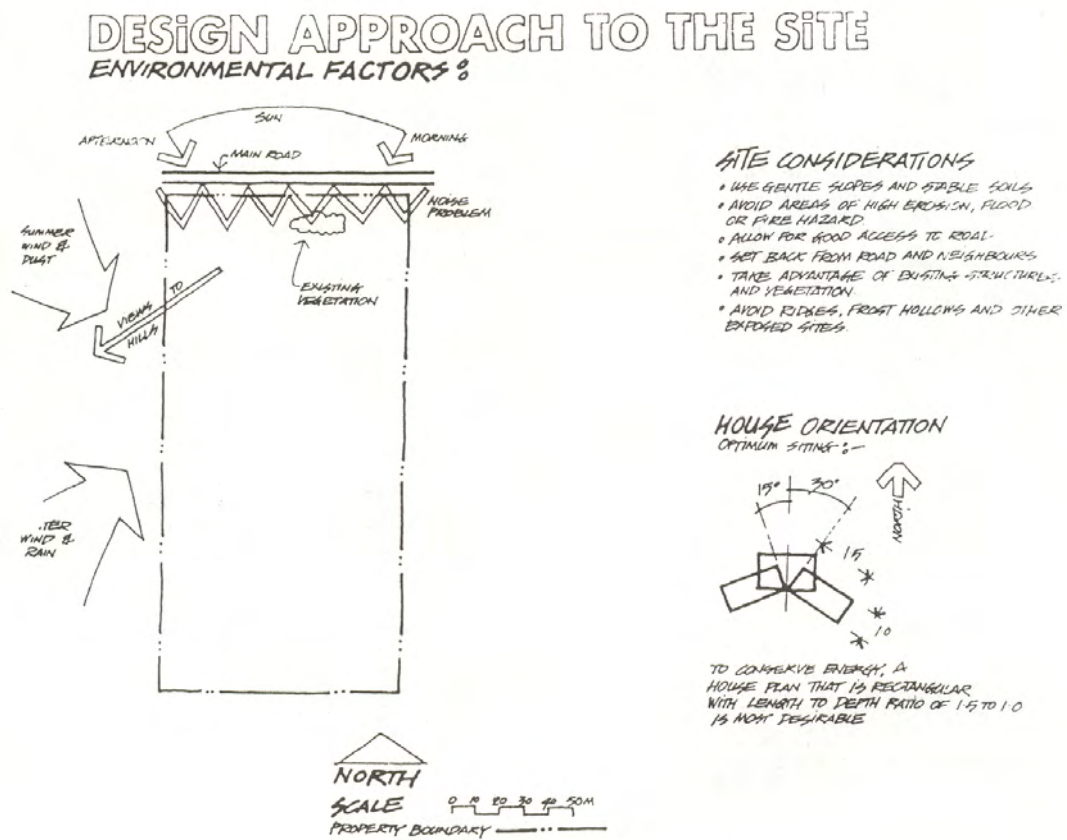
- a) To ensure that all improvements are complementary to the natural features such as landscape, ridgelines, topography.
- b) To ensure that all development achieves a scheme that recognises and maximises the opportunities offered by the rural character and physical attributes of the area.
- c) To encourage consideration of all the rural components of development such as fencing, outbuildings, driveways and landscaping, in the design of proposed development.

### **Controls**

1. All development for dwellings, outbuildings, and other buildings should:
  - i. Complement the natural features of slope, aspect and elevation of the land.

- ii. Maintain the strong landscape presence along the ridgelines.
  - iii. Maintain the rural character and visual quality of the area.
  - iv. Retain and enhance the existing vegetation and natural drainage courses.
  - v. Minimise the effects of intrusive elements in the landscape (e.g. overhead utilities).
2. All development for residential purposes should maximise opportunities for sunlight and consider the effect of the development on adjoining properties.
3. All built structures should be designed to complement and enhance the rural environment. This includes consideration of the:
  - i. Height
  - ii. Location
  - iii. Setback
  - iv. Shape
  - v. Building materials
  - vi. External features of all proposed buildings.
4. Increased development along ridgelines is discouraged.
5. Landscape plans will be required with development applications for built structures.
6. Boundary fencing should be of an open, rural character, in line with that normally found in rural areas. No objections are raised to internal courtyard fencing, or entry fencing provided such fencing is sensitive to the rural environment.

**Figure 5: Design approaches to the site**

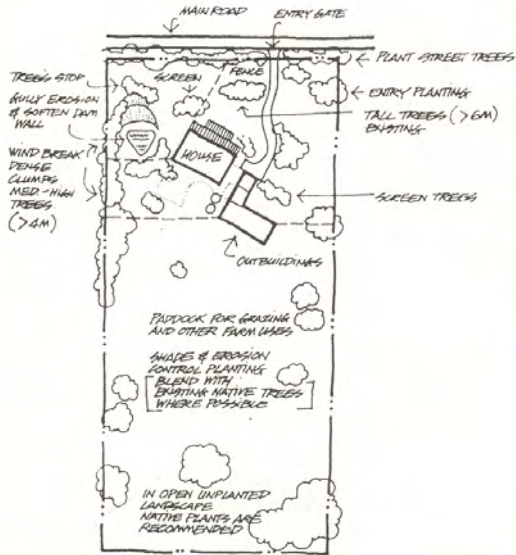


DRAFT

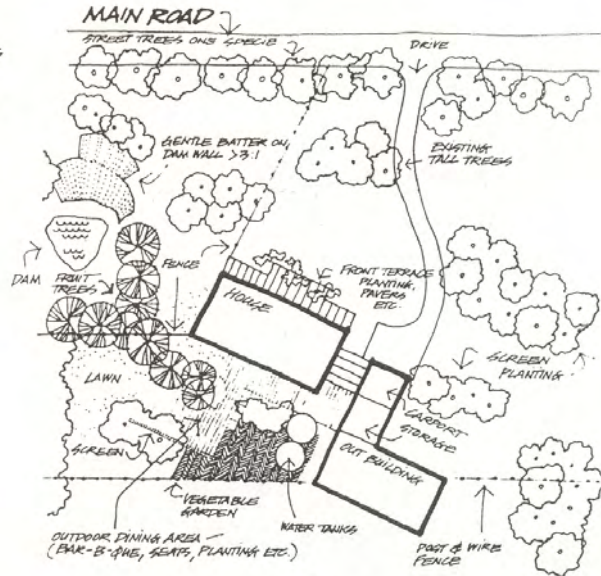
**Figure 6: Example of a design approach**

**AN EXAMPLE OF A DESIGN APPROACH :**

*TREE PLANTING*



*HOUSE LANDSCAPING*



TO AVOID CHAOTIC AND INAPPROPRIATE PLANTING BLEND NEW PLANTING WITH EXISTING AND LIMIT THE NUMBER OF SPECIES USED



**Figure 7: Example of design approach on slope**

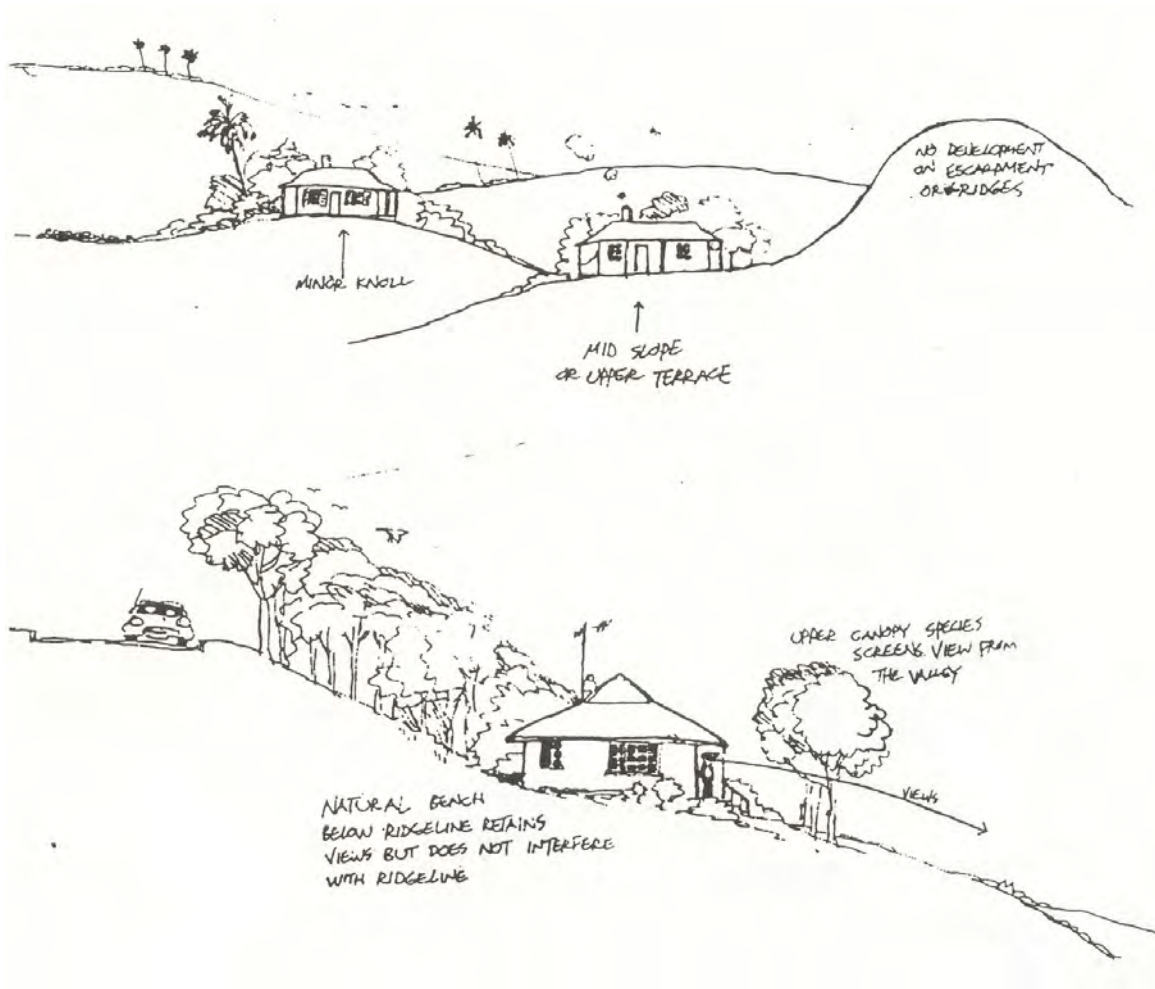
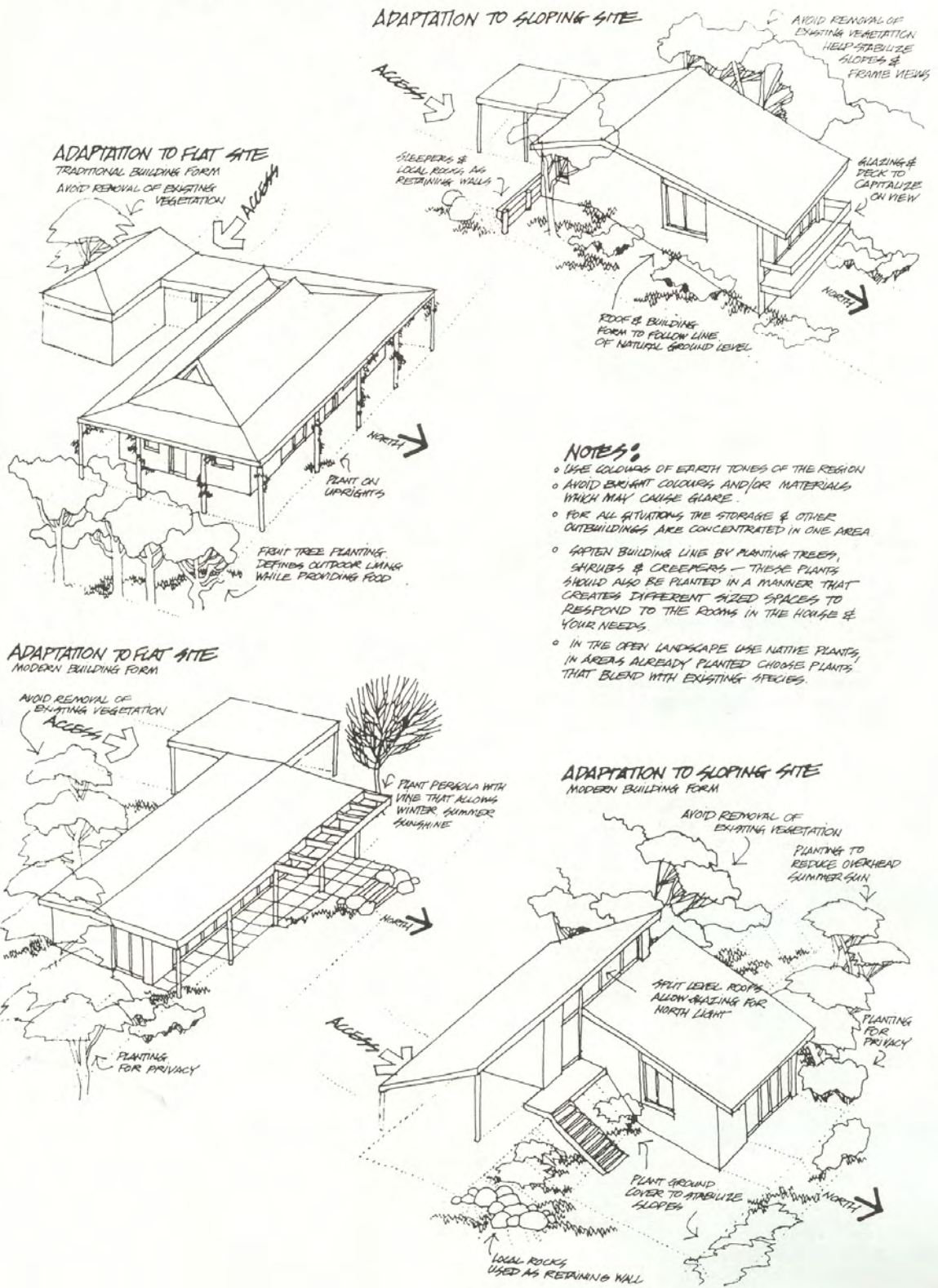


Figure 8: Landform and architecture

# LANDFORM & ARCHITECTURE



## **2.4 Landscape**

### **Objectives**

- a) To retain and enhance the existing landscape, and where disruption is necessary, to minimise the impact of that disruption.
- b) To identify areas of particular landscape value requiring specialised treatment.

### **Controls**

1. Existing vegetation should be retained wherever practicable, particularly significant groups of natural vegetation.
2. Where vegetation must be removed, additional planting of native species may be required.
3. Existing vegetation should be preserved and reinforced.
  - i. Along important ridgelines.
  - ii. In the vicinity of natural drainage lines.
4. Plans of landscaping will be generally required for all development applications.
5. In that land within the C4 Environmental Living zone where there is discretion for further residential development it will be necessary to:
  - i. Nominate future dwelling locations.
  - ii. Address the impact of existing vegetation and landscape.
  - iii. Provide alternative supporting landscaping proposals.
6. The removal of trees shall be in accordance with the Environmental Management Chapter of this DCP.

## **2.5 Community facilities**

### **Objectives**

- a) To provide for the reasonable demand for community facilities and playing fields created by future residents.

- b) To encourage social integration with adjacent residential areas by shared use, and contribution towards the development of community facilities and playing fields.

### **Controls**

1. To assess and monitor community needs for the area.
2. To provide details on the provision of community facilities and playing fields for the use of residents.
3. To require contribution towards community facilities and playing fields in accordance with the assessed needs with any new development.

### **2.6 Services**

#### **Objective**

- a) To ensure the provision of suitable services to the area in a manner that is cost effective and complementary to the overall objectives for the area.

### **2.7 Water supply/effluent disposal**

#### **Controls**

1. Prior to the issue of development consent on any land, satisfactory arrangements must be made with Sydney Water and Council (within their respective areas of responsibility) for:
  - i. Amplification and reticulation of water services to the land to which the application relates (unless Sydney Water certifies that the carrying out of development in accordance with that consent will not require the making of any such arrangement).
  - ii. Amplification and reticulation of sewerage services in the case of development creating lots less than 4,000m<sup>2</sup> in area.
  - iii. On-site disposal of effluent for development not requiring sewerage reticulation. Landowners are encouraged to install aerated disposal systems to minimise environmental impact.

## 2.8 Drainage

### Objectives

- a) To preserve and upgrade the existing drainage system, and to minimise major engineering works.
- b) To maintain the quality of stormwater discharge into the downstream drainage system.

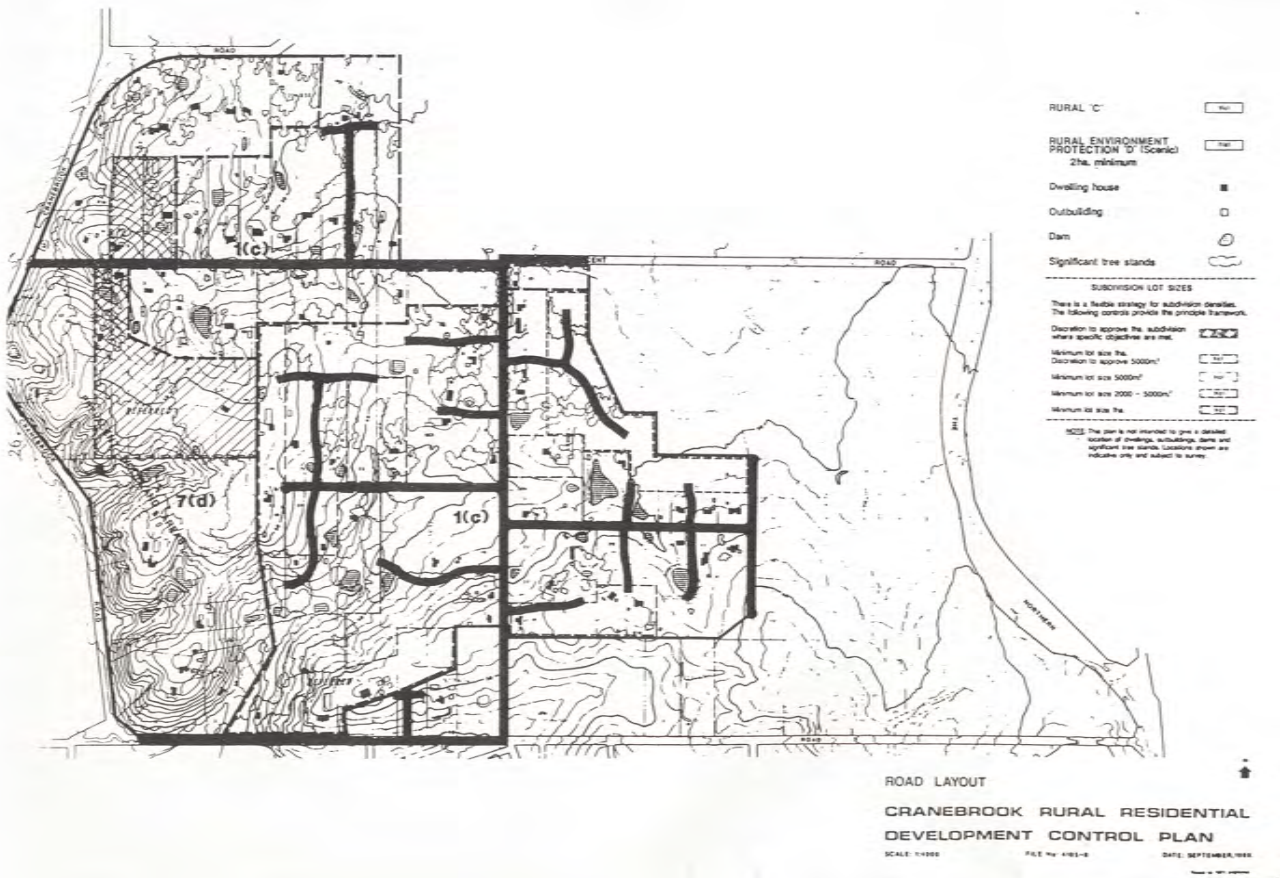
### Controls

1. The existing drainage system is to be retained.
2. Engineered drainage channels are to be provided only in exceptional circumstances.
3. Grass-swale drainage is to be provided, except in steeper areas where concrete lined inverts may be necessary.
4. All development should minimise runoff and related pollution, particularly in the vicinity of natural drainage lines.
5. A monetary contribution will be required to upgrade road drainage. This contribution will be imposed under the *Environmental Planning and Assessment Act 1979*.
6. Dams should be retained wherever possible.

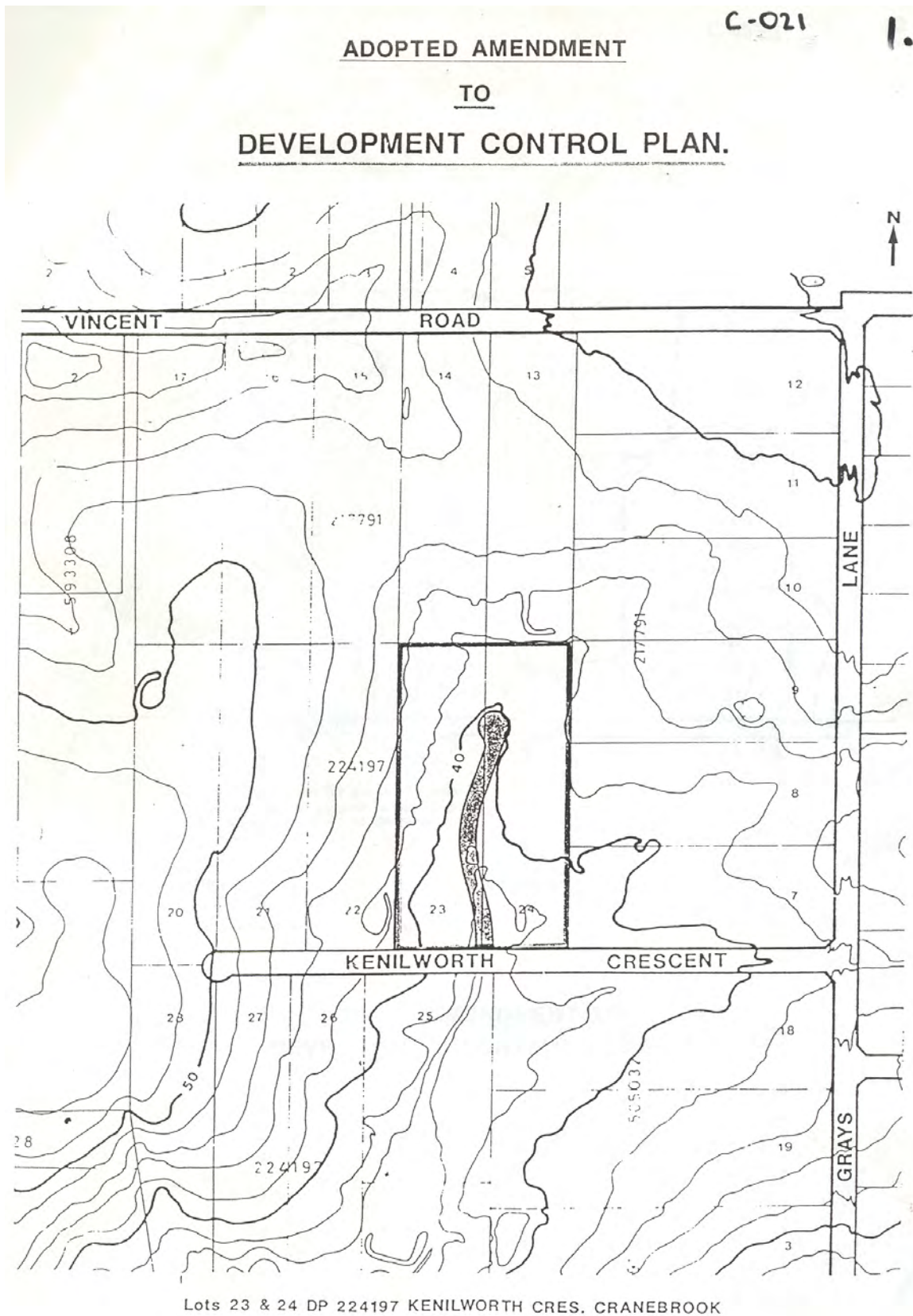
## 3. Maps

The following maps illustrate the road layouts of Cranebrook, as well as the various amendments to the DCP which apply to the subject land.

**Figure 9: Road layouts in Cranebrook**



**Figure 10: Amendment to DCP (1)**



**Figure 11: Amendment to DCP (2)**

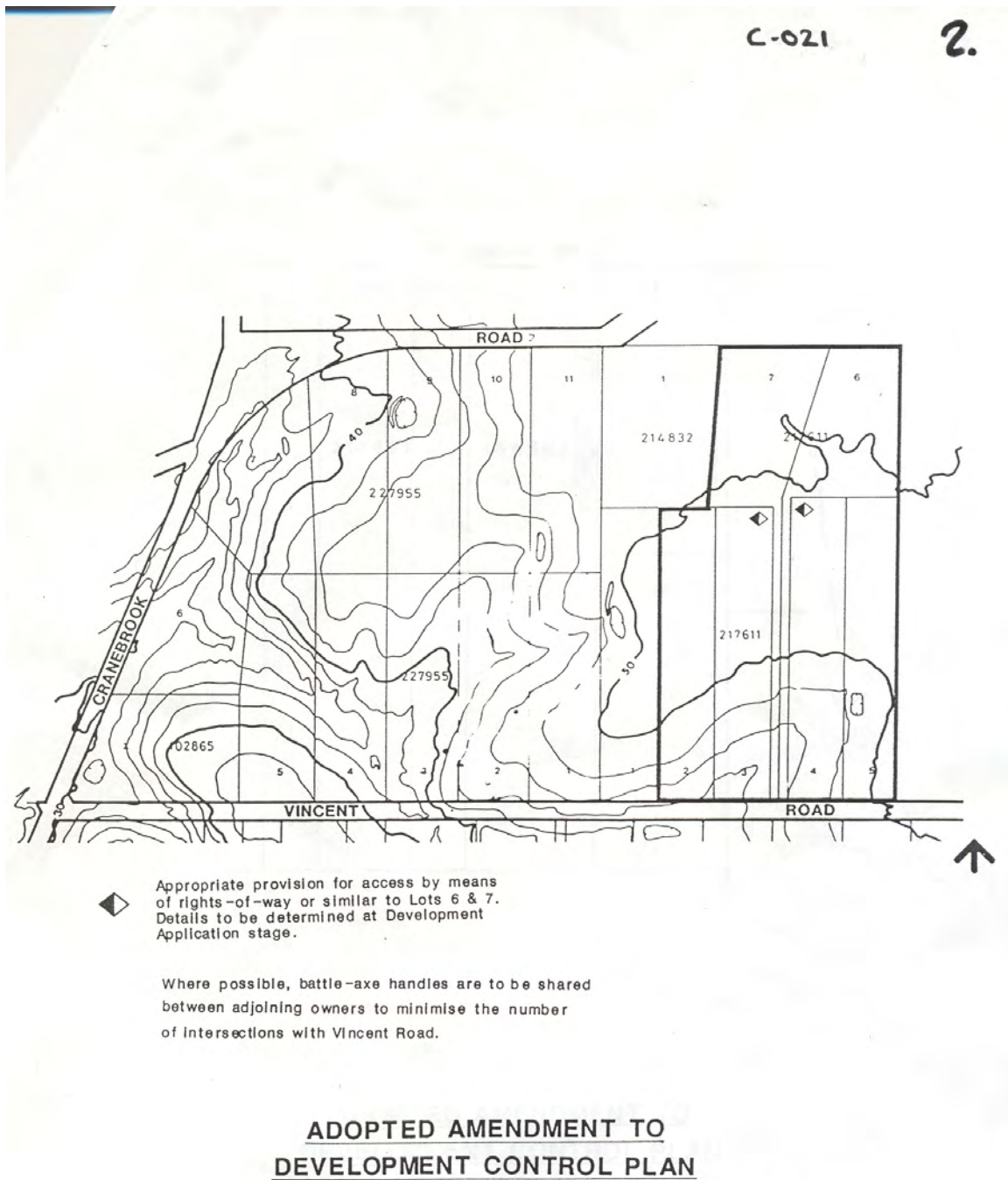
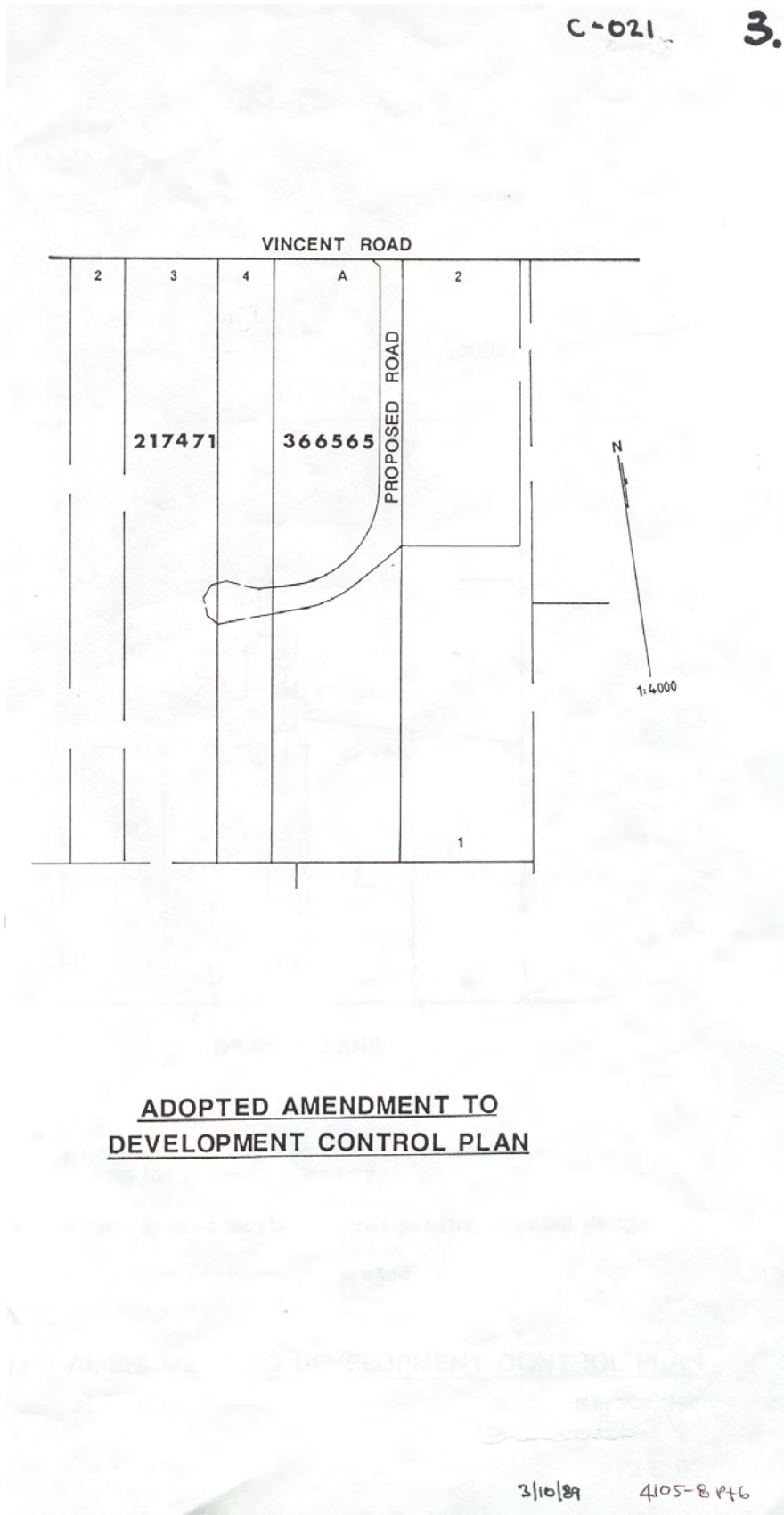
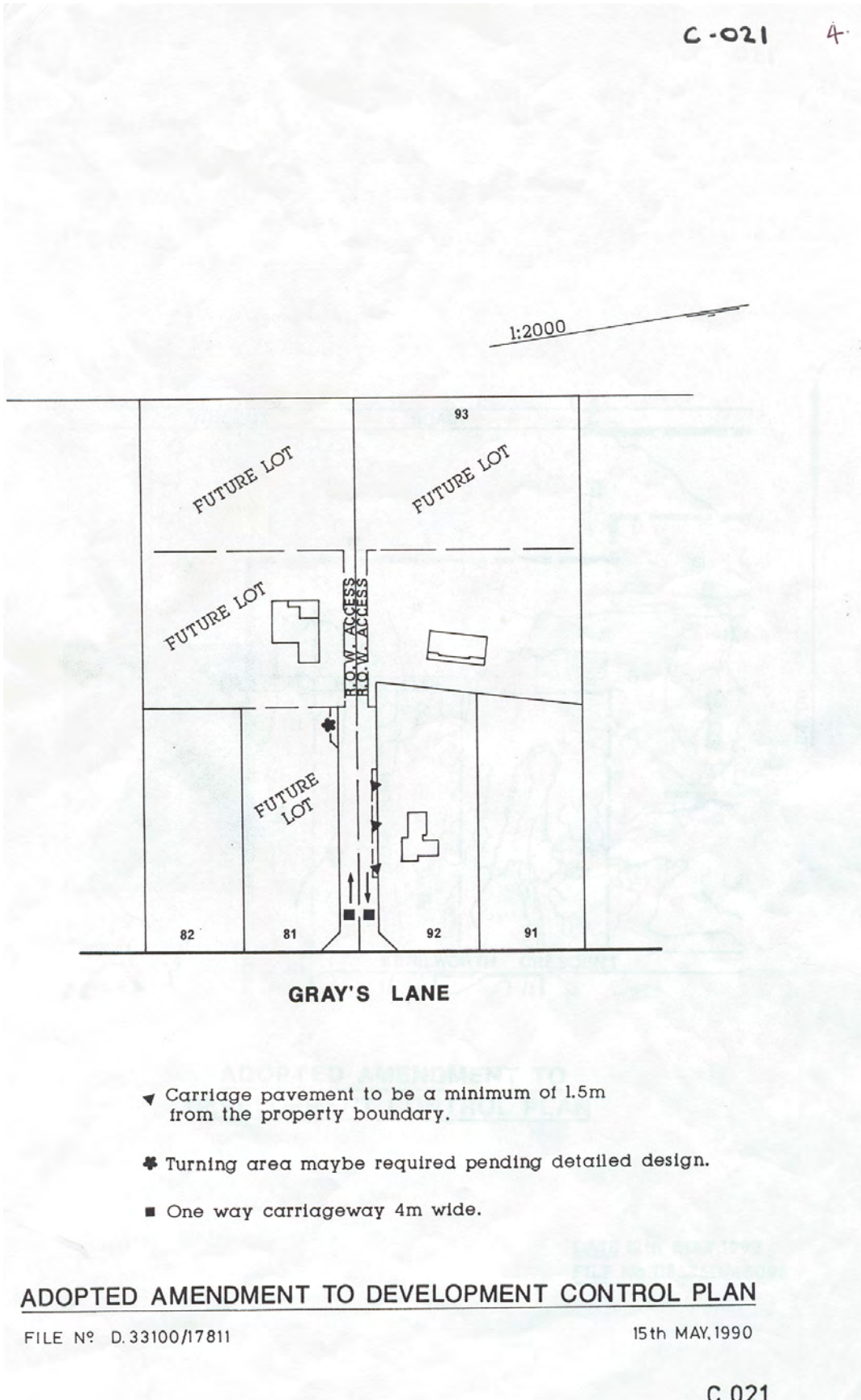


Figure 12: Amendment to DCP (3)



**Figure 13: Amendment to DCP (4)**

DRAFT



**ADOPTED AMENDMENT TO DEVELOPMENT CONTROL PLAN**

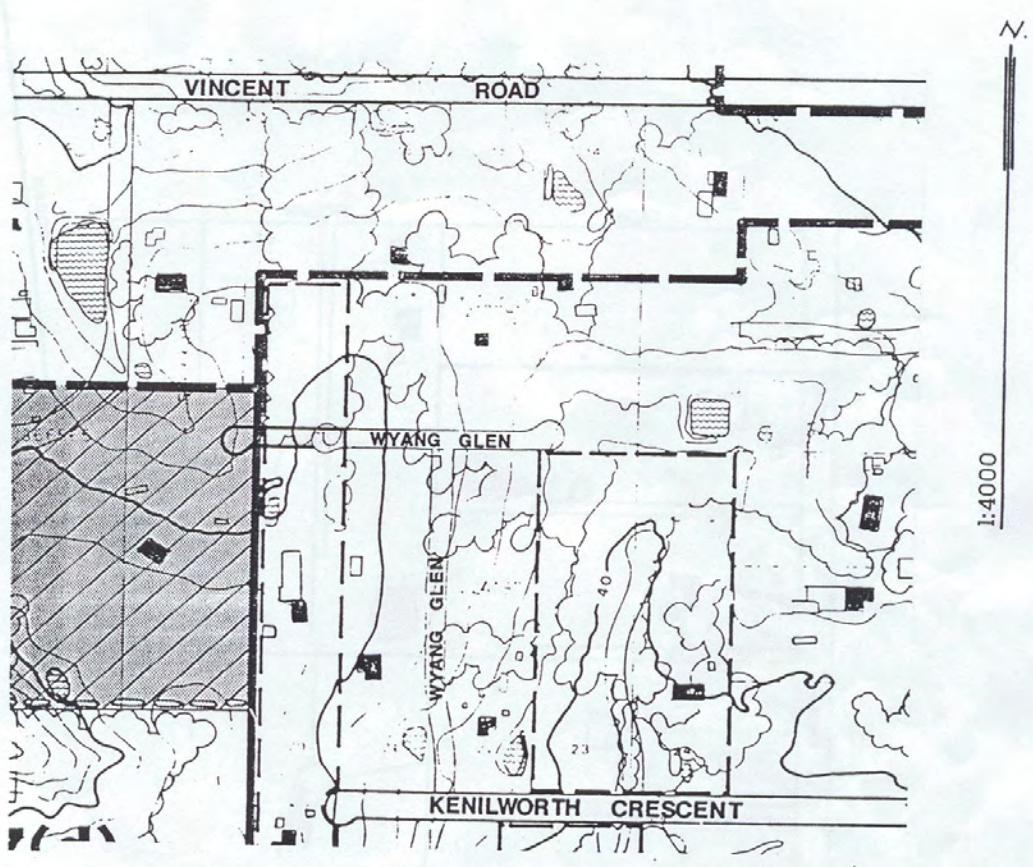
FILE N<sup>o</sup>: D.33100/17811

15th MAY, 1990

C.021

**Figure 14: Amendment to DCP (5)**

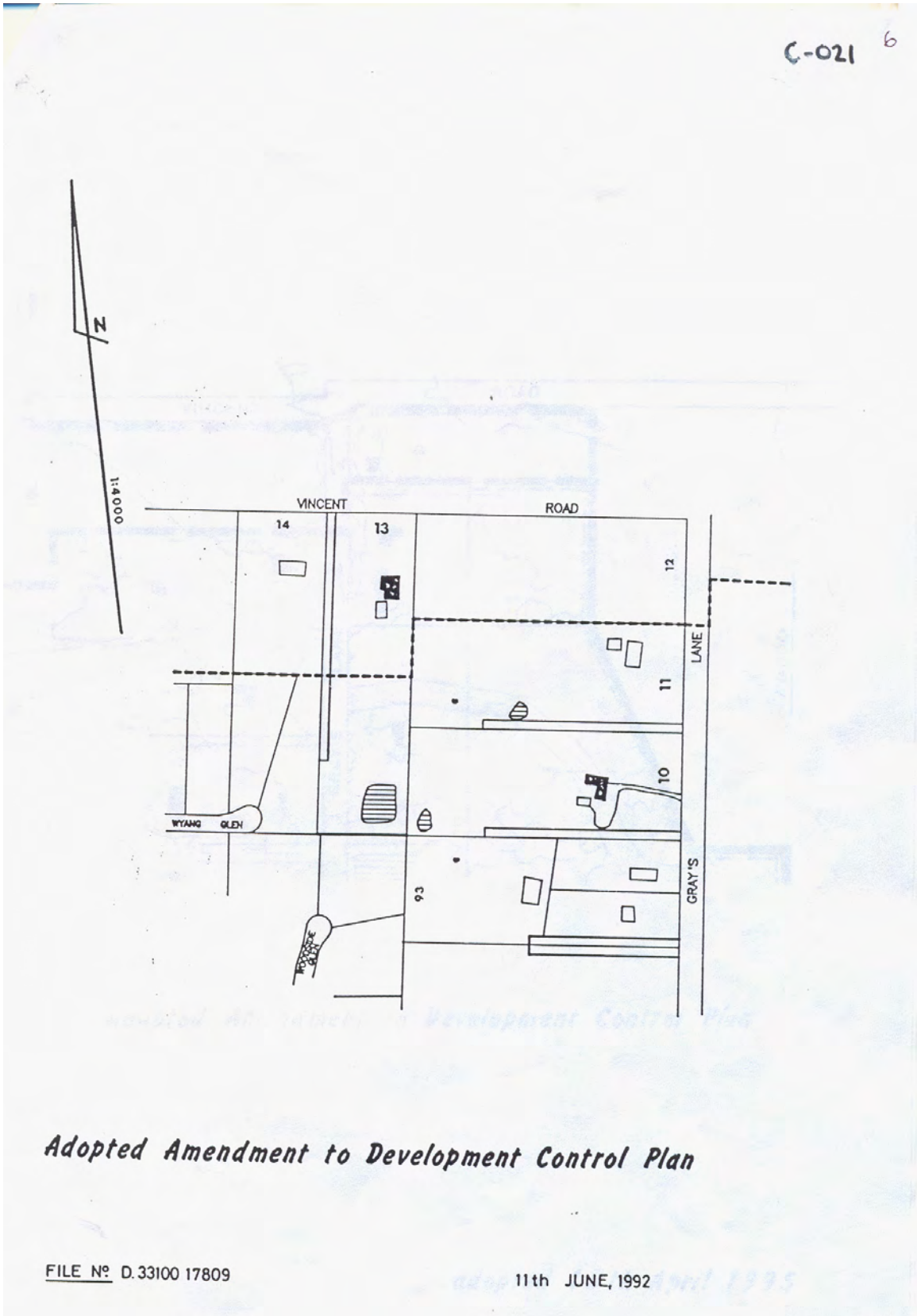
C-021 5



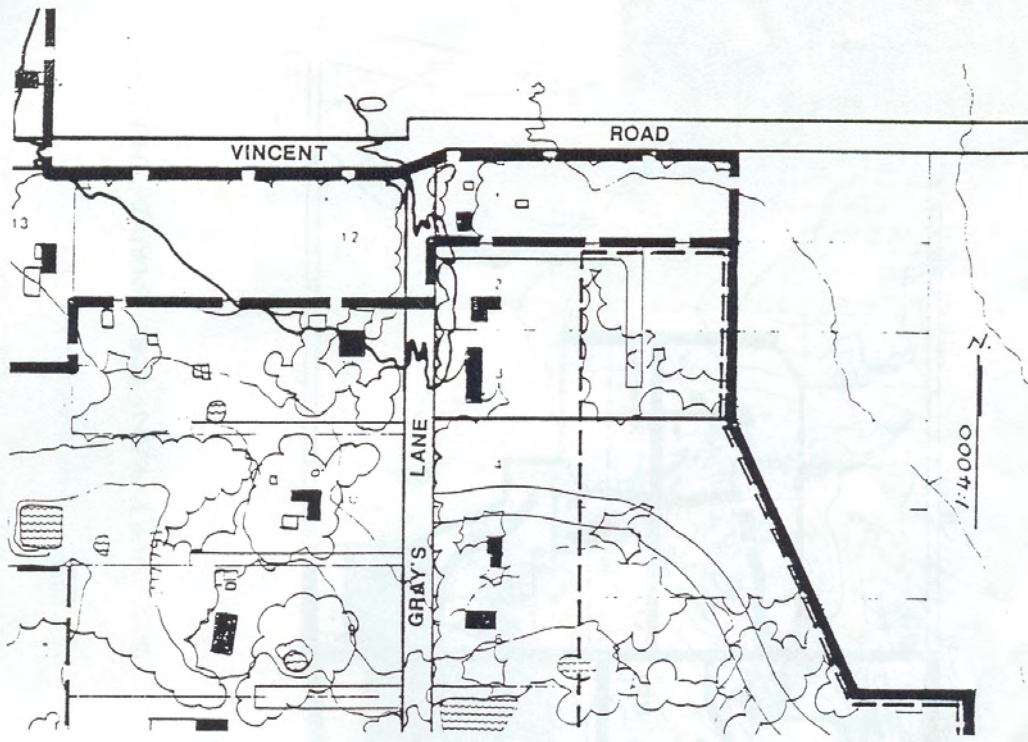
**ADOPTED AMENDMENT TO  
DEVELOPMENT CONTROL PLAN**

DATE 12th MAY, 1992  
FILE No. D82850/45098

**Figure 15: Amendment to DCP (6)**



**Figure 16: Amendment to DCP (7)**



*Adopted Amendment to Development Control Plan*

*adopted 18th April 1995*

*C.021*

# D4 Emu Heights – Blue Mountains

## Eastern Escarpment

### Contents

D4 Emu Heights – Blue Mountains Eastern Escarpment.....	2
1. Introduction.....	2
1.1 Land to which this Chapter applies.....	2
1.2 Purpose of the chapter.....	4
1.3 Aims and objectives of this chapter.....	4
1.4 Special requirements.....	4
2. Siting.....	5
3. Construction and earthworks.....	6
4. Building Design.....	7
5. Building Materials.....	9
6. Building Colours.....	10
7. Services.....	11
8. Access.....	12
9. Landscaping.....	13
10. Bushfire Hazard.....	14
Appendix I: Maps of Blue Mountains Escarpment Area.....	16

# D4 Emu Heights – Blue Mountains Eastern Escarpment

## 1. Introduction

In an area as sensitive as the Blue Mountains Eastern Escarpment, development proposals must be responsive to a wide range of concerns regarding the preservation of the natural and cultural environment.

The following Siting, Design and Management section sets out in full the type of development which is acceptable with respect to the preservation of the visual, topographic, vegetative and cultural features which make the Escarpment unique. All applications to Council must respond to these guidelines and development shall be allowed to proceed only if it is in accordance with the requirements set out in the guidelines.

In areas of moderate and moderate to high bushfire hazard, all development proposals will be required to comply with the section relating to bushfire hazard. In these situations an acceptable compromise between controls relating to visual amenity and those relating to fire hazard must be reached.

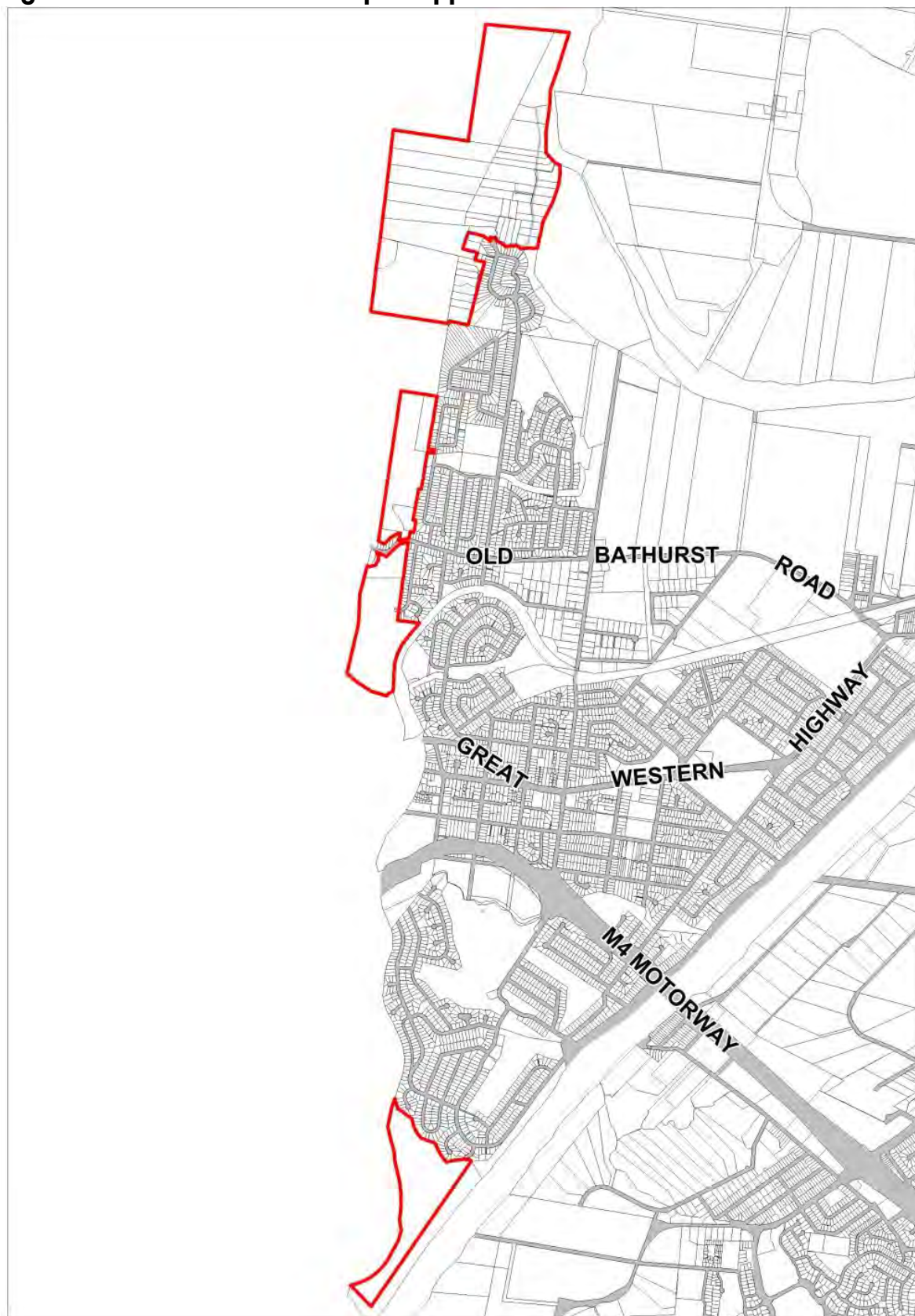
Any application must satisfactorily address development principles, objectives and policies, and must justify any variation, as well as address how the development complies with this section.

Subdivision Applications must be in accordance with the allotment layout contained in the plans accompanying this Chapter, as shown in Figures 4 – 8.

### 1.1 Land to which this Chapter applies

This chapter applies to the land shown in Figure 1.

**Figure 1: Land to which this chapter applies**



## **1.2 Purpose of the chapter**

The purpose of this chapter is to give detailed guidance to people wishing to carry out development on the Blue Mountains Eastern Escarpment, and to provide Council's policies and controls with respect to development.

## **1.3 Aims and objectives of this chapter**

- a) To provide detailed guidelines and controls for development on the Blue Mountains Eastern Escarpment lands.
- b) To provide Council's policies to assist those people wishing to carry out development on the Blue Mountains Eastern Escarpment lands.
- c) To ensure that such development does not compromise the environmental qualities of the Blue Mountains Eastern Escarpment.
- d) To identify lands for environment protection and to strictly control development within these lands.
- e) To ensure that the tree covered natural appearance of the escarpment is retained.
- f) To ensure that in any development of the land, regard is had to physical constraints including bushfire hazard, slopes, soil erosion hazards, flooding and access difficulties, as well as archaeological issues.
- g) To ensure that in any development of the land, regard is had to the visual prominence of the area.
- h) To ensure that in any development of the land, provision is made for an adequate water supply and environmentally acceptable waste water disposal system, drainage systems and electricity supply systems.

## **1.4 Special requirements**

1. Easements and Rights-of-Way: Where indicated on accompanying Figure 4 – Map 3, all easements and rights-of-way are to be formally negotiated and registered. A formal fire fighting easement is to be provided in accordance with the accompanying Figure 4 – Map 3. It is to be 5m in width, with turning bays in some cases, and is to involve the removal of undergrowth and, where necessary, the removal of trees to allow for the passage of fire fighting vehicles. The fire fighting easement must be grassed and appropriately drained to prevent erosion.

2. Plantings: Replanting is to be carried out using suitable species. On lots so marked on accompanying Figure 4 – Map 3, as ‘lots marked as such to be planted with fire resistant species’, fire resistant species are to be used. This requirement does not imply the removal of all trees on site and replacement with fire resistant species, it relates only to replanting following completion of works on site.
3. Protected Lands: Some of the lands may be subject to the Protected Lands provisions of the *Soil Conservation Act 1938*. Applicants are required to check with the Office of Environment and Heritage about the applicability of those provisions to their proposal. If relevant, Council is required to be notified.
4. Siting, Design and Management Guidelines: The following guidelines set out the detailed controls on development in the area covered by this Section. They aim to minimise impacts on the natural environment of the Escarpment and all development proposals must address the provisions contained within them.

## 2. Siting

Visual impact, energy efficiency, and access to views and privacy are largely dependent upon where a building is located and how it is oriented. In environmentally sensitive areas particularly, the site selection process must involve consideration of the orientation, direction of views and slopes, relationship to the landscape and retention of existing vegetation.

Building forms must stay below the ridge lines so as to retain the visual character of the escarpment.

### Controls

1. A position on a mid-slope bench where the topography provides a natural enclosure, and where existing vegetation can provide screening, is preferable.
2. Buildings must be on slopes less than 1:5 (vertical: horizontal).
3. Where possible, and having due regard for the bushfire hazard, orientation of buildings is to be towards the north.
4. Generally, a setback minimum of 15m from roads is required. Parking areas are not permitted within this setback.

5. A setback of 80m from the Nepean River bank is required.

### 3. Construction and earthworks

On steeper slopes, earthworks will be highly visible and there may be stability problems. Thus, site disturbance is to be minimised so as to retain the visual character of the escarpment.

Details of erosion and sediment control are required for inclusion in a subdivision and development application when site disturbance is proposed.

#### Controls

1. Where relevant, proposals for the following erosion control measures must be included in any application:
  - i. Effective sediment traps in drainage courses prior to construction.
  - ii. Provision of overland flow diversions above and below development sites.
  - iii. Vehicular traffic to be confined to sealed roads or parking bays.
  - iv. Suitable ground and/or shrub cover to be established in all landscaped areas as soon as construction is completed.
  - v. Site and excavation works is to be limited to the immediate building envelope.
  - vi. Maintenance of control measures.
  - vii. Rehabilitation techniques.

These proposals are to be included in an erosion and sediment control plan.

2. Surplus excavated material is to be removed from the site.
3. Restoration of all site disturbances is required prior to occupation of buildings.
4. Cut and fill depth is to be minimised.
5. Slab on ground construction is inappropriate on slopes steeper than 1:10. Elevated floors are required on these slopes. Caution must be taken here in areas of bushfire risk.

## 4. Building Design

Thorough site analysis and planning is essential to ensure that the building responds to the site rather than trying to modify the site to fit the building. This will ensure that the bushland character of the Escarpment is maintained.

Particular attention should be paid to the visual prominence of the buildings. Buildings which have their main lines at right angles to the natural ground slope appear obtrusive. The strong triangular geometry, of for instance an A-frame or a gable, gives an unacceptable vertical emphasis to the building.

### 4.1 General controls

1. Facades and roof lines should be broken into small elements. No single plane or element is to exceed 10m in any dimension. Walls can be relieved in elevation by use of bays and recesses.
2. The longer facades of the building are to be parallel to the contours.
3. Horizontal emphasis is to be given to the composition of building elements such as wall panels, windows, roof and verandah lines.
4. Verandahs, wide eaves, pergolas and trellises serve to relate structures to natural ground level and to vegetation.
5. Split level buildings, which step up and down the slopes, will avoid cutting and filling, and will avoid the need for high walls.
6. To avoid piers, stilts and poles, build load bearing structures directly from the ground.
7. Tanks, sheds, carports and garages are to be screened by vegetation and walls, and are to be built to link to the main buildings or form part of a group of buildings and should be of similar colours to the dwelling house.
8. Round or curved buildings (either in plan or elevation) can be compatible with the landscape.
9. Dual occupancy development must be designed in accordance with the provisions of this Chapter and those of the Residential Development Chapter of this DCP.

## 4.2 Roof form

Roof forms which bring the roof line down towards the earth, blend better with the landscape. Steeply pitched roofs usually appear obtrusive because their slopes are greatly in excess of the natural slope of the ground.

However, in hill country, it is most unusual to see a flat or low pitched roof that reflects and blends with the landform. Hipped roofs are very effective in leading the eye back down to ground level and hence are preferred.

### Controls

1. The roofline is to be below tree canopy level.
2. Roof pitch is to be generally parallel to the surrounding ground slope with a minimum pitch of 10 degrees and a maximum of 30 degrees.
3. No single plane or element of a pitched roof should exceed 10m in any direction.
4. Top edges of roofs are to return at the same pitch rather than terminate in a skillion form.
5. It is preferable to finish the roof with wide eaves or verandahs and bring the roof edge as close to the ground as possible.
6. Solar energy collector panels are to be non-reflective.

## 4.3 Building height

Height restrictions apply in order to avoid loss of the visual qualities of the area. Generally, a height of more than one level is considered unsuitable.

### Controls

1. Building heights are limited to one level (including garage) except in cases where unacceptable site disturbance will result. Split level development is preferable in such cases.
2. Where height is limited to one level, enclosed under house storage will be permitted. In moderate and moderate to high bushfire risk areas, this storage area must be enclosed.

## 4.4 Doors and windows

### Controls

To minimise undesirable impacts caused by the use of reflective materials, the following guidelines are appropriate:

1. Doors and window openings are to be vertical in proportion.
2. Timber construction is appropriate, subject to acceptable treatment to reduce the bushfire hazard potential.
3. Aluminium windows and doors are acceptable, provided that the frames are of acceptable colours (brown, green, cream etc.).

## 4.5 Fences

To minimise impact on the bushland character of the area, minimal or no fencing may be appropriate in some locations. However, appropriate fencing will be required to assist with bushland management.

### Controls

1. In general, fences are to be unpretentious and simple. Timber post and rail style is appropriate.
2. Masonry, brick block work, stone, and light colours, are inappropriate for fences.
3. Natural colours are to be used. Natural timber, colours in the green range (excepting bright greens), and grey to light browns are appropriate for fencing.
4. Fences are to avoid the "No Development" areas, as identified in Figure 4 (Map 3).
5. Fences along the boundary of the C2 Environmental Conservation and C3 Environmental Management zones should be of the type which does not allow the passage of domestic animals.

## 5. Building Materials

Natural textures and materials are less obtrusive in a bushland setting and are therefore more appropriate. Generally, those which most closely

resemble the natural materials in colour and texture are the most appropriate.

Large, flat expanses of reflective materials are best avoided, as are highly textured, variegated or brightly coloured bricks. Consideration must also be given however to the types of materials most suitable in bushfire prone areas.

## Controls

1. Suitable wall materials, subject to bushfire hazard rating, are:
  - i. Timber (treated or stained)
  - ii. Weatherboard
  - iii. Treated concrete blocks
  - iv. Brick / brick veneer
  - v. Stone
  - vi. Steel
2. For rooves
  - i. Tile
  - ii. Corrugated steel, and
  - iii. Painted steel deckingare appropriate.
3. Large flat areas of glass and sheet metal are not permitted, particularly on eastern elevations.
4. Stained and other treated timber materials are to be regularly maintained to reduce the bushfire hazard potential.

## 6. Building Colours

The situation and setting of buildings should be considered when selecting materials and colours. Hence, recessive colours which are derived from, and blend with, the landscape and which are natural earthy tones of low

reflective quality should be used. Particular care must be taken when the development can be viewed from public places.

## **Controls**

1. Roof colours – Colours in the green range, except bright greens are acceptable; as are any of the ochre range, and the grey to brown colours.
2. Walls and other external surfaces – Natural timber and stone and bricks of the light brown colour range are appropriate. Large facades of dark bricks, even brown, accentuate the size of the structure and are inappropriate. Dark surfaces are permitted only as a plane or element which does not exceed 5m in any direction.
3. Minor features – Colour detail is appropriate on minor features such as window frames and doors.
4. Fences – Natural timber, colours in the green range (excepting bright greens), grey to light browns are appropriate for fencing.

## **7. Services**

### **Controls**

1. Locate electricity and telephone wires underground.
2. Services to be screened by walls and vegetation.
3. An easement for access to the transmission lines will need to be created on some allotments.
4. All necessary easements shall be created in favour of the relevant servicing authority at no cost to Council or the servicing authority.
5. Provisions for subdivisional drainage are to be devised in consultation with, and to the satisfaction of, Council's Engineering Services Manager. Proposals which would result in the pollution of the Nepean River will not be approved. On-site detention of stormwater may be required.
6. All cabling and excavations for services are to be undertaken in a manner which will allow bushland rehabilitation.

7. All dwellings and other buildings containing toilets are to be connected to the Water Board sewerage system when capacity exists within the system. In the interim, applications are required to stipulate the means of treating and disposing of effluent. This must occur in a manner that does not lead to pollution of the river.

## **8. Access**

Driveways should follow natural contours or run gently across steep slopes. Drainage lines and areas requiring extensive cut and fill should be avoided for access construction. Informal access can be more appropriate in sensitive areas.

### **Controls**

1. Roads and rights-of-way are to be constructed in accordance with the plans accompanying this section and to Council's standards in consultation with, and to the satisfaction of, Council's Engineering Services Manager.
2. New roads and rights-of-way shall be created at no cost to Council.
3. Driveways are to follow natural contours and to avoid damming gullies and streams. Driveways are to be located to retain as much natural vegetation as practicable.
4. Slopes and banks of roads and driveways must be stabilised during construction.
5. To maintain a 'low key' feeling, narrow roads and driveways are to be constructed.
6. Gravel or crushed sandstone surfaces are preferable on low slope driveways. On steeply sloping land, paving or sealing is to be in a dark colour to give a more natural effect.
7. Access tracks may be constructed in 'No Development' areas, but only in accordance with the plans accompanying these guidelines.
8. It will be necessary for the method of treating and minimising runoff from roads, driveways and sediment control and restoration of all earthworks to be addressed as part of any development application.

9. The location of the road pavement within the reservation is subject to detailed survey.
10. All accessways, roads, tracks and driveways are to be constructed in such a manner that the disturbance of adjacent areas is to be minimised. This is particularly critical where access is through areas of bushland and across and adjacent to creeks and drainage lines.

## 9. Landscaping

It is vitally important that the tree canopy and bushland vistas remain. Species chosen for landscaping purposes should be chosen with the following criteria in mind:

- Appropriateness for location
- Suitability for purpose e.g. for screening
- Fire and drought resistance
- Ease of maintenance
- Attractiveness

Weeds should be eradicated from natural vegetation, using proven bush regeneration techniques.

A comprehensive list of suitable species is available on Council's website or by contacting Council.

### Controls

1. Permission will not be given to remove natural vegetation from the areas marked as 'No Development' zones. Through the application of these controls, existing indigenous vegetation will be retained wherever possible.
2. Local native plant species are preferred.
3. The use of fire resistant local native species is appropriate for all allotments, but must be used on certain specified allotments.
4. Existing low plants and leaf litter are to be retained as groundcover, except where subject to specific controls in areas of moderate and moderate to high bushfire hazard areas.

5. Native grasses are more appropriate than bright green lawns.
6. Natural rock features are to be retained.
7. Random planting and groups of trees are more in keeping with the natural landscape than formal plantings.
8. Landscaping plans, to be prepared in accordance with plans included within this section, are required for all developments.
9. Bushland regeneration, using approved bushland regeneration techniques, is to be incorporated where necessary as part of a landscaping plan, and is to be carried out to the satisfaction of Council's Engineering Services Manager.
10. All mulching material is to originate from clean native vegetation from the site, to avoid the introduction of exotic species.
11. Retain/add habitat for fauna, e.g. logs for reptiles.

## 10. Bushfire Hazard

Bushfire risks in bushland settings can be lessened by both safety measures and management measures. The aim is to reduce the use of environmentally unacceptable hazard reduction methods such as controlled burning, by paying attention to building design and siting.

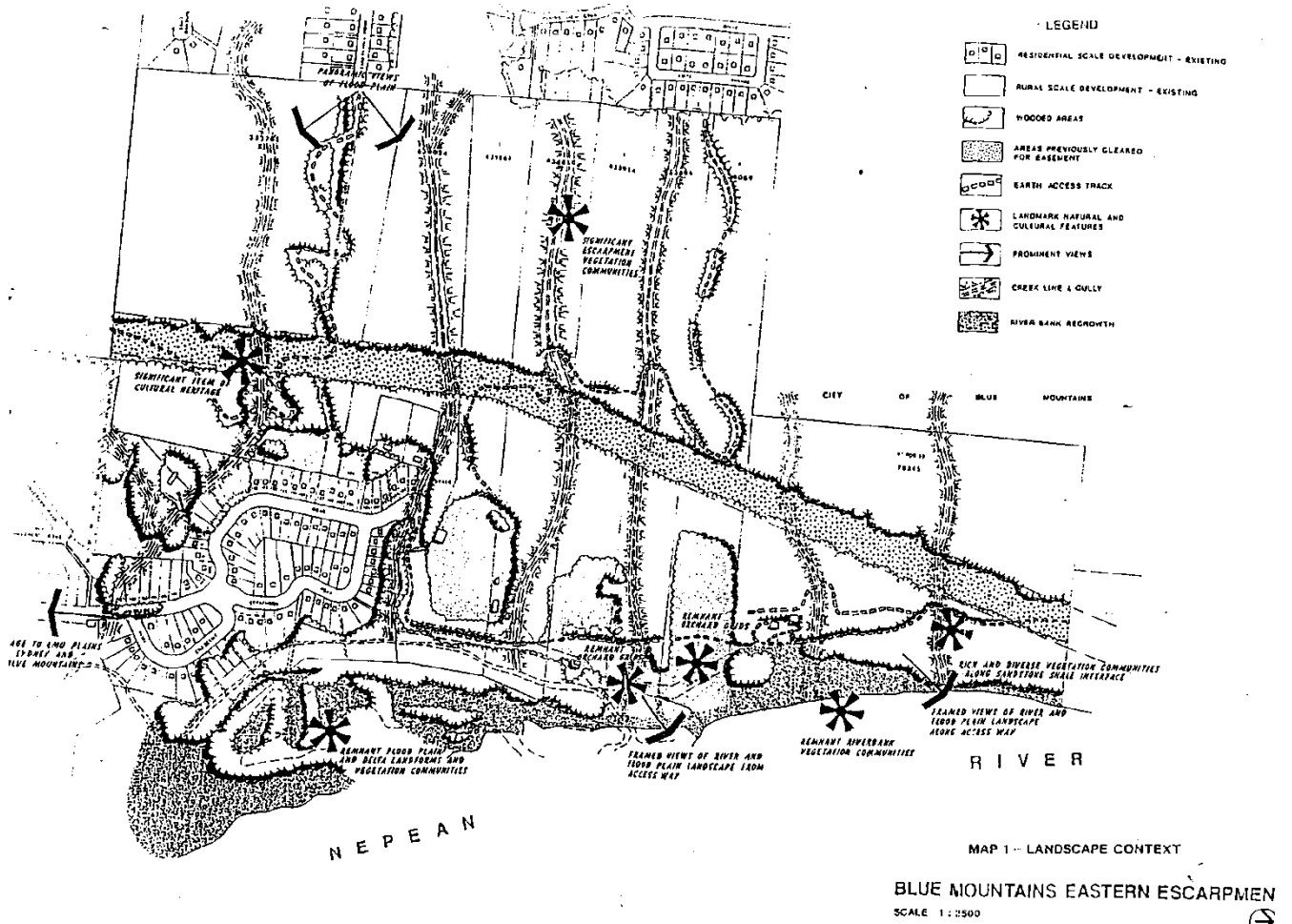
### Controls

1. All allotments must comply with the requirements of *Planning for Bush Fire Protection 2006* and the Australian Standard for the Construction of bush-fire prone areas AS3959-2009 and the guidelines as identified on Figure 4 – Map 3. Advice from Council's Development Services Department should be sought prior to lodging an application with Council.
2. In order to maintain the firebreak and fuel reduced zones, a 5m wide access-way for fire fighters is to be provided within allotments and registered as fire prevention easements. The final location is to be subject to survey. This access-way is to provide for vehicular movement and may require removal of trees and undergrowth. In all cases, the access-way is to be grassed and appropriately drained to prevent erosion.

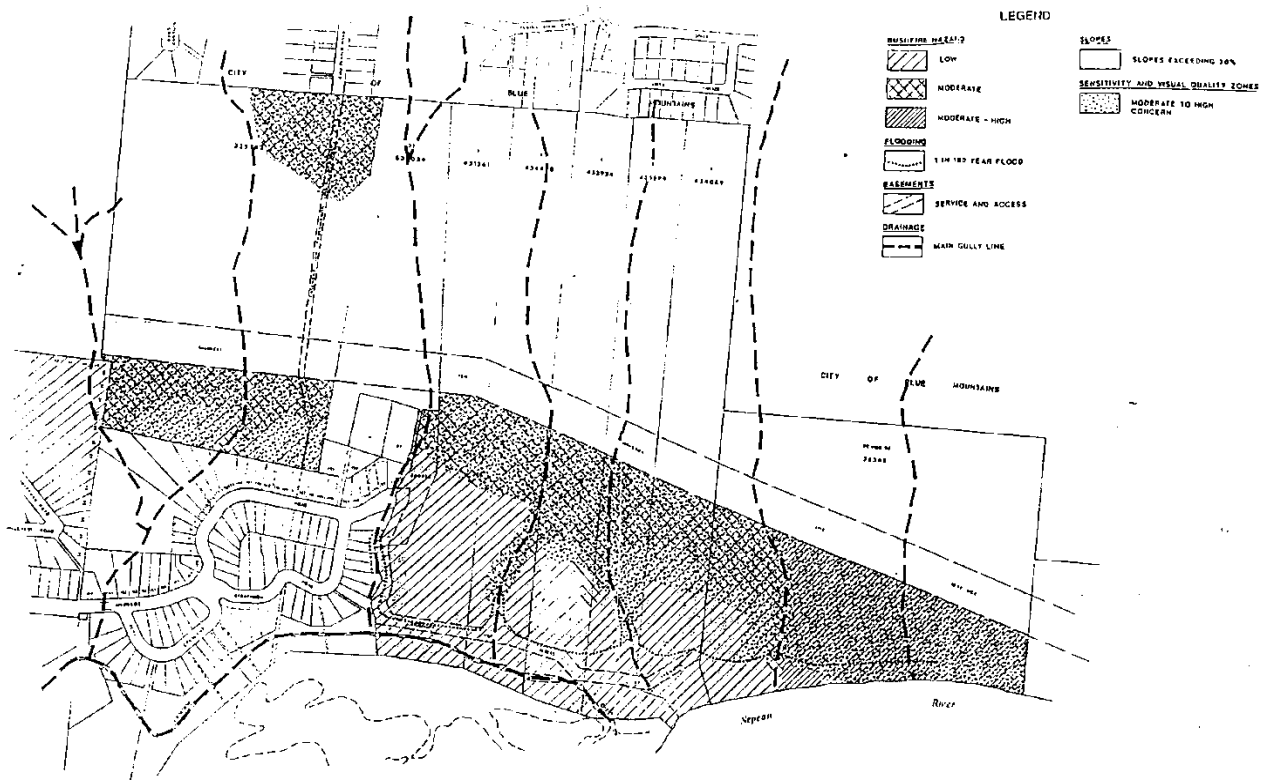
3. Preferably, houses are to be located on, or at the base of, gentle south or south east facing slopes. These slopes are more damp and usually on the downslope side of a fire.
4. When building on slopes, it is safer to build the house on a 'cut in' bench rather than have it perched on the slope on stilts.
5. Ensure that there are at least 2 ways out from the site, with one preferably to the south east, so that in the event of fire, escape is away from the primary fire danger zone.
6. When siting buildings, consideration should be given to possible uses of existing trees for wind break protection. Eucalypts are preferable for windbreaks as they are capable of regeneration. Firebreak trees should be cleared of branches to a height of 2m above ground level to prevent ground fires climbing the trees.
7. Most fire resistant vegetation is that with high leaf moisture content, low resin content and minimal dead matter during the fire danger period. When choosing appropriate species consider:
  - i. The amount of water the trees will receive
  - ii. How trees burn once set alight; and
  - iii. Likely regeneration or recovery rate after fire.
8. Trees should not touch walls and roofs. Plantings nearer buildings should be of the low hazard type. Fruit trees and vegetable gardens can serve as fire breaks on the fire approach side. Low ground covers should be planted and kept well watered in summer.
9. A well protected property still requires annual maintenance to maximise safety in the event of fire.

# Appendix 1: Maps of Blue Mountains Escarpment Area

Figure 2: Map 1 – Landscape Context



**Figure 3: Map 2 – Physical Constraints**

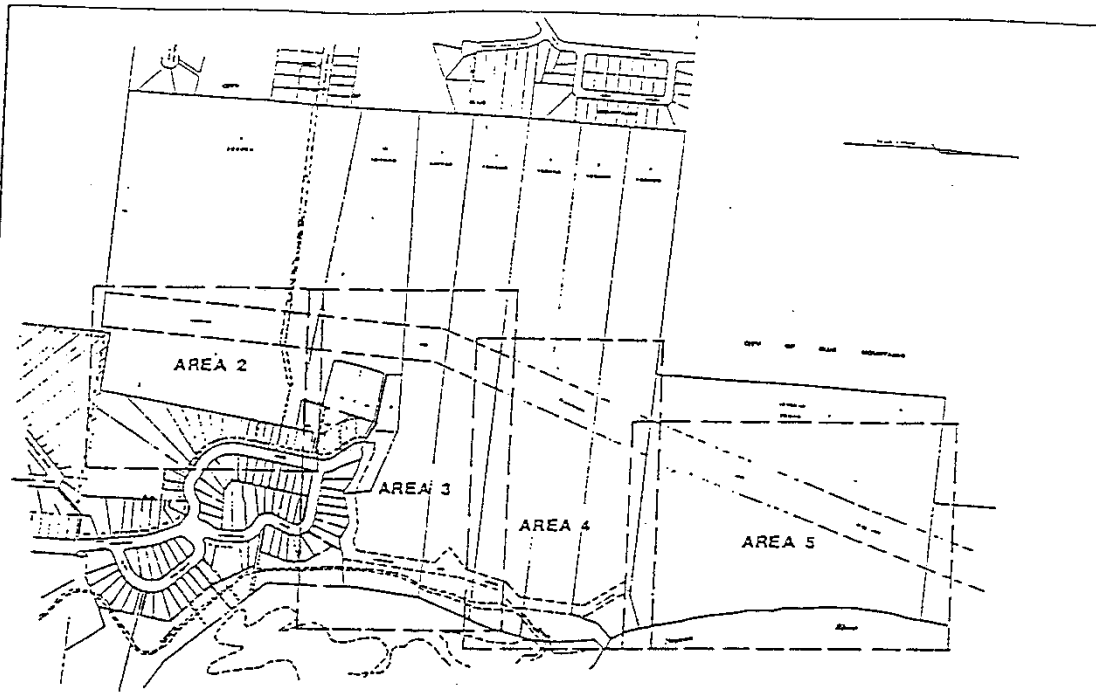


MAP 2 - PHYSICAL CONSTRAINTS









BLUE MOUNTAINS EASTERN ESCARPMENT  
SCALE 1 : 2500

DRAFT

**Figure 4: Map 3 – Subdivision Pattern and Development Controls**



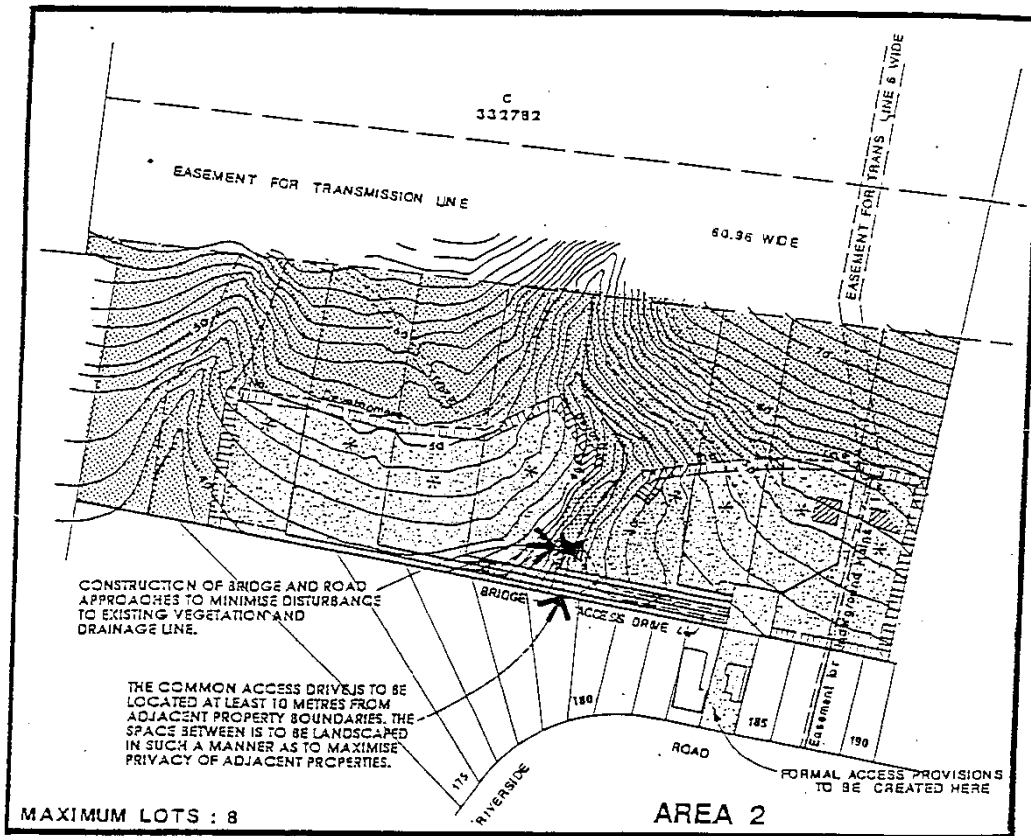
**LEGEND**

-  FIRE FIGHTING EASEMENT 5m WIDE TO BE CREATED
-  RESTRICTION TO USE (NO DEVELOPMENT)
-  DEVELOPMENT PERMITTED (SUBJECT TO PROVISIONS OF SITING DESIGN & MANAGEMENT GUIDELINES D.C.P.)
-  LOTS MARKED AS SUCH TO BE PLANTED WITH FIRE RESISTANT SPECIES
-  TRACK
-  RIGHT OF CARRIAGEWAY AND EASEMENT FOR SERVICES
-  BRIDGE
-  EXISTING BUILDINGS

**MAP 3. – SUBDIVISION PATTERN AND DEVELOPMENT CONTROLS**

**BLUE MOUNTAINS  
EASTERN ESCARPMENT**

Figure 5: Area 2



**Figure 6: Area 3**

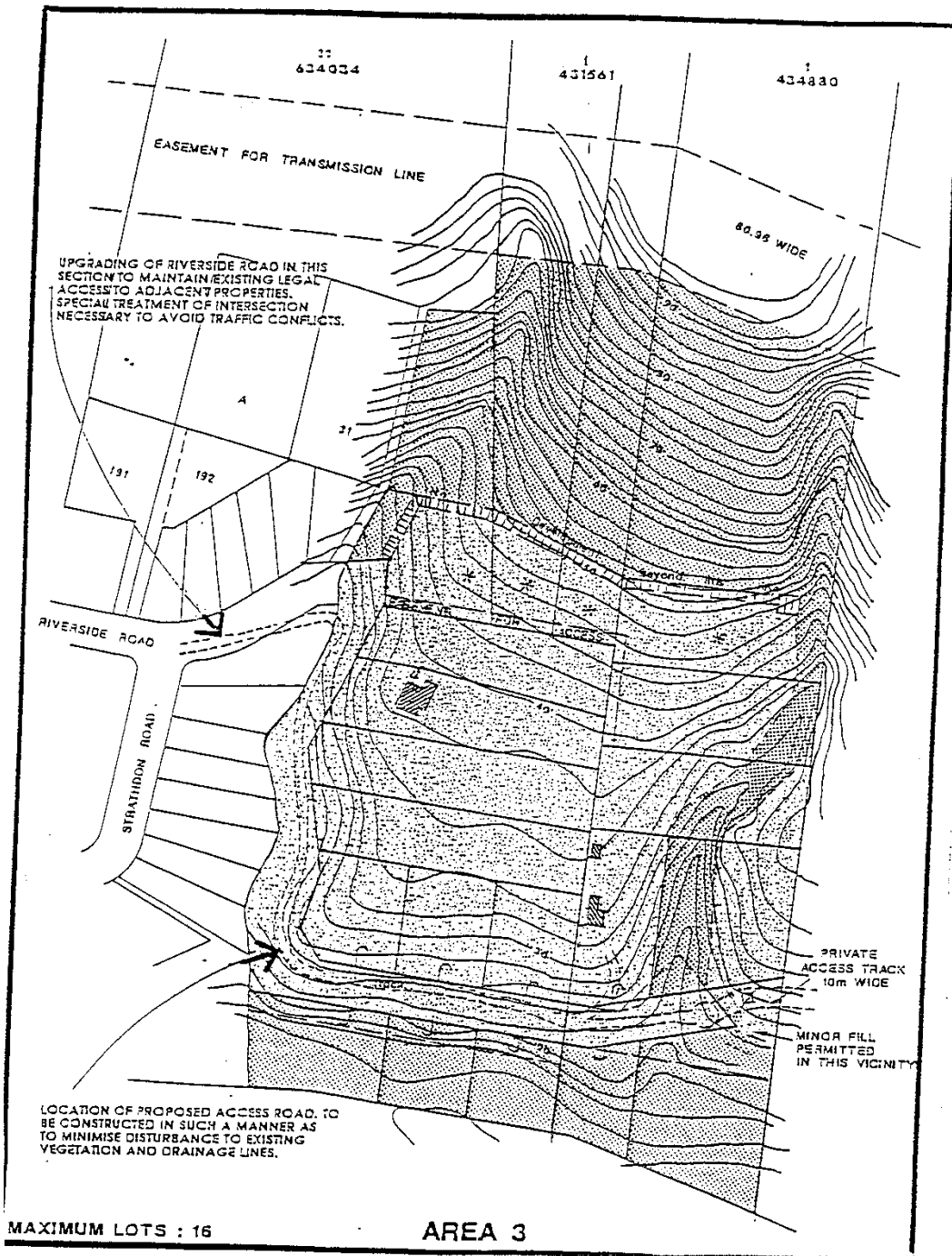


Figure 7: Area 4

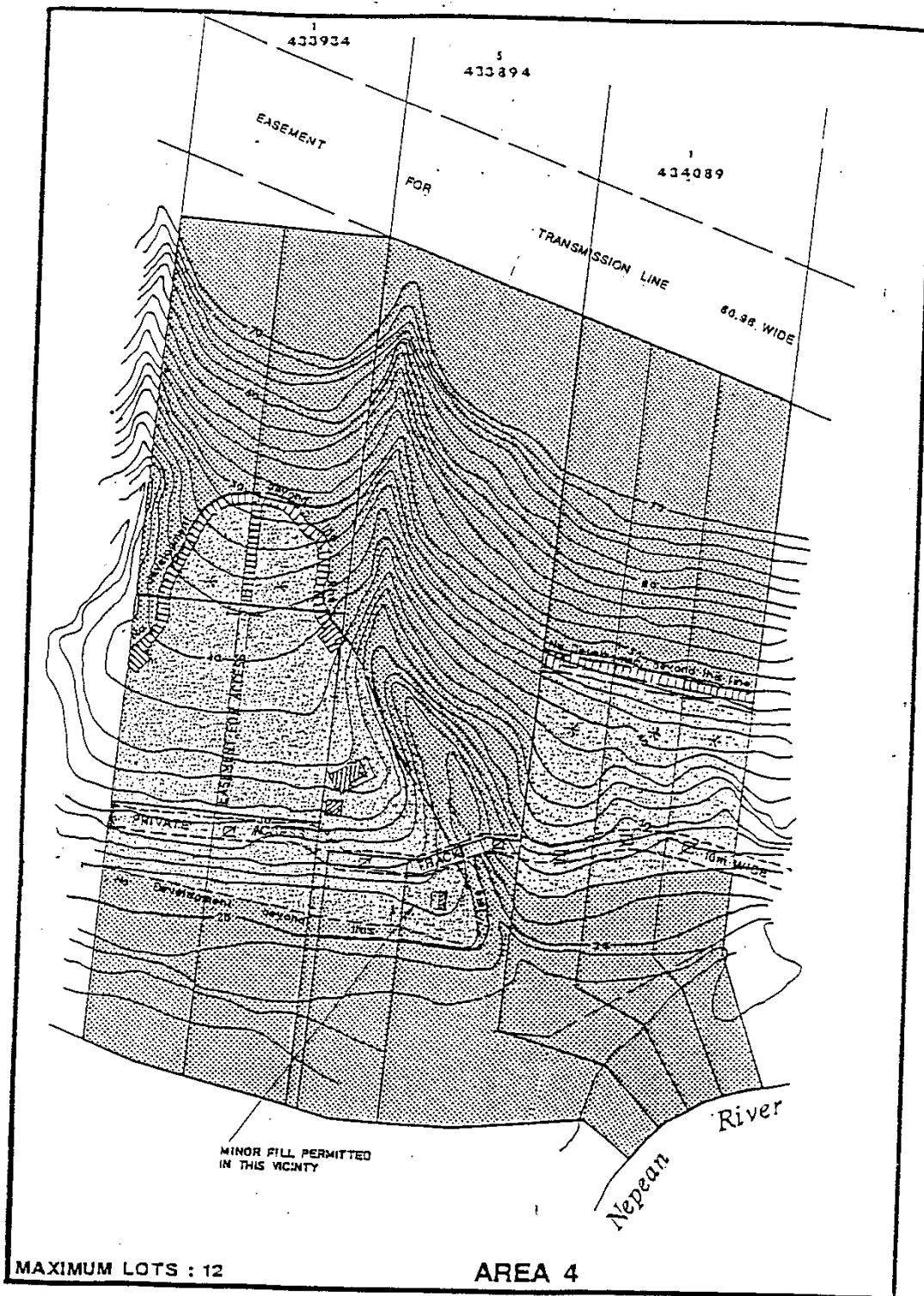
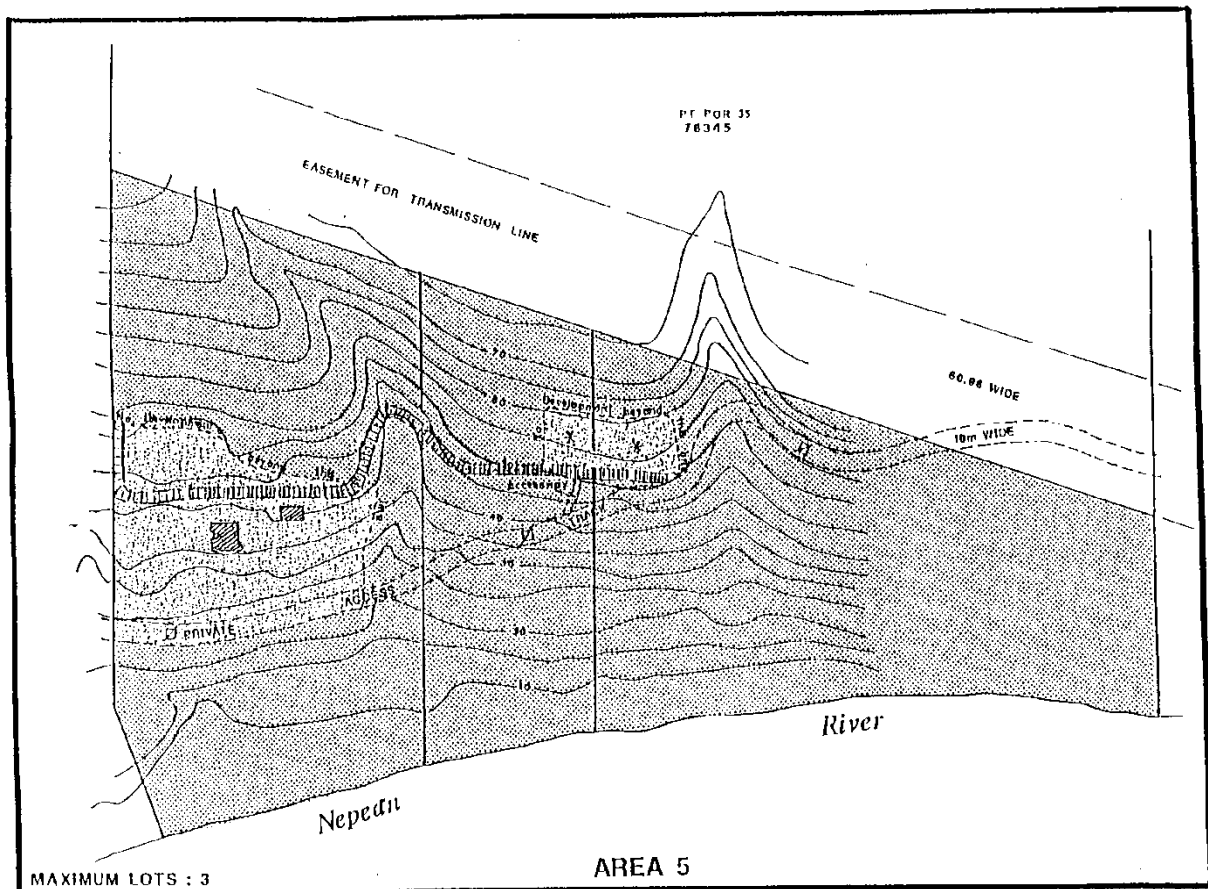


Figure 8: Area 5



# D5 Emu Plains

## Contents

1. Introduction .....	2
1.1 Land to which this Chapter applies .....	2
1.2 Aims of this Chapter .....	3
2. Controls.....	3
2.1 Commercial development.....	3
2.2 Traffic Management.....	4
2.3 Parking.....	4
2.4 Residential development.....	4
2.5 Pedestrian access.....	5

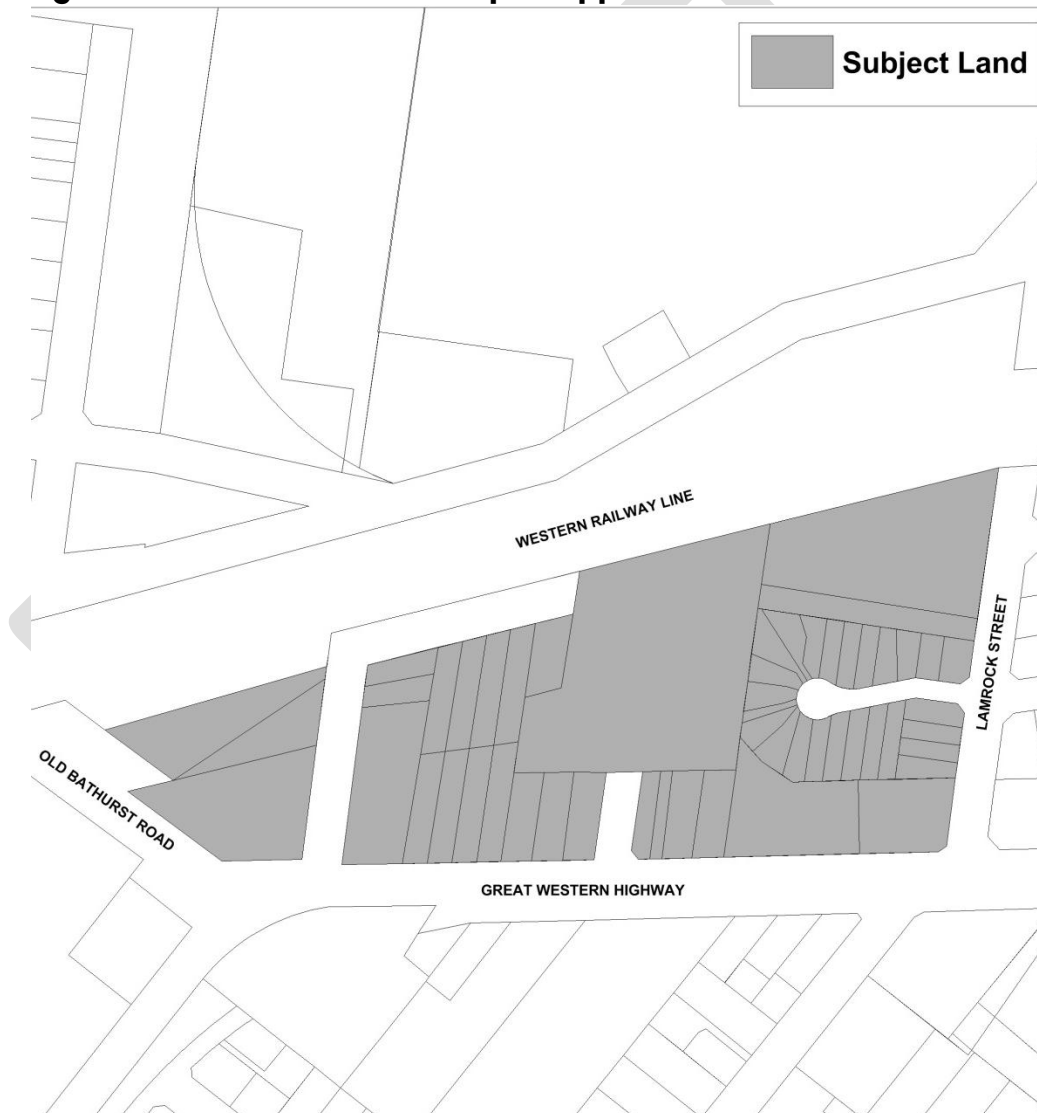
# D5 Emu Plains

## 1. Introduction

### 1.1 Land to which this Chapter applies

This chapter applies to land at Emu Plains, bounded by Old Bathurst Road, the Great Western Highway, Lamrock Street and the Western Railway line as shown in Figure 1.

**Figure 1: Land to which this chapter applies**



## 1.2 Aims of this Chapter

- a) To provide urban design guidelines for commercial and residential development within the area.
- b) To reflect current traffic management conditions and to guide future traffic management and parking within the area.
- c) To ensure the enhancement of pedestrian access within the area and between surrounding areas; and
- d) To ensure the physical enhancement of the area through the provision of landscaping, street tree planting and good quality urban design.

## 2. Controls

### 2.1 Commercial development

1. To enhance the landscape character of the area, street tree planting of advanced trees shall be provided:
  - i. along the street frontages of land in conjunction with any new development on that land. The street trees are to be consistent with Council's street planting requirements for the area, and
  - ii. along the frontage of land to Council's car parking area in conjunction with any new development on that land.
2. Land fronting the Great Western Highway, and located between the existing shops and Lamrock Street, has potential for commercial development consistent with the land use zone. As such, development proposals on this land shall be designed:
  - i. To take account of the amenity of any adjacent residential development by providing:
    - Attractive external design and site planning to maintain residential privacy and minimise noise generation; and
    - Buildings/s of maximum two storeys in height and designed to complement the existing one – and two- storey residential mix in the surrounding area.

- ii. To provide a staggered building setback which provides a visual link between the existing buildings adjacent to the land.

## **2.2 Traffic Management**

1. Vehicular access to the precinct is provided via:
  - i. Station Street (left in, left out), and
  - ii. Billington Place (signalised intersection), and
  - iii. Lamrock Street (limited only to development fronting Lamrock Street, with no direct vehicular connection between Lamrock Street and Railway Row South).
2. All new development within the precinct shall be designed to provide satisfactory service vehicle access in accordance with the Plan.
3. All new development within the precinct shall contribute towards the cost of traffic management and pedestrian facilities identified within the Plan.

## **2.3 Parking**

1. Development within the precinct shall provide on-site car parking in accordance with the parking section within the Transport, Access and Parking Chapter of this DCP.

## **2.4 Residential development**

1. To enhance the landscape character of the area street tree planting of advanced trees shall be provided:
  - i. Along the street frontages of land in conjunction with any new development on that land. The street trees are to be consistent with Council's street planting requirements for the area; and
  - ii. Along the frontage of land to Council's car parking area in conjunction with any new development on that land.
2. Development proposals for land adjacent to the western side of Lamrock Street which has potential for residential development shall incorporate:
  - i. Measures to minimise the impact of noise on residents from the Western Railway line and Great Western Highway through

appropriate design features, the use of suitable external materials, landscaping and site design.

- ii. Dwellings of a scale and character which complement those existing in the surrounding area.
- iii. High-quality fencing of a scale, design and materials which does not present long, unbroken expanses to public view (e.g. lapped-and-capped paling fence, or masonry construction, with spacing for tree and shrub planting).
- iv. Landscaping which complements the character of the area, and enhances both the amenity of the residents and views from public places. Landscaping must be implemented to provide privacy and shade for the residents.

## **2.5 Pedestrian access**

1. To enhance pedestrian access within the area and between surrounding areas foot paving shall be provided along the street frontages of land in conjunction with any new development on that land.
2. Foot paving treatment shall be consistent with Council's foot paving requirements for the area.

# D6 Erskine Business Park

## Contents

D6 Erskine Business Park.....	3
1. Preliminary .....	3
1.1 Aims and objectives of this Chapter.....	3
1.2 Land to which this chapter applies.....	4
2. Subdivision.....	5
3. Site development and urban design .....	7
3.1 Height.....	7
3.2 Site coverage .....	8
3.3 Setbacks.....	9
3.4 Urban Design.....	12
3.5 Signage and Estate Entrance Walls.....	15
3.6 Lighting.....	17
3.7 Fencing.....	18
3.8 Services.....	19
3.9 Transmission line easement .....	20
4. Environmental quality.....	21
4.1 Noise pollution .....	21
4.2 Air Pollution.....	22
4.3 Storage, transportation and/or processing of chemical substances....	23
4.4 Energy Conservation.....	24

4.5 Trading/operating hours of premises.....	25
<b>5. Drainage.....</b>	<b>26</b>
<b>5.1 Introduction.....</b>	<b>26</b>
5.2 Western Catchment – South Creek.....	27
5.3 Eastern Catchment – Ropes Creek.....	28
<b>6. Transport Network.....</b>	<b>30</b>
<b>7. Biodiversity .....</b>	<b>33</b>
7.1 Biodiversity conservation area and landscape buffer.....	33
<b>8. Landscaping .....</b>	<b>35</b>
<b>9. Landscape areas.....</b>	<b>36</b>
9.1 Hard landscape materials requirements.....	37
9.2 Performance standards and maintenance requirements.....	37
9.3 Landscape area requirements.....	38

DRAFT

# D6 Erskine Business Park

## 1. Preliminary

### 1.1 Aims and objectives of this Chapter

- a) To enable a diversity of employment generating development to locate within the Erskine Business Park.
- b) To ensure that the standard of development does not detract from or unduly impact upon the existing built environment in adjoining rural and residential areas; and
- c) To ensure that development occurs in an environmentally responsible manner and future development limits adverse impacts upon significant biodiversity.
- d) To provide a framework that will lead to a high standard of development by encouraging local employment and creating an area which is pleasant, safe and efficient to work in.
- e) To ensure that development takes account of the physical nature of the local environment, particularly Ropes Creek, ridgelines and the natural landscape.
- f) To ensure that development does not result in pollution of waterways and in particular of Ropes Creek and South Creek.
- g) To promote the development of a visually attractive physical environment where the form, scale, colour, shape and texture of urban elements are managed in a way which will achieve an aesthetically pleasing balance which does not adversely affect the amenity of the existing residential areas.
- h) To identify and provide for public amenities and service infrastructure to accommodate development.
- i) To promote the creation of a landscaped area within the electricity transmission easement to act as a buffer between the employment zones and the residential communities.

- j) To establish environmental criteria and controls for development within the area to ensure that the environmental quality of adjoining areas is not compromised.
- k) To ensure that development is consistent with the objectives of the Threatened Species Conservation Act with particular regard to the endangered ecological communities, flora and fauna present on the site.
- l) To facilitate conservation of urban bushland; and
- m) To protect, restore and enhance riparian corridors within Erskine Business Park.

## **1.2 Land to which this chapter applies**

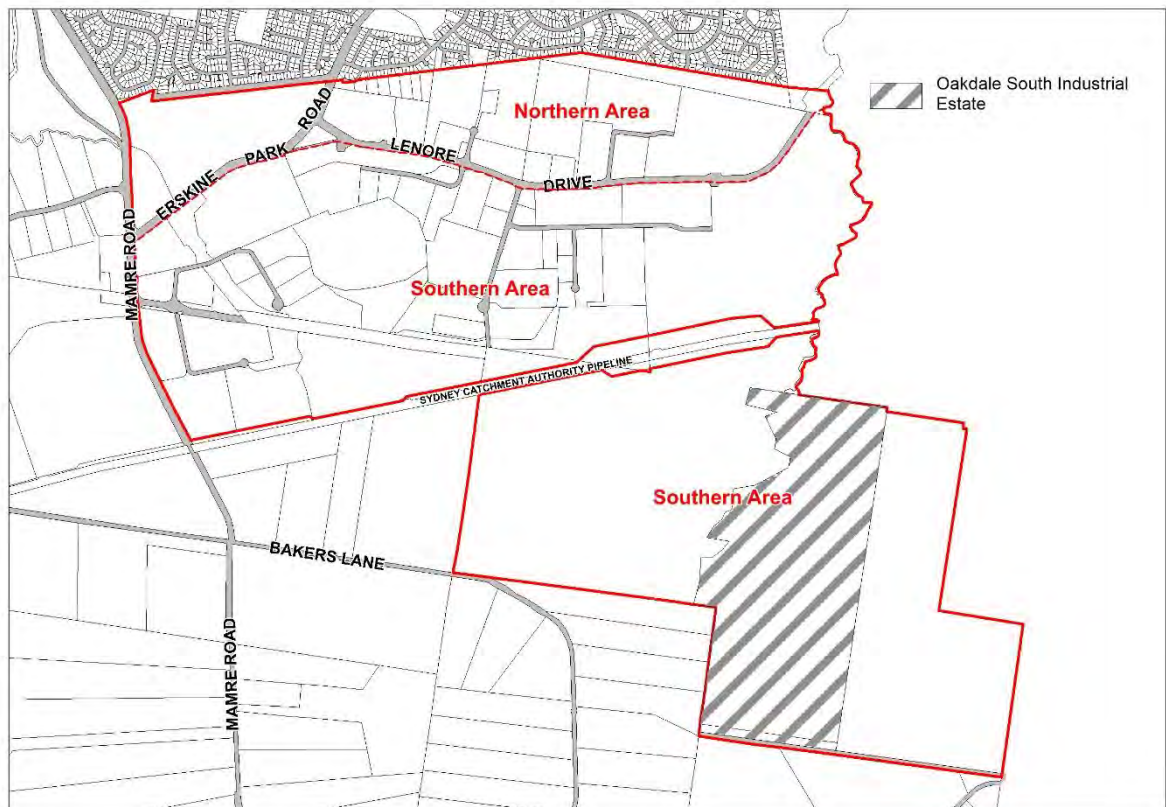
Erskine Business Park is part of the Western Sydney Employment Area (WSEA) which applies to land identified in the *State Environmental Planning Policy (Industry and Employment) 2021* (Industry and Employment SEPP). The WSEA is located within the vicinity of the intersection of the M4 and M7 Motorways. The WSEA straddles four local government areas (Penrith, Blacktown, Fairfield and Holroyd) covering an area of approximately 2,450 hectares.

This chapter applies to those WSEA lands within the Penrith LGA known as Erskine Business Park (as identified in Figure 1) and includes:

- a) The existing Erskine Business Park (divided into two precincts being the Northern Area and the Southern Area as shown in Figure 1); and
- b) An area also shown in Figure 1 which includes those lands south of the Sydney Catchment Authority (SCA).

This chapter also provides more detailed provisions than are included in the Industry and Employment SEPP in regard to development standards, the provision of public amenities and service infrastructure, and biodiversity conservation.

**Figure 1: Land to which this chapter applies**



## 2. Subdivision

### Objectives

- a) To achieve maximum flexibility for siting and location of buildings and to achieve an appropriate density of development.
- b) To provide opportunities for parcels of land of varying size and dimensions to satisfy market demand and the needs of the development industry.
- c) To ensure that subdivision design takes into account biodiversity considerations and facilitates minimum impact development to protect remnant native vegetation on the site and on adjoining land.
- d) To preserve the natural topography and physical characteristics of the land.
- e) To provide opportunities for large lot subdivision.
- f) To ensure that development occurs in a logical and staged manner.

- g) To minimise the number of road entry points to designated roads and the northern access road, thereby allowing more efficient traffic management.
- h) To create the opportunity for "individual" design solutions and innovative and efficient subdivision layout.
- i) To create opportunities for large land parcels to be developed in a co-ordinated, unified manner, featuring elements such as a common landscape theme/treatment, similar architectural treatments, and where possible, shared parking areas; and
- j) To protect, restore and enhance riparian corridors.

## Controls

1. Lots fronting biodiversity areas or corridors are required to have on-site drainage controls in accordance with this section to prevent nutrient and erosion impacts on the bushland.
2. Lot design should maximise the conservation of the natural features of the site including important fauna habitats, rare or threatened plant habitats, and designated biodiversity areas.
3. Lots adjoining or containing watercourses are required to maintain or establish native vegetation riparian zones.
4. Perimeter roads are desirable from the point of view of bushfire control but may not be feasible if site disturbance is to be minimised.
5. The subdivision controls are:

**Table 1: Subdivision controls in Erskine Business Park**

	Area	Control
Minimum Allotment Size	Northern Area (Refer to Figure 1)	20,000m <sup>2</sup>
	Southern Area – excluding Oakdale South Industrial Estate (Refer to Figure 1)	10,000m <sup>2</sup>
	C2 Environmental Conservation along the Ropes Creek Corridor.	40ha

	Land known as the Oakdale South Industrial Estate, Erskine Park (Refer Figure 1)	5,000m <sup>2</sup>
Minimum Frontage	Northern and Southern Area (Refer to Figure 1)	60m
	C2 Environmental Conservation along the Ropes Creek Corridor	Not Applicable
	Land known as the Oakdale South Industrial Estate, Erskine Park (Refer Figure 1)	40m (excluding cul-de-sacs) 35m minimum lot width at building line

6. Council will consider a variation to the above allotment size and frontage for lots created for either “utility installations” or “utility undertakings” (e.g. electricity substation).

### 3. Site development and urban design

#### 3.1 Height

##### Objectives

- a) To encourage building forms that respond to the topography of the site and the relative position of the allotment to other allotments and the street.
- b) To ensure a scale of buildings which minimises the impact of development on adjoining residential areas; and
- c) To minimise the impact of development on views from adjoining residential areas.

##### Controls

1. The maximum height for buildings and structures in the Northern Area shown in Figure 1 shall not exceed 12m.
2. The maximum height for buildings and structures in the Southern Area shown in Figure 1 shall not exceed 15m, unless otherwise specified below.

- Generally, buildings should be sited on mid-slope to avoid visual impact on ridges and to be in harmony with the existing landscape.
- On sloping sites, the building or buildings should be designed, where possible, so as to "step" physically up or down the site to avoid visual impact on ridges.
- Within the Oakdale South Industrial Estate, no warehouse buildings in Precinct 4, 5 or 6 shall exceed a ridgeline height of 13.7m. Refer to Figure 2.

**Figure 2: Oakdale South Industrial Estate – Precinct Plan**



### 3.2 Site coverage

#### Objectives

- To limit the density of development.
- To encourage the provision of open space and landscaping on development sites, consistent with the landscape objectives in the Landscape Design section within the Environmental Management Chapter of this DCP.

## Controls

1. Site coverage shall not exceed 50%, unless otherwise specified below
2. Site coverage within the Oakdale South Estate shall not exceed 65% (excluding building awnings).
3. Where land is included in Biodiversity Conservation Areas or Electricity Transmission Line Easements, that land can be included in site coverage calculations.

### 3.3 Setbacks

#### Objectives

- a) To provide an open streetscape with substantial areas for landscaping.
- b) To enhance the visual quality of development and the urban landscape.

#### Controls

1. The setback standards are outlined in the table below. Where the property has frontage to more than one road, Council will consider a variation to setbacks on the secondary road frontage, as shown in Table 2 below.

**Table 2: Setback Requirements**

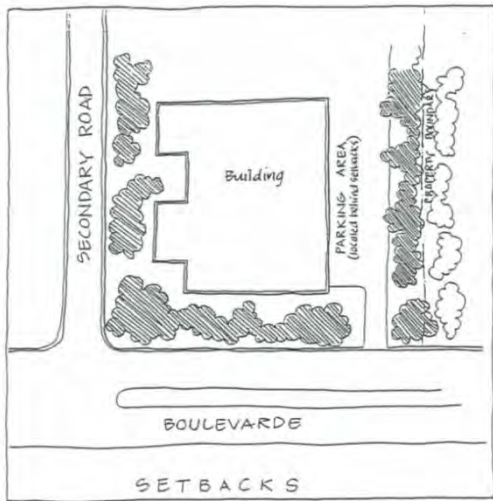
Setback Type	Setback
Designated Road (Mamre Road and Erskine Park Road)	20m
Northern Access Road (Lenore Drive and Erskine Park Link Road to Westlink M7)	20m
Southern Link Road	20m
Western Access Road (Trunk Collector)	20m
Other Road Frontages	15m
Estate roads within the Oakdale South Industrial Estate	7.5m
Rear and Side Boundaries (unless otherwise specified elsewhere in this table)	5m

Setback Type	Setback
Side Boundaries within the Oakdale South Industrial Estate	0m subject to compliance with fire rating requirements
Rear and side boundary setbacks to development adjacent to the Oakdale South Industrial Estate, excluding the southern property boundary and the eastern property boundary.	5m
Boundary setbacks along the southern property boundary of the Oakdale South Industrial Estate	30m
Boundary setbacks along the eastern property boundary of the Oakdale South Industrial Estate	10m
Transmission Line Easement	8m
Water Supply Pipeline	5m
Boundaries Adjacent E2 Environmental Conservation zone along the Ropes Creek Corridor.	10m

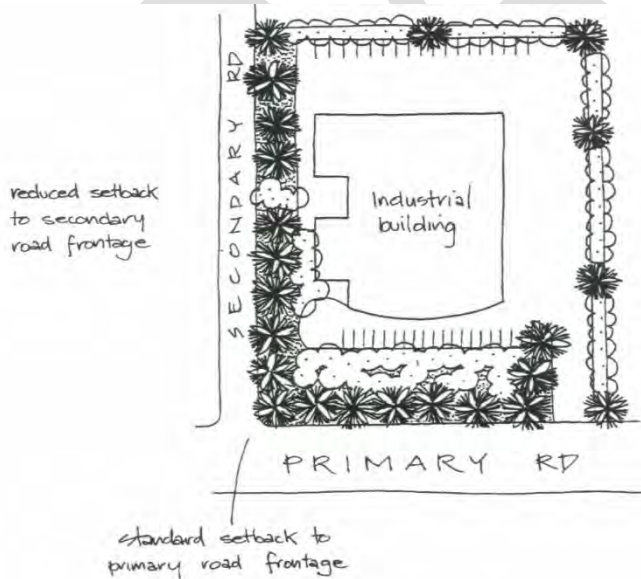
2. Notwithstanding Control (1) above, no development other than the following development is permitted within the defined setback for any road, other than Lenore Drive, Mamre Road and Erskine Park Road:
- i. Car parking
  - ii. Landscaping in accordance with the provisions of the Landscape Design section within the Environmental Management Chapter of this DCP
  - iii. Maintenance/rehabilitation of biodiversity corridors or areas in accordance with the provisions of the Vegetation Management section within the Environmental Management Chapter of this DCP
  - iv. Utility services installation
  - v. Accessways and driveways (not permitted in setbacks to designated roads)

- vi. Approved signage
- vii. Street furniture, and
- viii. Drainage works.

**Figure 3: Building setbacks (1)**



**Figure 4: Building setbacks (2)**



3. Notwithstanding Control (2) above, Council may consider a variation to permit car parking within part of the setbacks to Erskine Park Road and Lenore Drive for 1 – 23 Lenore Drive, Erskine Park (Lot 1, DP 1071114), which is the site on the corner of Erskine Park Road and Lenore Drive. Council shall consider the type and scale of the development when assessing any such request for variation to either building or car parking setbacks.

4. Existing remnant vegetation within front, rear and side setback areas shall be retained and enhanced as an integral part of the landscaping proposals for each development.
5. Where sites back onto designated roads or the main access roads, those setback areas shall be provided with mounded landscape screens. Existing remnant vegetation shall be retained and enhanced as part of those landscaping proposals.

### **3.4 Urban Design**

#### **Objectives**

- a) To encourage a high standard of architectural design, utilising quality materials and finishes
- b) To establish varied and articulated frontages facing or visible from public roads
- c) To minimise perceived scale and mass and to prevent monotonous building forms resulting from poor design of walls or rooflines; and
- d) To ensure that new development contributes to the creation of a visually cohesive urban environment.

#### **Controls**

##### Architectural/Design

1. In assessing development proposals, Council will have regard to the quality of building design and materials (type and colour).
2. Prominent elevations, such as those with a frontage to the street or public reserves or those that are visible from public areas, must present a building form of significant architectural and design merit. The construction of large, blank wall surfaces is not permitted.
3. Large unrelieved expanses of wall or building mass will not be supported by Council, and as such should be broken up by the use of suitable building articulation, fenestration or alternative architectural enhancements.
4. The use of large, uninterrupted areas of metal cladding or untreated concrete surfaces for wall construction is not supported. Applicants shall

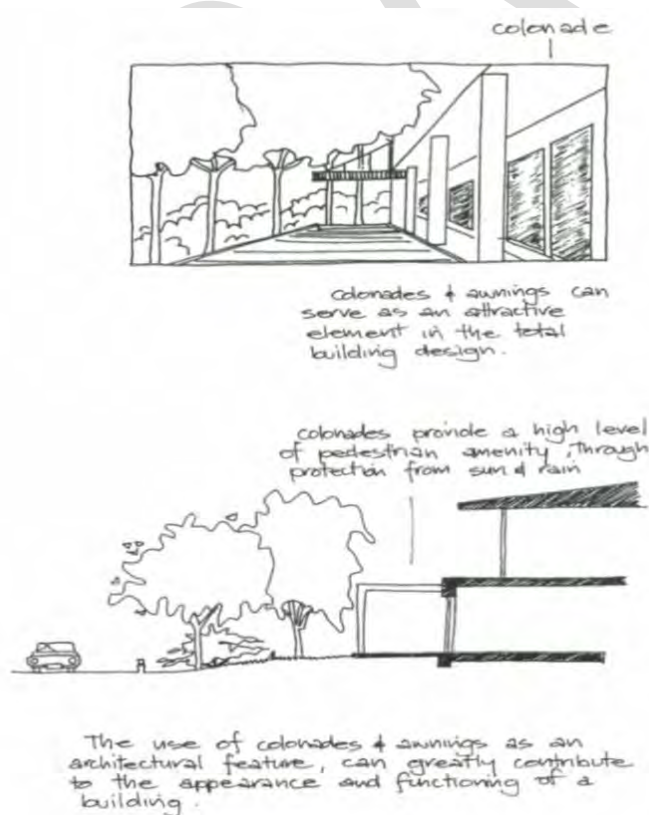
vary materials or finishes for external walls to provide attractive streetscapes and quality building designs. Council may limit the use of a single construction material to 50% of a wall surface area.

5. All loading areas should be located towards the rear of allotments. Where possible, loading areas should be screened from the view of main road frontages through physical and/or vegetation screening.
6. Details of samples of external materials and finishes shall be submitted with the Development Application.
7. External materials should not have an index of reflectivity above 20%.
8. Energy efficient design principles should be employed in all building designs.
9. Walls shall be articulated to provide more varied streetscapes, where visible from public roads or adjacent residential areas.
10. Part of the cross-section of buildings shall be projected to reduce apparent height and scale of external walls, including:
  - i. Awnings and/or upper storeys that project above footpaths.
  - ii. Roofs with eaves that project beyond external walls
  - iii. Colonnades.
11. Entrances to buildings must be highlighted by architectural features consistent with the overall design of the building.
12. Particular care should also be taken in:
  - i. Designing roof elements; and
  - ii. Locating plant and mechanical equipment including exhausts, so as to reduce their visual impact from elevated locations.
13. External material colours to be consistent with the following palette of colours developed for Erskine Business Park:
  - i. Earth Tones – stone colours, browns, muted greens, sand, dark red/plums; and
  - ii. Cool Tones – soft greys, grey/blues.

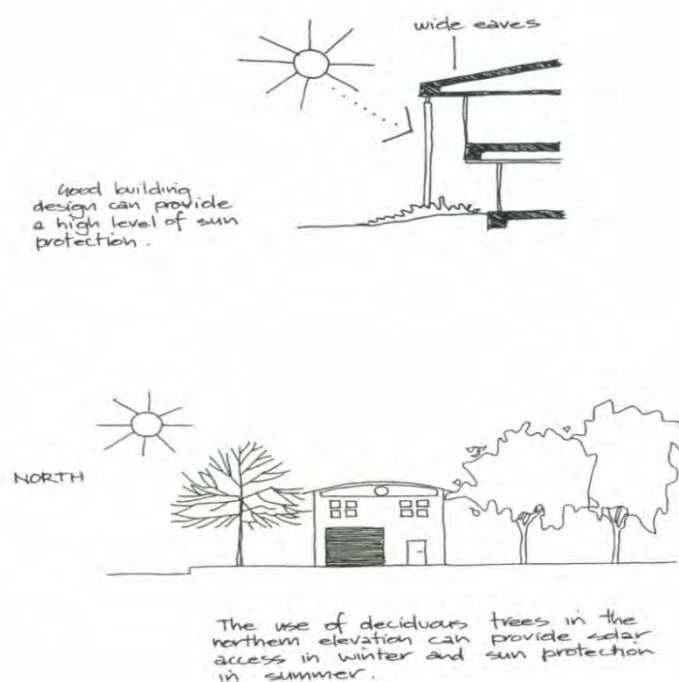
## Siting/Building Orientation

14. Building elevations oriented towards residential areas shall be minimised. Where site constraints create difficulties in complying in this regard, elevations shall be appropriately detailed using windows, broken building planes and other architectural devices.
15. Design and layout of buildings shall give consideration to local climatic conditions. For example:
  - i. Where possible, buildings should take advantage of a north or north easterly aspect.
  - ii. Western orientations should be avoided.
  - iii. Trees should be planted around the building to create shade, screening and wind breaks.
16. Development should not seriously impede the access of solar radiation to surrounding land and development.

**Figure 5: Pedestrian friendly urban design**



**Figure 6: Energy efficient design**



### 3.5 Signage and Estate Entrance Walls

#### Objectives

- a) To promote an integrated design approach to all signage in character with the locality and its architectural and landscape features.
- b) To provide a quality entrance statement and signage at each of the entrance points to the Estate.
- c) To prevent the proliferation of signs
- d) To minimise the visual impact of signage
- e) To prevent distraction to motorists and minimise the potential for traffic conflicts
- f) To permit the adequate display of information concerning the identification of premises, the name of the occupier and the activity conducted on the land; and
- g) To encourage a coordinated approach to advertising where multiple occupancy of sites occur.

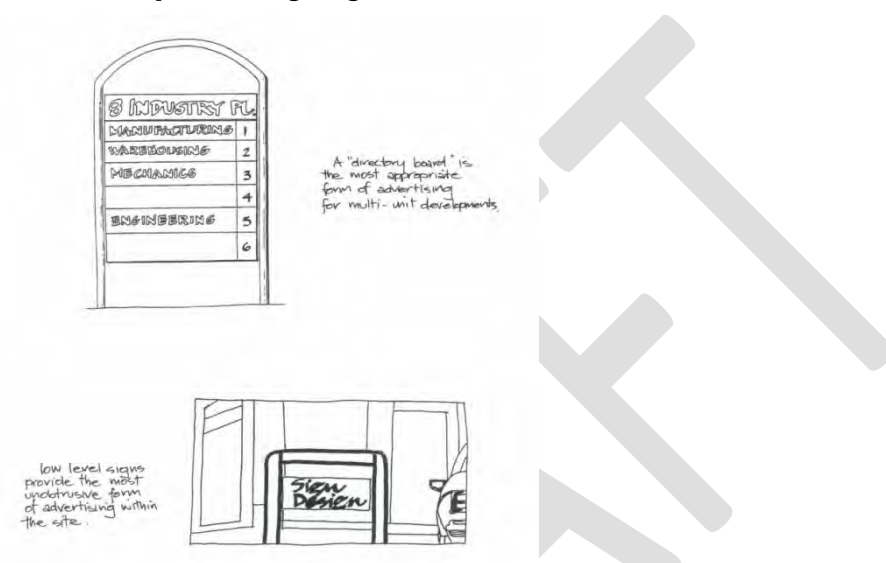
## Controls

1. Signage on individual allotments will be required to comply with the provisions of the Advertising and Signage chapter of this DCP.
2. In addition, all advertising is required to be:
  - i. Constructed of high quality, durable materials.
  - ii. Considered in conjunction with the design and construction of buildings.
  - iii. Restricted generally to one sign identifying the name of the occupants and/or products manufactured or produced on the site; and
  - iv. Contained wholly within the site.
3. Decorative masonry entrance walls and high quality Estate signage (indicating the name of the Estate) shall be provided, as shown on Figure 11 – Erskine Business Park Traffic Works, at the following entrance points to Erskine Business Park:
  - i. The intersections of Mamre Road and Erskine Park Road.
  - ii. On Erskine Park Road for south-bound traffic leaving the Erskine Park residential area.
  - iii. The intersection of Mamre Road and the proposed Western Access Road; and
  - iv. On Lenore Drive at the future eastern entrance to the estate at Ropes creek when the link to the Western Sydney Orbital is constructed.
4. The entrance walls and signage referred to in Control (3) above are to be funded by contributions levied under the Contributions Plan for Erskine Business Park.

The proposed works for the Ropes Creek entrance to the estate will, however, be funded by a separate, second account within the Contributions Plan for this Estate.
5. Any business directory signage installed by developers shall be of a high quality and shall have a consistent design throughout the Estate.

6. The official name of the Estate shall be determined by Council in conjunction with the landowners/developers and shall be utilised in a marketing/promotions campaign for the Estate.
7. For buildings within the Oakdale South Industrial Estate, a maximum of one illuminated sign is permitted on each elevation of each of each warehouse building. All illuminated signage shall be oriented away from residential receivers.

**Figure 7: Acceptable signage**



### 3.6 Lighting

#### Objectives

- a) To provide adequate security lighting for business establishments, whilst ensuring there is no adverse impact upon the use and enjoyment of adjoining premises and surrounding areas, particularly residential and rural areas; and
- b) To provide suitable lighting along the road network to enhance landscaping.

#### Controls

1. Lighting details shall be provided as part of any relevant Development Application.

2. Lighting design should address the principles of Crime Prevention through Environmental Design (CPTED), where there is significant pedestrian activity, late night work-shifts or safety and security issues. These principles are outlined in the Safety and Security chapter of this DCP.
3. Adequate lighting should be provided to meet security requirements without excessive energy consumption. Lighting powered by solar batteries or other renewable energy sources is encouraged. The use of sensor lighting, both internally and externally, should be considered.

### **3.7 Fencing**

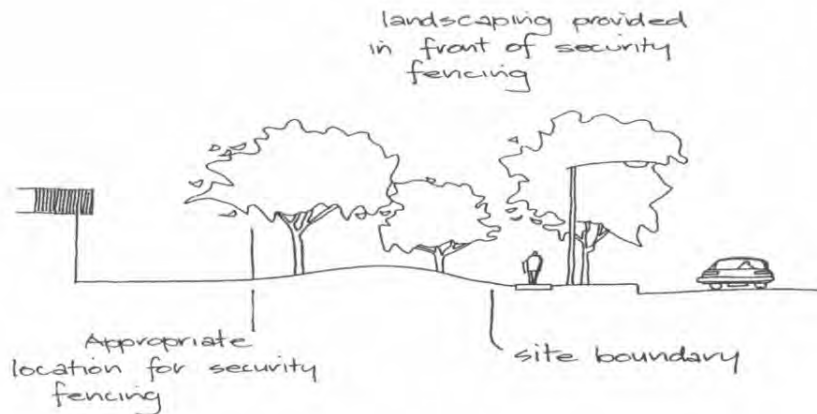
#### **Objectives**

- a) To ensure that the security needs of the development are satisfied in a manner which complements the surrounding landscape design and streetscape quality; and
- b) To ensure that fencing is consistently located behind the landscaped front setback and is of a consistent high quality.

#### **Controls**

1. No fencing other than a low ornamental type may be erected at the front site boundary. Should an applicant elect to use high security fencing, such fencing must be located either behind the landscape setback or alternatively within the landscaped area midway between the site front boundary and the building line.
2. Security fencing shall generally be of an "open" nature and of a dark colour, such as green or black plastic-coated mesh fencing, which blend better with screening vegetation than galvanised wire.

**Figure 8: Appropriate location for security fencing.**



### 3.8 Services

#### Objectives

- a) To ensure that adequate services are available to facilitate development.
- b) To ensure the co-location of services where possible.

#### Controls

1. Council shall require as conditions of any development consent that arrangements satisfactory to:
  - i. Sydney Water will be made for the provision of water and sewerage services.
  - ii. Integral Energy have been made for the supply of electricity.
  - iii. Arrangements satisfactory to the relevant telecommunications authority will be made for the provision of telecommunications services.
  - iv. Council have been made for the drainage of the land.
2. Council will require, as a condition of consent, that electricity and telecommunication mains be placed underground. Council also requires the co-location of services where this is technically feasible.

3. Council will require that all new premises within the Erskine Business Park be provided with state of the art telecommunications infrastructure utilising optic fibre or DSL technology to enable companies to access broad band services using high speed, high reliability telecommunications.

### **3.9 Transmission line easement**

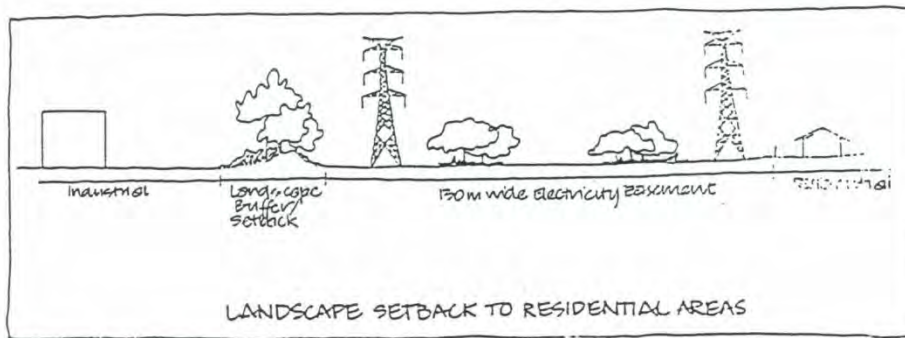
#### **Objectives**

- a) To create a physical buffer between the Erskine Business Park and adjoining residential communities.
- b) To provide landscaped treatment which creates:
  - i. An attractive outlook for adjoining residential properties; and
  - ii. Linkages between the residential areas and Erskine Business Park; and
- c) To provide limited opportunities for development of the land affected by the transmission line easement for landscaping, and/or maintenance/rehabilitation of biodiversity conservation areas.

#### **Controls**

1. Council does not support the carrying out of development on land affected by the Transgrid Electricity Transmission Line Easement.
2. Approved landscape treatment (refer to the Landscape Design section within the Environmental Management chapter of this DCP), and/or maintenance/rehabilitation of biodiversity corridors or areas (refer Part 7 Biodiversity of this chapter) shall be carried out on land affected by the transmission line easement.
3. Existing vegetation within this easement shall be retained and enhanced as part of any proposal by applicants to provide a landscape screen between a proposed development and adjacent residential areas.

**Figure 9: Transmission easement**



## 4. Environmental quality

### 4.1 Noise pollution

#### Objectives

- a) To establish design criteria for noise emissions from industrial or other employment-generating development.
- b) To establish acoustic environmental goals for existing and future adjacent residential areas; and
- c) To establish noise contributions for individual allotments within the employment zones when related to residential boundaries.

#### Controls

1. Any machinery or activity considered to produce noise emissions from a premise shall be adequately sound-proofed so that noise emissions are in accordance with the provisions of the *Protection of the Environment Operations Act 1997*.
2. The use of mechanical plant and equipment may be restricted in the Northern Area (Figure 1). Developers in all areas should ensure through design of their development that no offensive noise is emitted.
3. Where it is considered likely that a development may cause an adverse impact on nearby rural or residential areas, a noise impact statement from a qualified acoustical engineer will be required to be submitted to Council for consideration with the Development Application. A noise

impact statement will need to demonstrate that the proposed development will not create any adverse impact.

4. All development shall comply with the requirements of relevant Australian Standards and State Government policies and guidelines relating to Noise.
5. The acoustic criteria adopted by this chapter will be implemented in the following manner:

#### Erection of buildings

6. An acoustic design report shall be required for developments that are likely to generate high noise levels and for development in the area immediately adjoining residential areas. The acoustic design report should refer to the relevant Australian Standards and State Government policies and guidelines relating to Noise.
7. If an acoustic design report is not required at the Development Application stage, conditions will be imposed as part of the development consent which requires compliance with the relevant Australian Standards and State Government policies and guidelines relating to noise. Applicants must have regard to the criteria and demonstrate a standard of acoustic treatment for the building to comply with such criteria.
8. It is essential that potential developers investigate noise amelioration features to be included in building design, which will assist in achieving compliance with Council's acoustic criteria. Having regard to the surrounding topography, it is critical that the roof element of all buildings be acoustically capable of controlling potential breakout noise.

## **4.2 Air Pollution**

### **Objectives**

- a) To maintain existing air quality and improve local air quality where possible.
- b) To ensure future development does not adversely affect existing air quality.

## Controls

1. The emission of air impurities is to be controlled and limited to the standards allowed by the *Protection of the Environment Operations Act 1997*, to the satisfaction of Council and the Environmental Protection Authority at all times.
2. Applicants may be required to provide information detailing the potential impact of their development on air quality in the region.
3. An assessment of the merits of the proposal will be made at the Development Application stage. However, applicants should be able to demonstrate that the most efficient means of minimising emissions are being utilised.

### 4.3 Storage, transportation and/or processing of chemical substances

#### Objectives

- a) To ensure that the use, storage or transportation of any chemical substance/s do not have any detrimental impact on the environmental quality of the surrounding area.
- b) To ensure any proposed development involving the storage, transportation and processing of chemical substances shall have regard to the requirements of State Environmental Planning Policy (Resilience and Hazards) 2021.

#### Controls

The following information is to be submitted with any Development Application which involves the storage, transportation and/or processing of chemical substances:

1. External storage of goods must be avoided wherever possible. Where the nature of the activity or the materials means that internal storage is impractical, all external storage areas must be located behind the front building setback. In addition, when assessing development applications involving external storage of goods, Council will take into consideration:
  - i. the proposed height and on-site arrangement of stored goods

- ii. visual impact of the storage area, and how this is proposed to be minimised (orientation, screening with landscaping and/or solid fencing etc.)
  - iii. access arrangements, and
  - iv. safety issues.
2. Detailed description of the use and all methods/procedures associated with the use, including flow diagrams.
3. A floor plan of the subject premises depicting the dimensions of the building and indicating the internal layout of all equipment, storage and display areas.
4. A comprehensive list of all chemicals/goods and quantities proposed to be utilised in the activity and actually stored on the subject premises.
5. A description of the method of storage of chemicals/goods on the premises, and the type of containment or packaging to be used.
6. A description of the method of transportation of chemicals/goods to/from the premises (include the size and nature of vehicles, proposed routes and frequency of delivery to and from the site).
7. Details regarding the number of vehicles likely to be involved with the use at any one time and the provision and allocation of storage/standing areas for such vehicles.
8. Details of onsite water quality control.
9. Details of waste treatment and transportation.

## **4.4 Energy Conservation**

### **Objectives**

- a) To encourage development designed to minimise energy usage; and
- b) To encourage development to consider the application of energy efficient technology and systems.

## **Controls**

1. Development must demonstrate that the following have been taken into account in the design process:
  - i. potential for effluent re-use
  - ii. water minimisation techniques, including water recycling
  - iii. waste minimisation techniques, including recycling.

## **4.5 Trading/operating hours of premises**

### **Objectives**

- a) To ensure the amenity of adjoining residential and rural areas is preserved; and
- b) To ensure development is provided the flexibility in trading/operating hours to ensure it is competitive and productive.

### **Controls**

1. Construction works (all development) shall generally be restricted to the following hours:
  - i. Monday to Friday, 7.00 a.m. to 6.00 p.m.
  - ii. Saturday, 7.00 a.m. to 1.00 p.m.
  - iii. No work on Sundays or Public Holidays
2. The hours of operation for premises involved in any type of employment generating activity shall be dealt with on a merits basis. Council appreciates that because of the nature of certain activities shift work may be essential to the viability of the development.
3. In considering applications Council shall have regard to the likely impact of the trading hours of a particular activity on the amenity of adjoining residential and rural areas.

# 5. Drainage

## 5.1 Introduction

The provision of a drainage system is necessary to ensure that urban development is adequately serviced, occurs in an orderly manner and that best practice is applied to stormwater management solutions.

Council has determined that the most effective method to facilitate development is to encourage at-source pollution controls and promote the maintenance of predevelopment flow regimes from all developed land. In considering all Development Applications, Council will assess the adequacy of the trunk drainage system, downstream of the proposed development and its ability to meet the objectives listed below.

### Objectives

- a) To ensure that an adequate and environmentally acceptable method of removing surface water and stormwater is implemented.
- b) To ensure that development does not result in the pollution of waterways and that the transportation of pollutants is minimised.
- c) To ensure that development does not create or exacerbate problems relating to saline or highly erodible soils.
- d) To protect, restore and maintain the physical and biological integrity of the waterways; and
- e) To ensure the overall drainage system is designed to minimise, to acceptable levels, the risk of local flooding.

### Controls

1. The provision of drainage shall be in accordance with the Water Management section within the Environmental Management chapter of this DCP.
2. Council's preferred drainage/flooding/water quality control option for the Erskine Business Park is shown in Figure 10 - Erskine Business Park Drainage Works. Whole of life costs and ease of maintenance will be critical considerations in determining the form of the final drainage option.
3. There are two distinct sub-catchments within Erskine Business Park, identified generally as the "Western" catchment discharging into South

Creek and the “Eastern” catchment discharging into Ropes Creek, both of which discharge into the greater South Creek Catchment.

4. The greater South Creek Catchment is subject to the provisions contained in Chapter 6 Water Catchments of *State Environmental Planning Policy (Biodiversity and Conservation) 2021* and the Water Management section within the Environmental Management chapter of this DCP.

## **5.2 Western Catchment – South Creek**

The western portion of the release area drains under Mamre Road, to the north of the Erskine Park Road intersection, and into South Creek. It is dominated by an old quarry site, which splits the catchment into northern and southern sub-catchments.

### **Controls**

1. The Warragamba-Prospect Water Supply Pipeline traverses the southern sub-catchment from west to east and further subdivides it into two distinct catchments north and south of the pipeline.
2. The catchment south of the pipeline is located outside the boundary of Erskine Business Park. There are a number of partly formalised natural drainage lines, which drain this southern external catchment under the Water Supply Pipeline and into the Erskine Business Park. Existing flows entering from this southern external catchment are to be accommodated within the stormwater drainage infrastructure elements provided within the Erskine Business Park lands.
3. The crossings under the Water Supply Pipeline shall not be modified without prior approval from Penrith City Council and the Sydney Catchment Authority.
4. Major trunk drainage elements proposed for this western catchment are shown in Figure 10 – Erskine Business Park Drainage Works of this chapter. Additional drainage infrastructure will be required to be provided upstream of these identified elements in conjunction with development of individual sites to achieve the desired stormwater management objectives.
5. This additional drainage infrastructure is to be constructed by the developer of the land concerned. Existing creek lines within areas of significant vegetation also form major trunk drainage functional elements and are not expected to be modified by development.

6. A proportion of flows from the land to the north of Erskine Park Road are to be directed into the proposed detention basin facility on the southern side of Erskine Park Road to ensure compliance with the appropriate stormwater management outcomes.
7. Should any development occur within the “south western” sub-catchment then all developments, within the sub-catchment, shall treat and attenuate their discharges on site to Council’s requirements.
8. The resultant flows shall be directed towards the north, along the eastern side of Mamre Road, into the detention basin/wetland treatment systems located adjacent to Erskine Park Road.
9. Only environmental flows, of appropriate quality, from any future development of the “south western” catchment, shall be directed across Mamre Road into the rural lands to the west.
10. All land identified by Council as performing a significant drainage function and where not specifically identified in the Contributions Plan, is to be covered by an appropriate “restriction as to user” as deemed applicable by Council, and created free of cost to Council.

### **5.3 Eastern Catchment – Ropes Creek**

#### **Background**

The eastern portion of the release area drains into Ropes Creek. A small section of this portion drains directly into Ropes Creek via a number of local swales, whilst the remainder of the catchment drains to an existing channel system located along the eastern side of the Erskine Park residential estate.

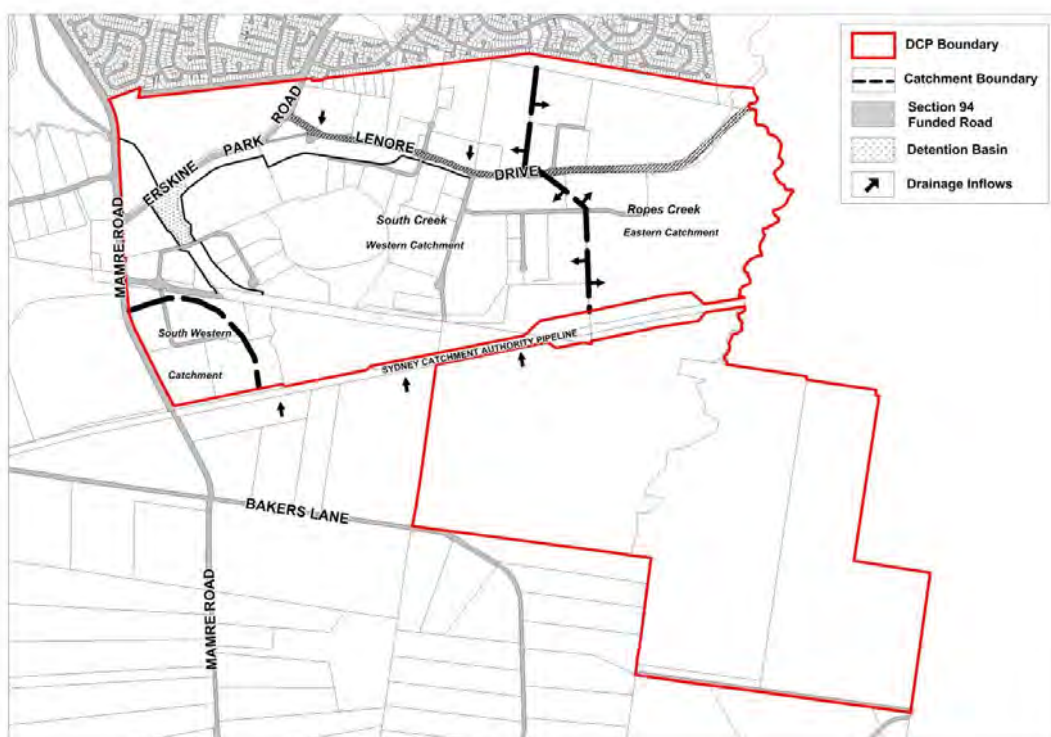
No trunk drainage channel elements have been identified in this catchment.

#### **Controls**

1. Development within the sub-catchment, which drains directly into Ropes Creek, will be required to direct its stormwater runoff into a detention basin facility. Special attention will need to be given to this aspect of the development during the subdivision design process.
2. Developments in this area will be required to design environmentally sensitive stormwater management solutions consistent with the constraints specific to the site.

3. All drainage infrastructure required in this catchment, shall be provided with the development of the land, at the developer's cost.
4. Management of stormwater quantity and quality close to its source has the potential to limit the impact of major drainage works on the endangered vegetation throughout this area. Consequently, at-source, on-site controls are the preferred treatment strategy in this catchment and their implementation will be encouraged.
5. No regional water quality or water quantity controls have been identified in this Plan, however there will be a requirement for the runoff from the Eastern Catchment to conform to Council's standard. This will be the responsibility of individual developers in that part of the estate. It is envisaged that these facilities will be provided near the Ropes Creek interface. There will be no levies associated with this Eastern Catchment.
6. The drainage solution shall include provision for water quality and quantity for all roads. This water quality/quantity system shall be clear of the 1 in 100 year flood line and biodiversity corridor.
7. Land identified by Council as performing a significant drainage function and where not specifically identified in that plan is to be covered by an appropriate "restriction as to user" as deemed by Council.

**Figure 10: Erskine Business Park drainage works**



## 6. Transport Network

### Objectives

- a) To create a road network which enables a safe and efficient access for all users, while minimising through traffic on minor roads.
- b) To incorporate sustainable landscape and drainage opportunities in the design of the transport network.
- c) To encourage the use of efficient alternate transport, including public transport, bicycles, and pedestrians.
- d) To provide traffic facilities to give safe and efficient access to Mamre Road and Erskine Park Road.
- e) To provide for a future road link to the Westlink M7 and to provide all properties within this estate a direct connection to this link road.
- f) To minimise the number of road entry points to designated roads and the northern access road thereby allowing more efficient traffic management.
- g) To maintain the capacity of the State Arterial Roads (Erskine Park and Mamre) by minimising the number of access points; and
- h) To provide better connectivity between Erskine Business Park and other parts of WSEA.

### Controls

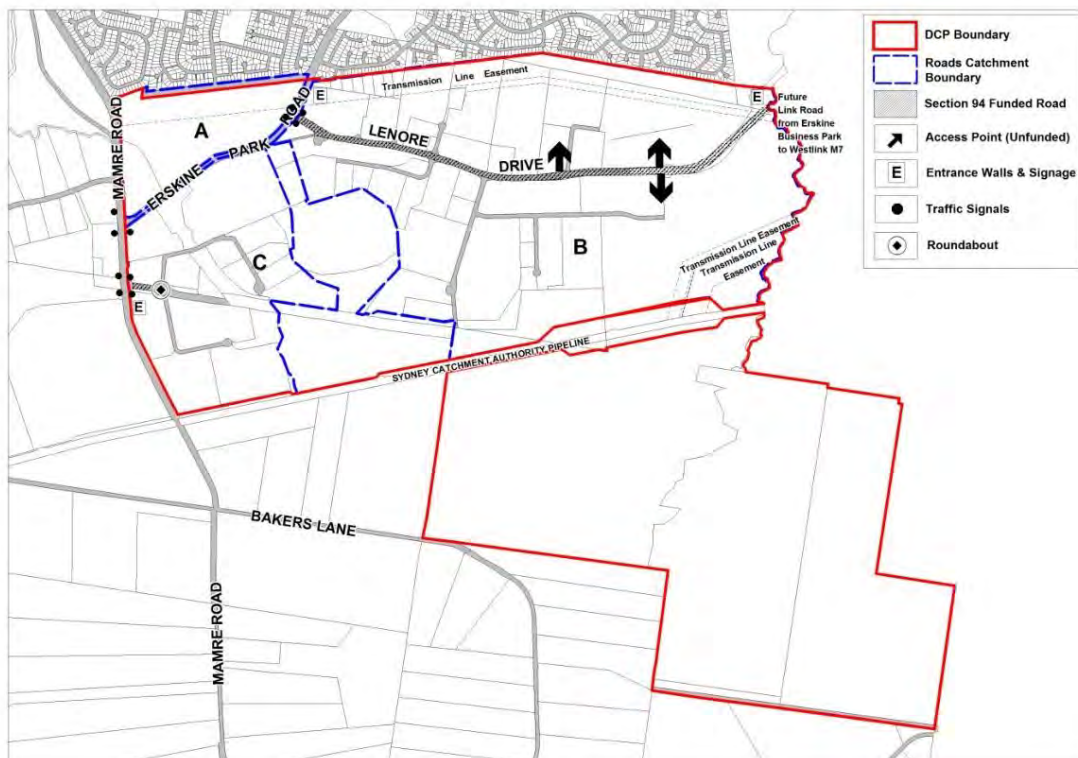
#### Internal Road System

1. The two main access roads to Erskine Business Park indicated in Figure 11 are:
  - i. Lenore Drive (Northern Access Road).
  - ii. James Erskine Drive (Western Access Road).
2. Access Road.
3. The internal road system shall be provided in accordance with the principles and requirements set out below.

4. Access points shall be located so as to optimise safety, traffic flow and landscape opportunity. The Northern Access Road shall be access controlled such that:
  - i. North of Northern Access Road (existing location of Lenore Drive): Access to Lenore Drive will be limited to one access point per lot. Upon redevelopment, the access point for Lot 5A, DPI62129 shall be combined with one of the adjoining lots.
  - ii. South of Northern Access Road: Access to Lenore Drive shall be limited to the three points as shown on Figure 11 of this Section.
5. All parking shall be provided either on site or in centralised off-road locations.
6. Upgrading of Erskine Park Road and Mamre Road shall be undertaken to accommodate the increases in traffic generated by this development.
7. Direct vehicular access to Mamre Road shall only be permitted at the signalised intersections with Erskine Park Road and the James Erskine Drive. Direct vehicular access to Erskine Park Road shall only be permitted at the signalised intersection to Lenore Drive and at one combined intersection for the property north of Erskine Park Road and the eastern block for Lot 16 DP259146. No other direct vehicular access to these designated roads will be permitted.
8. All intersections within the internal road network shall incorporate traffic facilities, which promote safe and efficient traffic movement.
9. The proponent shall have regard to "Guide for Traffic Generating Development", Roads and Traffic Authority of NSW, October 2002.
10. Development shall, where appropriate, be designed to:
  - i. Allow all vehicles to either leave or enter the site in a forward direction.
  - ii. Accommodate heavy vehicle parking and manoeuvring areas.
  - iii. Avoid conflict with staff, customer and visitor vehicular movements; and
  - iv. Ensure satisfactory and safe operation with the adjacent road system.
11. Full details of the volume, frequency and type of vehicle movements shall be submitted with the development application.

12. In general:
- i. Turning circles will be required to be provided to accommodate the largest type of truck which could reasonably be expected to service the site.
  - ii. All developments must be designed and operated so that a standard truck may complete a 3-point or semi-circular turn on the site without interfering with parked vehicles, buildings, landscaping or outdoor storage and work areas; and
  - iii. Large-scale developments shall be designed to accommodate semi-trailers. In the case of the conversion of an existing development, should it appear that a truck turning circle may prove difficult; a practical demonstration may be required.
13. Council will assess the suitability of manoeuvring areas provided for large vehicles by reference to Australian Standard 2890 series.
14. Adequate space is to be provided within the site for the loading, unloading and fuelling (if applicable) of vehicles. These areas shall be screened from the road.

**Figure 11: Erskine Business Park traffic works**



## 7. Biodiversity

The Biodiversity Management Plan Erskine Park Employment Area, which identifies the Biodiversity Conservation Area, was devised by Council, Department of Planning (now Department of Planning, Housing and Infrastructure) and the Landowners to deliver a genuine balance between development and conservation to deliver dual outcomes of environmental protection and employment generation.

### 7.1 Biodiversity conservation area and landscape buffer

Figure 12 nominates the extent of the biodiversity conservation area/corridor to be conserved or managed for biodiversity purposes and the extent of the landscape buffer on Lot 11 DP229784, 576b Mamre Road, Erskine Park which has been replaced by a Landscape Buffer in accordance with a Major Project Approval issued by the Minister for Planning on 28 October 2009.

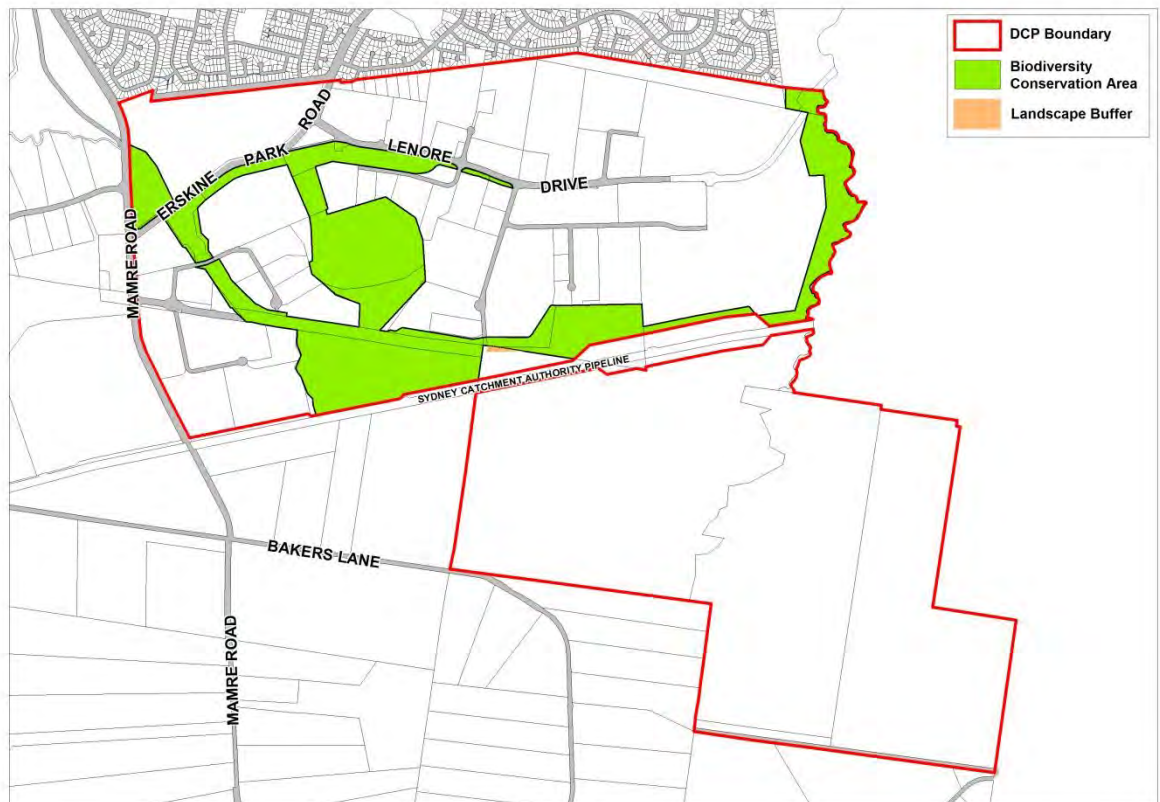
#### Objectives

- a) To promote the conservation of urban bushland.
- b) To protect and preserve native vegetation and biological diversity in accordance with the principles of ecologically sustainable development.
- c) To retain native vegetation in parcels of a size and configuration which will enable the existing plant and animal communities to survive in the long term.
- d) To protect and enhance habitat for threatened species and endangered ecological communities.
- e) To provide a biodiversity corridor linking system linking remnant native vegetation across the site with the riparian biodiversity system within South Creek, the remnant native vegetation in Erskine Business Park and the Ropes Creek Riparian Biodiversity system.
- f) To provide funding and management arrangements to enable the establishment of a biodiversity corridor and its ongoing maintenance.

## Controls

1. No clearing of native vegetation shall occur within the Erskine Business Park Biodiversity Conservation Area and Landscape Buffer as outlined by Figure 12.
2. No clearing of native vegetation shall occur within Erskine Business Park without the consent of Council.
3. Land located within the Biodiversity Conservation Area shall be managed in accordance with the endorsed Biodiversity Management Plan by Greening Australia or the land manager appointed by the Department of Planning and Environment.
4. A Landscape Management Plan is to be prepared to the satisfaction of Council for land located within the Landscape Buffer Area.

**Figure 12: Biodiversity conservation area and landscape buffer**



## 8. Landscaping

This section should be read in conjunction with the Landscape Design section within the Environmental Management Chapter of this DCP.

### Objectives

- a) To retain and enhance locally and regionally significant cultural and ecological values.
- b) To create a landscape character and amenity that is appropriate to the scale and nature of the development; and
- c) To develop an overall landscape character that is derived from natural and cultural landscape features contained within the site and immediate environs.

### Controls

1. Removal of existing vegetation can result in a lower take up of water contributing to a rising ground water table and potential problems with salinity. Saline soils can damage roads, parking areas and buildings as well as ultimately causing scouring and effecting vegetation growth. Once soils have become saline it is virtually impossible to reverse the effects. Preservation of existing vegetation, particularly larger trees on ridgelines can help reduce or delay the impact of salinity. Existing trees are to be preserved wherever possible. The siting and layout of a development at the initial concept stage must consider the location of trees with a view to their preservation. Existing trees shall not be removed prior to the written consent of Council being obtained.
2. The existing vegetation to be retained must be protected from soil compaction, root, trunk and limb damage, soil contamination and changes in surface level that will affect the health of the specimen. Protection measures are to be installed prior to the commencement of any earthworks. A man-proof, sturdy and durable chain-wire fence of sufficient height shall be erected 1m beyond the dripline of each specimen for the full circumference of all vegetation to be protected.

## 9. Landscape areas

### Objectives

- a) To provide functional areas of planting that enhance the presentation of a building.
- b) To screen undesirable views.
- c) To reduce building energy consumption.
- d) To provide outdoor staff amenity facilities.
- e) To select tree species that are “low maintenance” planting to reduce the impact of green waste.
- f) To provide wildlife habitats; and
- g) To contribute to the overall character of the locality.

### Controls

#### Selection and Use of Planting Material

1. A framework planting of endemic canopy and shrub species is to be established for all developments. This will enhance the sense of place for each development site. Consideration to be given to features such as bird attracting qualities, aromatic foliage and flowers, and habitat value as well as visual qualities, site suitability, and proximity to biodiversity corridors or areas. Habitat value is to be given high priority.
2. Smaller scale and less visually prominent planting may include species other than those endemic to the area. This will produce variety and interest in the landscape at this scale. This does not apply to development adjoining Biodiversity Areas or within or adjoining Biodiversity Corridors.
3. Property entrances may be highlighted with feature planting, and need not be limited to native or endemic species. No plant species shall be used on site that could become a weed within remnant bushland areas or creek lines.
4. Plant species should be carefully selected to meet service authority requirements in easement locations.

5. Plant material in car parks should be used to provide shade, ameliorate views of large expanses of paved areas and cars, and to identify entrances to car parks.
6. Trees providing shade in car parks should be given sufficient area for root development.
7. Narrow strips of landscaped area between an allotment boundary and building, or between parking areas and a building should be avoided.
8. Island planting beds should be interspersed throughout large parking areas. Planting should consist of ground covers, shrubs to 1m, shade producing and canopy species.
9. Plant material shall be a mix of super-advanced, advanced and normal nursery stock that will provide a quick effect especially in visually prominent areas. Larger plant sizes would be appropriate in some locations.
10. Groundcovers should be considered as a grass alternative in areas not specifically designed for pedestrian use.
11. Presentation of a building facade to the street should be complemented with appropriate enframing or screening vegetation. The visual impact of large expanses of wall should be reduced in scale by architectural treatment as well as by dense grove planting or other landscape design solutions.
12. Consideration should be given to solar access and energy conservation, with the appropriate use of deciduous trees.

### **9.1 Hard landscape materials requirements**

1. Paving, structures and wall materials should complement the architectural style of buildings on the site and be of local origin where possible.
2. Materials should cause minimal detrimental visual impact, and the use of subtle coloured materials and block or brick paving is encouraged.

### **9.2 Performance standards and maintenance requirements**

1. Landscape works are generally constructed at the completion of building works.

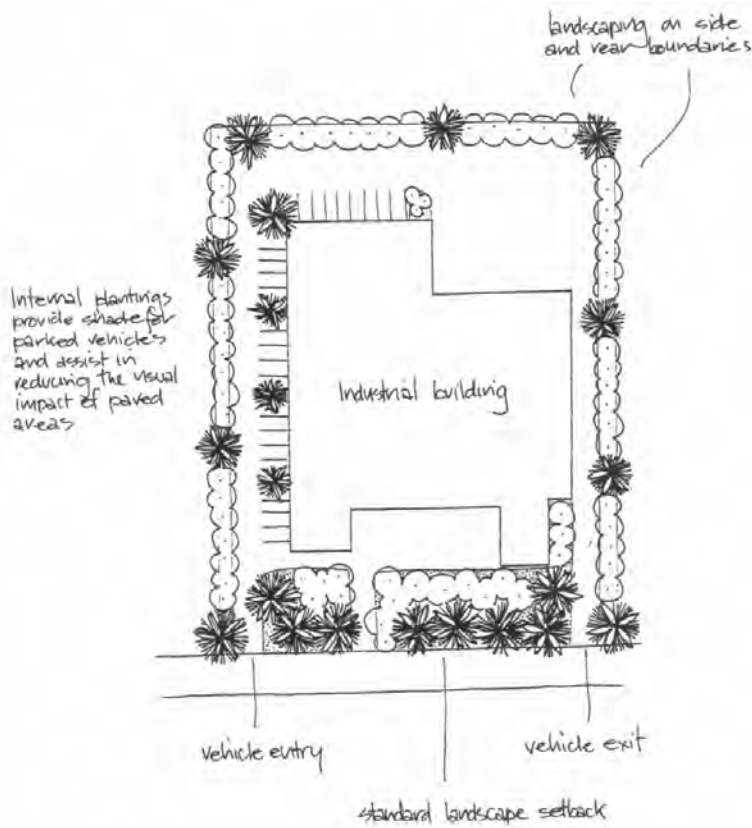
2. However, Council may require by way of conditions of development consent, that tree bonds be placed over existing significant trees on a proposed development site. Any such existing trees and all landscape works from the approved development should be maintained throughout the duration of the construction works and in perpetuity for the life of the development. The onus for satisfactory maintenance is on the applicant until the development has been completed and on the owner thereafter.
3. These requirements should be read in conjunction with the Landscape Design section within the Environmental Management Chapter of this DCP.

### **9.3 Landscape area requirements**

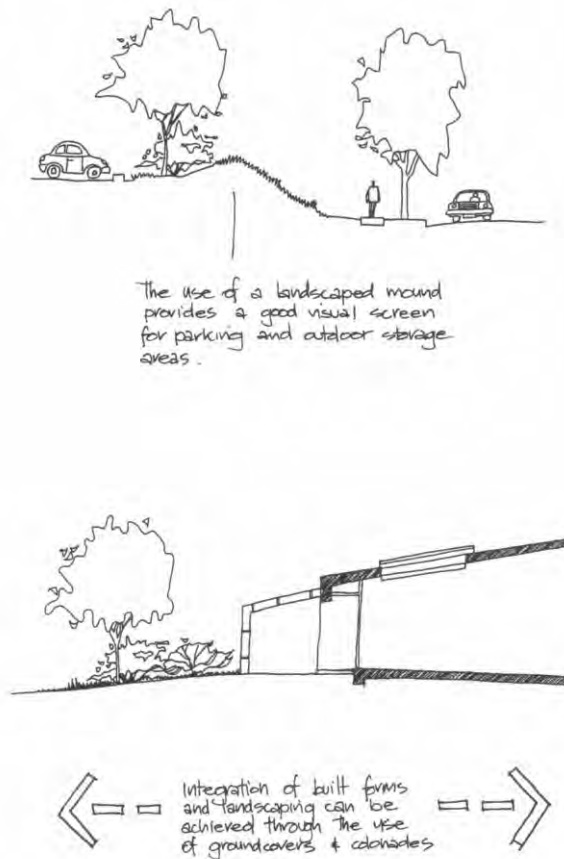
#### Landscape Setbacks for the Oakdale South Estate

1. The following minimum landscaped setbacks shall be applied at the Oakdale South Estate:
  - i. Southern Link Road: Average of 20m depth along the site frontage. 20m setback / 10m landscape.
  - ii. Collector Road: 7.5m, or average of 50% of setback along the frontage
  - iii. Local Estate Road: Average of 50% of setback along the frontage.
  - iv. Side boundary: No minimum requirement.
  - v. Rear boundary: 2.5m
  - vi. Southern property boundary: perimeter landscape treatments along the 30m earth bund wall on the southern boundary of the OSE; and,
  - vii. Eastern property boundary: a 10m wide landscape setback along the entire length of the eastern property boundary.

**Figure 13: Landscaping for a large industrial site.**



**Figure 14: Landscaping concepts**



## Contents

Part A – Glenmore Park Stage 1.....	3
<b>1. Preliminary</b> .....	<b>3</b>
1.1 Land to which this Part applies.....	3
<b>2. Glenmore Park Town Centre</b> .....	<b>4</b>
2.1 Preliminary.....	4
2.2 Character of the Glenmore Park Local Centre.....	5
2.3 Urban Context.....	7
2.4 Land Use Controls.....	9
2.5 Built Form Controls.....	11
2.5.1 Background.....	11
2.5.2 Objectives.....	11
2.5.3 Street setbacks and building alignment.....	12
2.5.4 Building height controls.....	16
2.5.5 Building Exteriors.....	17
2.5.6 Interface with Residential Areas.....	19
2.5.7 Landscape Design.....	20
2.5.8 Public Domain.....	22
2.5.8.4 Active street frontages and address.....	28
2.5.8.5 Internal building circulation space.....	30
2.6 Car Parking and Access.....	30

2.6.1 Vehicle footpath crossings and driveways.....	30
2.6.2 Access, Servicing and Manoeuvring.....	33
2.6.3 On-site parking.....	34
2.6.4 Site Facilities and Services .....	35
2.7 Design principles.....	36
2.7.1 Energy efficiency .....	36
2.7.2 Water management and Water Sensitive Urban Design .....	37
2.8 Waste management.....	37
2.9 Safety and security (Crime Prevention through Environmental Design) .	38
2.10 Site Topography .....	39
2.11 Other Controls .....	40
2.11.1 Town Square .....	40
2.11.2 Community Centre Building.....	42
2.11.3 Management Plan .....	43
<b>3. Glenmore Park major land use .....</b>	<b>43</b>
3.1 Land to which this Section applies.....	43
3.2 Purpose of the Section.....	43
3.3 Residential .....	44
3.4 Rural / Residential.....	45
3.5 Neighbourhood shopping facilities.....	46
3.6 Golf Course.....	46

# Part A – Glenmore Park Stage 1

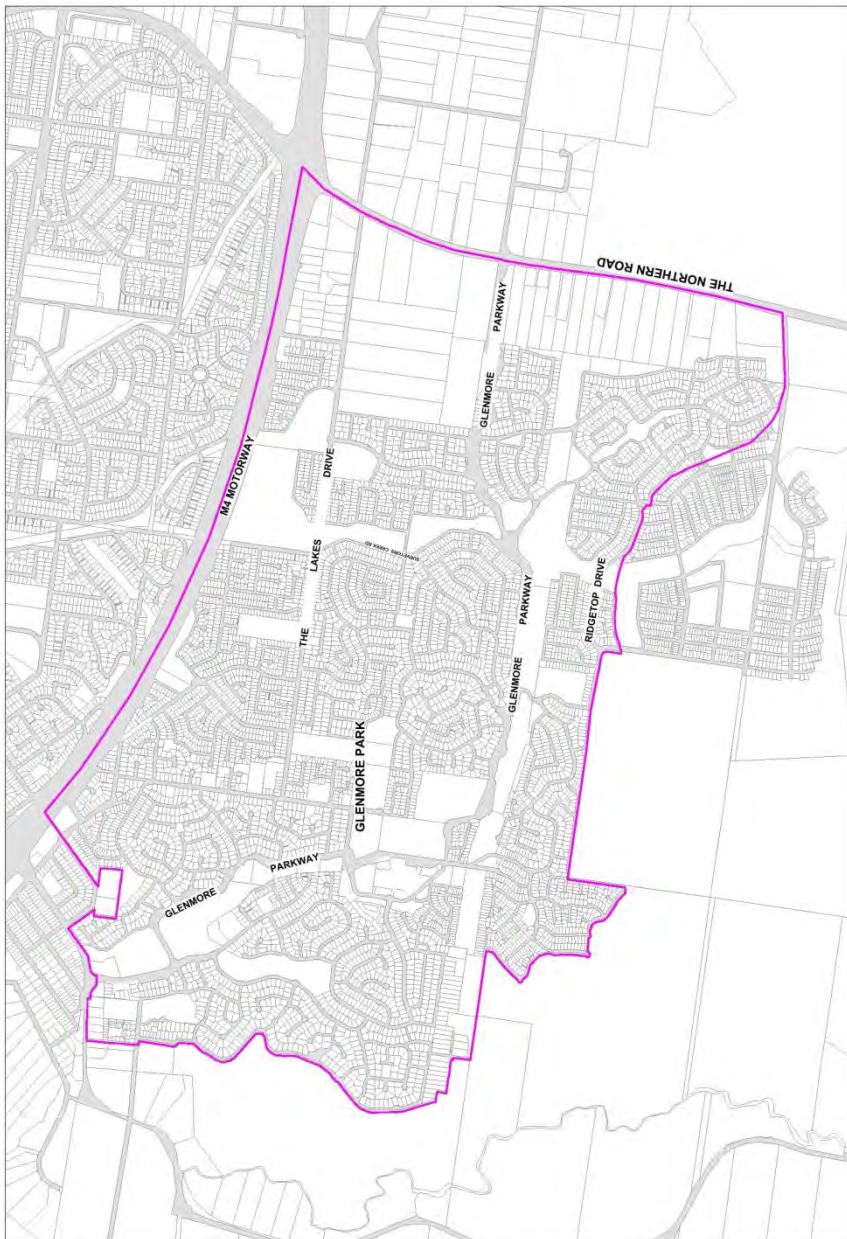
## 1. Preliminary

This Chapter relates to site specific controls within the Glenmore Park Stage 1 area to supplement the provisions of the Penrith LEP 2010.

### 1.1 Land to which this Part applies

This Part applies to the land as shown on Figure 1 below.

**Figure 1: Glenmore Park Stage 1**



## 2. Glenmore Park Town Centre

### 2.1 Preliminary

#### Land to which this Section applies

This section applies to development on land covered by the Glenmore Park Local Centre (GPLC) as shown in Figure 2. This section provides specific controls for the GPLC in addition to the general controls elsewhere in Penrith DCP.

**Figure 2: Map of Glenmore Park Local Centre**



### Objectives

This section of Penrith DCP provides more detailed provisions for development in the GPLC that will:

- a) Contribute to the growth and character of GPLC.

- b) Provide a framework to guide the future development of GPLC.
- c) Ensure development responds to the characteristics of the site and the amenity of the surrounding neighbourhood.
- d) Ensure future redevelopment integrates with existing access paths, pedestrian and cyclist
- e) Promote public/community transport.
- f) Encourage and facilitate high quality design, and
- g) Protect and enhance the public domain.

The objectives of the controls for GPLC, in addition to the general objectives of the plan and other sections, are to create a community focus and to facilitate development that will:

- h) Provide for a range of retailing and community activities to primarily serve the Glenmore Park community's needs.
- i) Provide accessibility within the GPLC, connecting to activity nodes, public open space and surrounding residential areas.
- j) Encourage quality urban design and architectural excellence development within GPLC that creates an attractive, vibrant and distinctive centre.
- k) Encourage pedestrian and bicycle access and public transport through improved linkages and accessibility to the centre.
- l) Provide flexibility in the future planning of the centre to ensure that future development can be responsive to changes in market, consumer and planning considerations.
- m) Achieve an attractive and sustainable GPLC.
- n) Ensure the development of the GPLC is consistent with the desired future character as described in the following section.

## **2.2 Character of the Glenmore Park Local Centre**

The main principles of the Glenmore Park Town Centre are:

- a) The desire for a Town Centre with a "heart".

- b) The Town Centre needs to have its own identity.
- c) The Town Centre is the hub or focus for the local Glenmore Park community.
- d) Desire for a distinctive and proportioned, attractive, safe 'main street' character.
- e) Provide facilities sufficient to serve its residents.
- f) The Town Centre is a place to serve the entire community of Glenmore Park.

Importantly, however, the form and location of the development will change over time in response to changing needs. This Part of the Section responds to the growth and changing demands of Glenmore Park and its community over time.

While the centre is referred to as a "Local Centre" in the DCP, it is known as a "Town Centre" by the local community.

#### Town Terrace East/West Spine Road

Town Terrace east/west spine road is to provide an active shopping street. It will function as the town centre's "Main Street" providing a convenience to shoppers, in a setting that provides for both retail/commercial services.

Town Terrace East West Spine Road will be abbreviated *Main Street* within this part of this Section and should be treated as a pedestrian priority zone.

#### Town Square

The Town Square is to be the primary urban public focal point of the GPLC. It is to be a vibrant, active town square with links to both business as well as community facilities. The Town Square should be a pedestrian zone characterised by activity around its perimeter, pleasant micro climate including weather protection at its edges, comfortable seating with distinctive landscaping and public artwork, access to food and toilets and be conveniently located for as many people as possible.

Its design needs to be flexible enough to accommodate special community events with or without closing the vehicular traffic or disrupting the dominant existing pedestrian flows and paths.

## Existing Community Centre

The existing community centre is to be integrated into the GPLC through improved pedestrian amenity along the east/west Main Street and by improving entry points to the Community Centre.

The treatment of the interim space between the Community Centre and future development adjacent to it is to be an attractive area that may incorporate landscaping with good active surveillance. Vehicular car parking either undercroft or at grade will not be allowed.

## Demarcating Public and Private Spaces

Planning for the development of the Local Centre needs to clearly differentiate between “public spaces” and “publicly accessible private spaces”. Future development of the centre is to provide a public street or Main street which is open to the public at all times. Conversely, the centre is also expected to incorporate internal malls (including the existing mall) that will be publicly accessible at times when the centre is operating.

Arcades, laneways and terraces though privately owned are to be perceived as part of the public network. Redevelopment is to ensure good accessibility, connectivity and design continuity within the GPLC and reinforce the sense of these spaces being part of the perceived public realm.

## Gateways

The current GPLC lacks identifiable gateways. Redevelopment will need to address this aspect of the GPLC by providing welcoming, visually interesting and unique responses at the entrances by a combination of landscape, built form and artwork. Additionally, the gateways will be designed to calm traffic movements, allow safe pedestrian or cyclist movement and provide necessary systems of *way finding* graphics in order to make sense of accessing and parking within the centre.

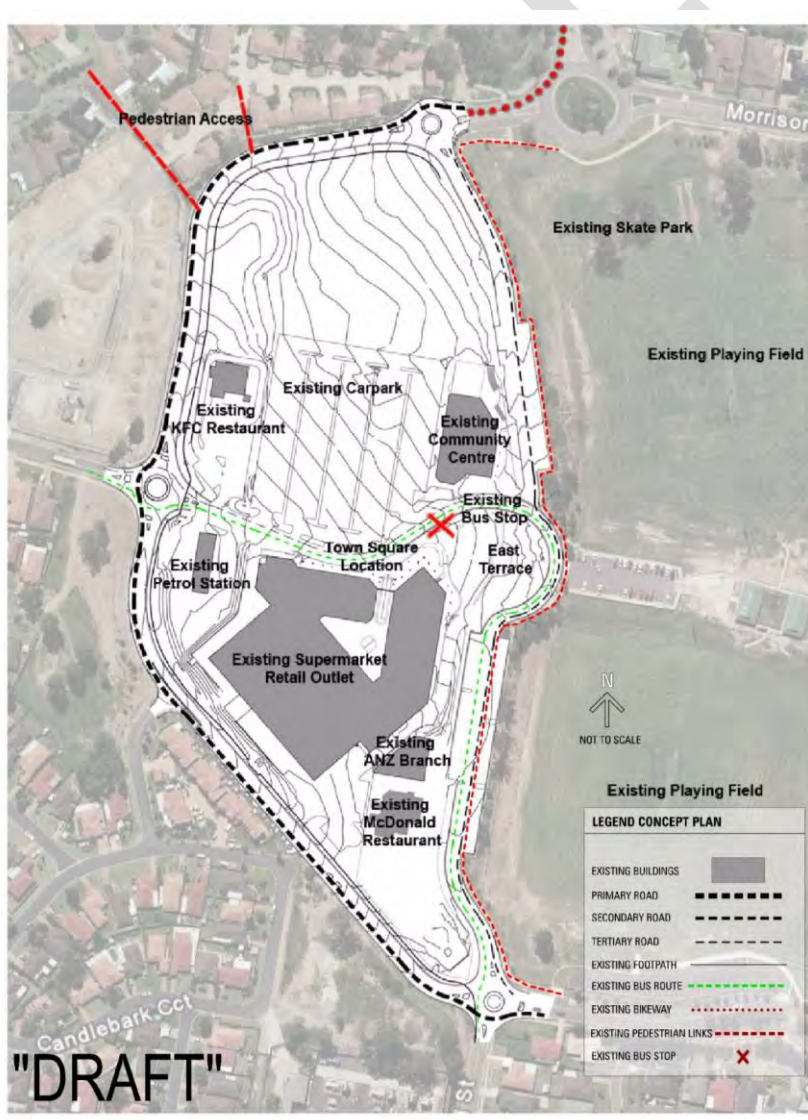
## **2.3 Urban Context**

The GPLC represents an important focal point in the local community. Key characteristics include:

- a) The site connects to Glenmore Parkway, the primary arterial vehicle route through the precinct.

- b) Glenmore Parkway also provides a bus route through the local area with a bus stop located on the western side of the centre.
- c) Luttrell Street provides a secondary road adjacent to the playing fields linking into the Main Street.
- d) Urban residential development surrounds the GPLC to the south, west and north, with the playing fields and a school overlooking the GPLC to the east.
- e) There are existing points of pedestrian paths and connections from the residential precincts as well as from the reserve to the east. A pedestrian path exists to the north east across Glenmore Parkway.
- f) Some of these characteristics are shown in Figure 3.

**Figure 3: Context Plan**



## 2.4 Land Use Controls

### Background

A Concept Plan, providing a vision for the future evolution of the centre has been prepared. The Concept Plan is shown in Figure 4. The main features of the GPLC include:

- a) An east/west spinal Main Street connection to Luttrell Street/Town Terrace and Glenmore Parkway.
- b) A Town Square in the centre of the east / west Main Street.
- c) An extension of the existing arcade axis to the north of Main Street/Town Square within any proposed development.
- d) Two to three storey developments in key locations in the centre.
- e) A mix of retail, commercial and community uses supermarkets, speciality retail, service retail, office premises and community centre.
- f) Provide opportunity for office premises and residential above ground level.
- g) Designated at grade and underground parking areas.

### Objectives

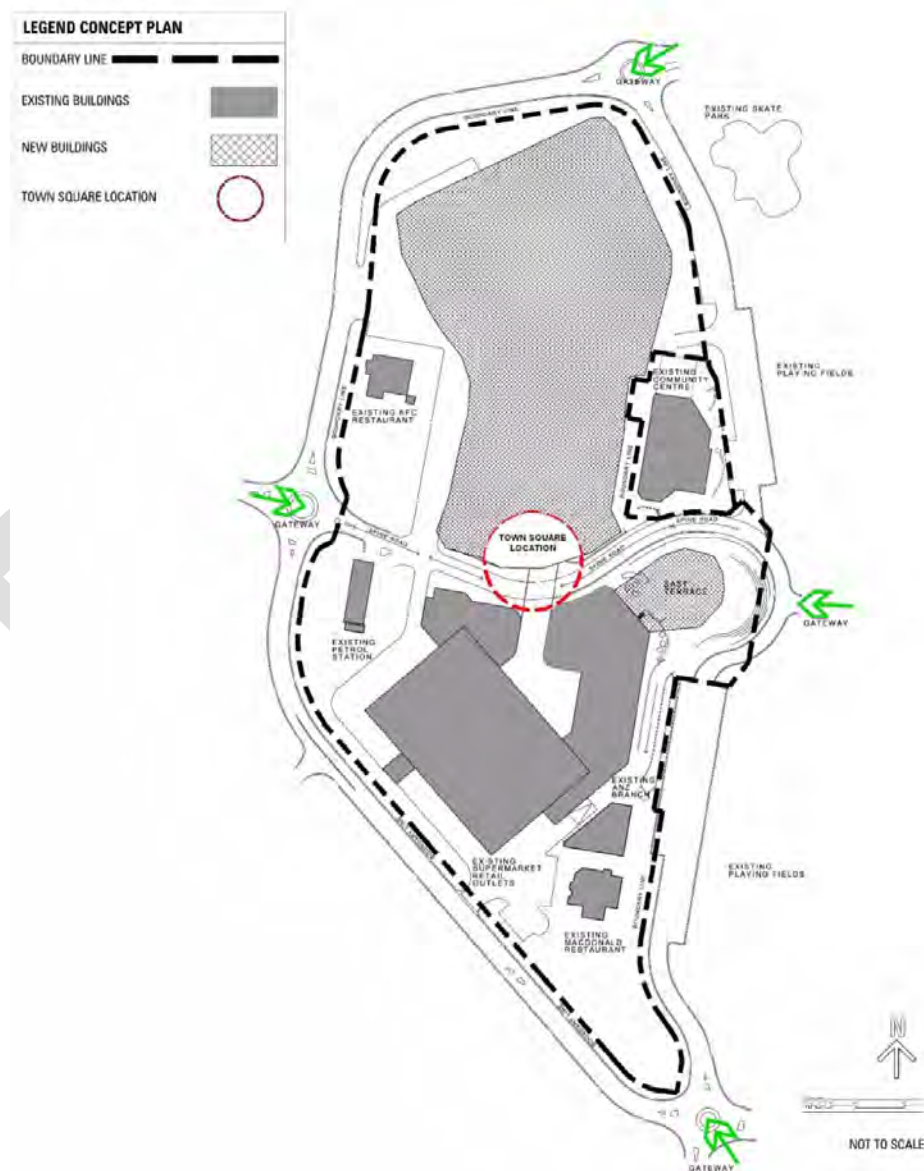
- h) To encourage a variety of uses in the GPLC.
- i) To create lively streets and public spaces in the Town Centre; and
- j) To enhance public safety by increasing activity in the public domain on week nights and weekends.

### Controls

1. This section allows flexibility for the location of uses, except as follows:
  - i. Development along the Main Street and the Town Square should have active retail premises on the ground floor such as café, restaurants and shop fronts.

- ii. Development along the Luttrell Street frontage should, where possible, be used for community services, offices and retail purposes to activate Luttrell Street.
- iii. Future land uses on the site are to complement and extend the range of the existing activities within the centre.
- iv. The Main Street is to be primarily a high quality vibrant pedestrian oriented street, which allows for local access to both public transport options, taxis, cyclists as well as a limited amount of short term parking for shoppers on both sides of the street.

**Figure 4: Concept Plan for site**



## **2.5 Built Form Controls**

### **2.5.1 Background**

The GPLC will continue to evolve and expand over time to provide retail services to the whole of the Glenmore Park community. The development provisions in this Section of the DCP are intended to encourage high quality design for not just new development, but to encourage improvements to the existing town centre. The resulting built form and character of new development should contribute to an attractive public domain and produce a desirable setting for its intended uses.

Future development should aim to retain the local atmosphere that is characterised by:

- A diversity of retail, commercial and community services.
- A small scale, safe, compact environment.
- An attractive social focus.
- Convenient and safe access for pedestrian, cyclists, public transport/taxis and motor vehicles.

### **2.5.2 Objectives**

In addition to the general objectives of this Part, the controls in this section aim to:

- a) Establish an appropriate scale, bulk and form of buildings.
- b) Achieve active street frontages where appropriate.
- c) Provide for pedestrian comfort and protection from weather conditions.
- d) Define the public domain area and make these accessible.
- e) Ensure that new development makes a positive contribution to the streetscape or public domain.
- f) Encourage high quality architectural and innovative design for all buildings and ensure that there is a comprehensive suite of street furniture elements to compliment the architecture.

- g) Encourage use of quality and durable materials.
- h) Provide for quality public domain to contribute to the amenity of the town centre and a sustainable urban environment.
- i) Ensure the design of buildings considers the surrounding residential amenity and responds accordingly to the amenity of the surrounding residential precinct without reducing the quality of that existing amenity.

### **2.5.3 Street setbacks and building alignment**

#### **Background**

Street setbacks and building alignments establish the front building line and reinforce the spatial definition of streets. They contribute to the public domain by enhancing streetscape character and the continuity of street facades. Setbacks also allow for improved ventilation, daylight and solar access and increased privacy.

#### **Objectives**

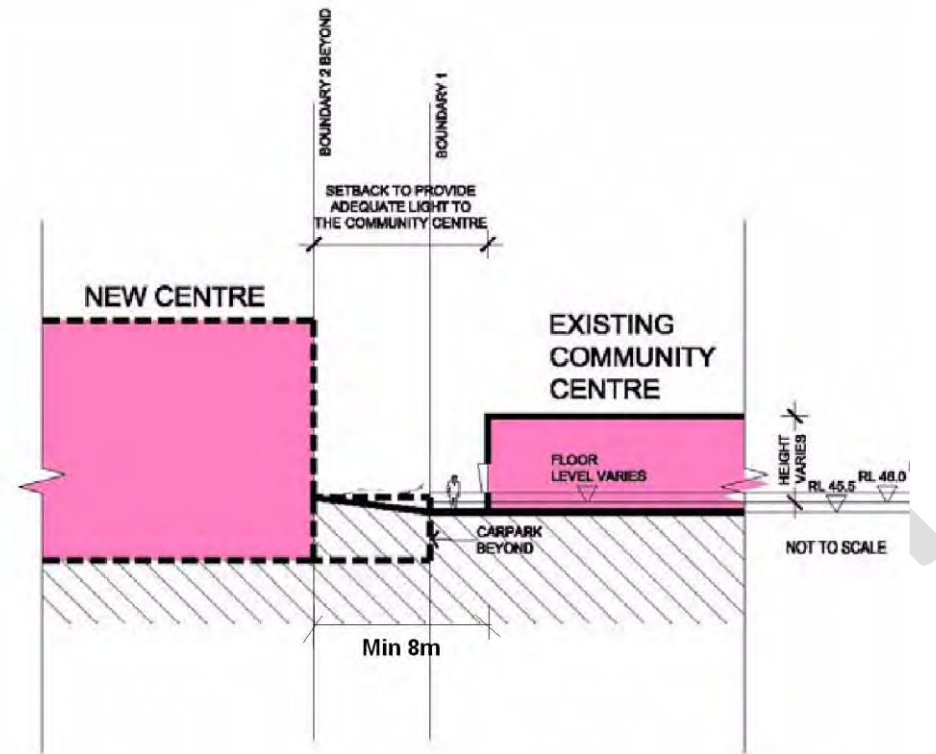
- a) To achieve a consistent definition of the public domain and street edge.
- b) To provide street setbacks appropriate to building function and character.
- c) To locate active uses closer to pedestrian activity areas.
- d) To maintain solar access to the public domain, particularly during the critical mid-winter lunch time periods of 12pm to 2pm.
- e) To ensure an appropriate interface with adjoining land uses.
- f) Allow for and assist in defining street landscape character where appropriate.
- g) Ensure any new development provides building separation to achieve the above objectives.
- h) Reduce the apparent bulk and scale of buildings by breaking up expanses of building facades with modulation of form, variation of setback, modulation of window and a range of other architectural design means.

## Controls

1. Setbacks are to be generally consistent with those shown in Figure 5. Architectural features and other projections such as car park ramps which may encroach into this setback area are subject to appropriate design guidance by council officers and assessment.
2. Glenmore Parkway should have a minimum 3m setback to be consistent with the existing setback with a minimum average setback of 6m.
3. Luttrell Street should have a variable setback with a minimum zero setback to create an active edge, where appropriate.
4. Buildings along the Main Street and in the Town Square should be constructed to the front street alignment to create an active edge.
5. Long continuous walls and facades are to be avoided. All walls, particularly those addressing the peripheral road boundary, are to incorporate architectural design treatments to reduce the visual mass and bulk.
6. Development must demonstrate that it does not adversely impact on the adjoining community centre. Figure 6 illustrates the relationship of new buildings located to the rear of the community centre.



**Figure 6: Section between rear of community centre and development**



DR

## 2.5.4 Building height controls

Building heights is an important characteristic of a town centre. Heights specified in this section will ensure future development will create a sense of place, streetscapes that respond positively to human proportions and will reflect the role of the GPLC.

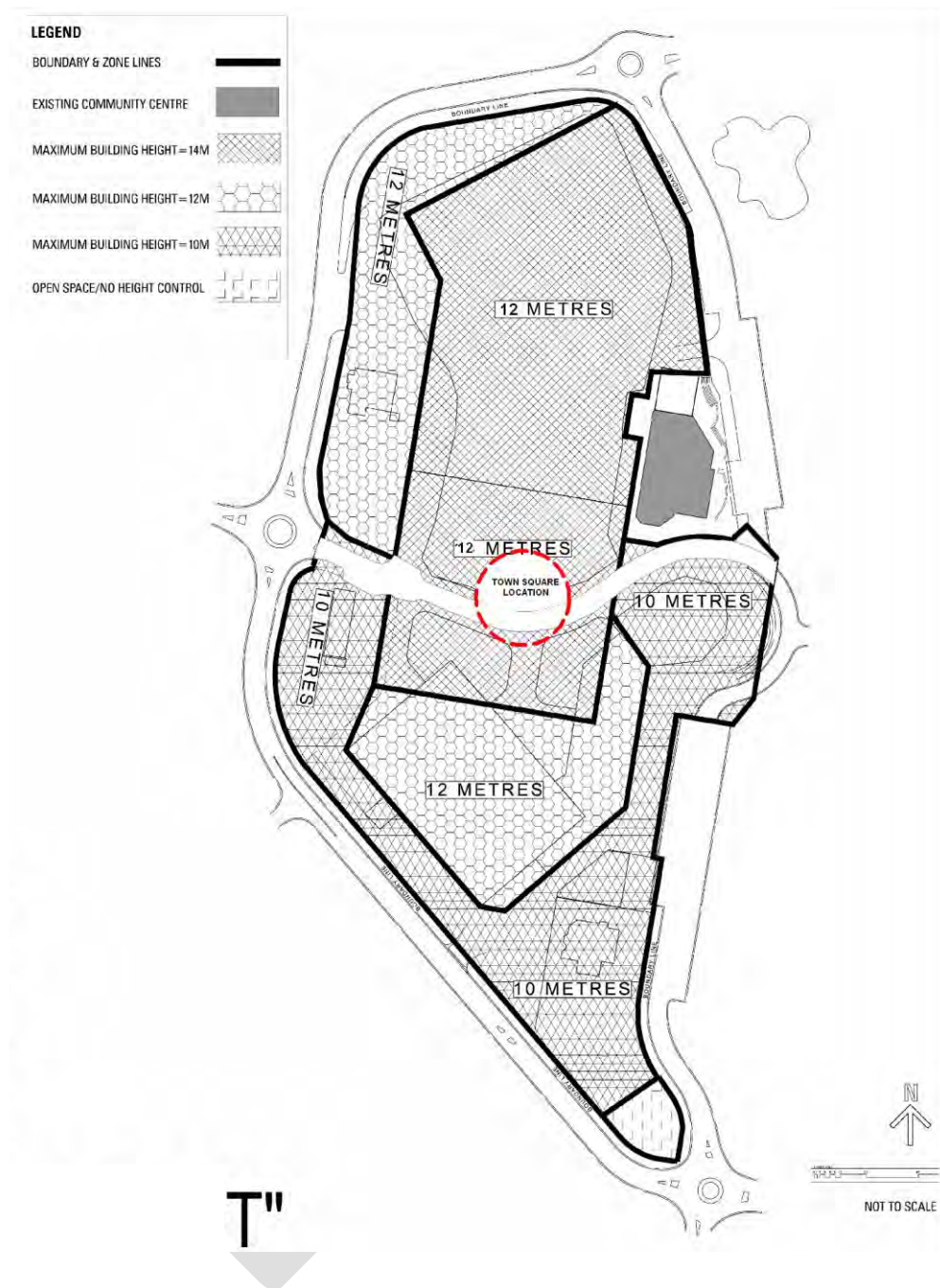
### Objectives

- a) To provide for maximum height controls acknowledging the varying site topography, orientation and surrounding land uses.
- b) To ensure an appropriate scale relationship between new development and street width, local context, adjacent building and public domain.
- c) To achieve comfortable street environments for pedestrians in terms of daylight, solar penetration, scale, sense of enclosure and wind mitigation as well as a healthy environment for street trees and/or other landscape elements together with public artwork, where appropriate.
- d) To allow sunlight to significant public spaces in the town centre particularly during critical times.
- e) To ensure appropriate management of overshadowing, access to sunlight and privacy.

### Controls

1. New buildings should comply with the relevant maximum heights as shown on Figure 7.
2. Other building elements including plant or roof top treatment, may exceed the height controls provided that the consent authority is satisfied that the specific elements either represents a positive addition to the streetscape or the element won't be visible from the public realm and/or is generally screened from view from the street level within the public domain.
3. Proposals for buildings that exceed the specified heights must demonstrate through an urban design analysis that the built form outcomes will be consistent with the built form objectives of this Section of the DCP.

**Figure 7: Height diagram**



### 2.5.5 Building Exteriors

The character of GPLC is defined by the massing and articulation of building forms and its streetscapes. The surrounding topography accommodates views and vistas to the centre particularly from the adjoining eastern ridge. As such the visual character of the centre needs to present a varied harmonic address at ground level as well its roovescape. Building exteriors contribute to the character and quality of the public domain. Furthermore, building exteriors are able to accommodate active uses and displays usually

at street/ground level that directly contribute to a healthy visually stimulating, vibrant urban setting.

## **Objectives**

- a) To ensure that new development buildings make a positive contribution to the streetscape or public domain.
- b) To encourage quality architectural design for all buildings.
- c) To encourage use of quality and durable materials.
- 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.
- f) Provide appropriate design responses to nearby development.
- g) Achieve an articulation and finish of building exteriors that contribute to design excellence.
- h) Ensure that the roofscape is considered as a design element and its appearance and form is of a high standard and does not distract from the visual amenity within the GPLC.

## **Controls**

- 1. Articulate exterior facades to provide visual interest.
- 2. External walls should be constructed of high quality and durable materials and finishes.
- 3. To assist articulation and visual interest, avoid large expanses of any single material.
- 4. Maximise glazing for retail uses but break glazing into modulated rhythmic sections to avoid long expanses of glass.
- 5. Ensure that reflections from building materials that may negatively impact on the surrounding residential precinct's amenity are avoided.
- 6. Encourage the use of display windows that are regularly rearranged/ designed during afterhours and evening time.

7. Long continuous walls are to incorporate design treatments to reduce the visual mass and bulk by a variety of architectural and design treatments including landscaping.
8. Rooftop plant and equipment are to be integrated into building/roof forms or screened in a manner compatible with the building design and to minimise visual and acoustic impacts.
9. Roof forms are to be visually interesting, well-proportioned and consist of good quality, non-reflective, neutral toned and coloured material.

### **2.5.6 Interface with residential areas**

To the north and west of the GPLC are residential areas, requiring visual, acoustic and amenity consideration.

#### **Objectives**

- a) To ensure that the design of development acknowledges the amenity of surrounding residential properties.
- b) To ensure that vehicular services areas (including loading/unloading areas) and vehicular accessways are integrated within the development.
- c) To avoid vehicular egresses that have an impact on existing vehicular traffic flows and impact negatively on the pedestrian amenity of the public realm.
- d) To effectively manage the visual and acoustic impact of loading dock and back of house activities.

#### **Controls**

1. New development of the site must not significantly diminish the amenity of residents on Glenmore Parkway.
2. Loading/unloading areas and access to underground parking should be designed to minimise noise and amenity impacts on adjacent residents.
3. Loading/unloading areas are to be integrated into the design of the development with consideration of visual and landscaping screening as appropriate.
4. Provide quality architectural treatment to all external sides of the site.

5. Where vehicular service areas are above ground, implement noise reducing design elements, e.g. solid berm earth walls and /or acoustic wall panels.

### **2.5.7 Landscape design**

Good landscaping provides breathing space, passive and active recreational opportunities and enhances air quality along with other environmental benefits.

GPLC has limited opportunity for landscaped open spaces. However, its main street, town square, laneways retail arcades need to respond positively in adding appropriate landscape elements. The design of public spaces in the centre should incorporate landscape elements and street furniture, contributing to the overall public amenity within the town centre.

Placement and species of tree types within the public realm will need to respond to seasonal solar penetration.

#### **Objectives**

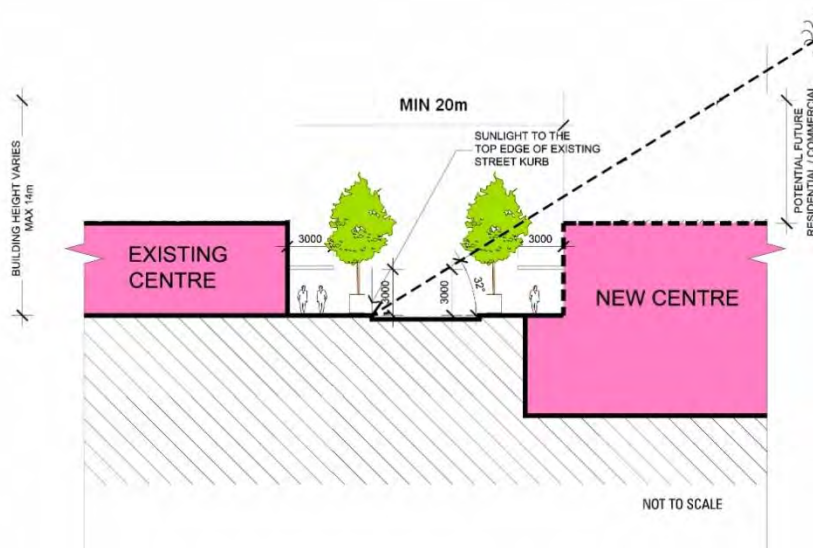
- a) To introduce landscaping and trees around perimeter to soften views to the site and reduce scale.
- b) To ensure that the use of potable water for landscaping irrigation is minimised.
- c) To ensure landscaping is integrated into the whole Glenmore Park Local Centre.
- d) To visually define and promote attractive public spaces by use of landscaping association with other design elements, street furniture, artwork etc.

#### **Controls**

1. New development along all external boundaries shall incorporate landscaping that screens or softens building elements and spaces from the surrounding residential precincts.
2. Landscaping treatments along with improved pedestrian amenity shall be integrated into the design of new entry points and gateways from the surrounding street network to the town centre.

3. Recycled and re-used water should, where possible, be used to irrigate new landscaped areas.
4. The use of plants with low water consumption characteristics is encouraged.
5. Street furniture and other public domain elements are integrated into the design of all public spaces and may include:
  - i. seats
  - ii. litter bins
  - iii. lighting
  - iv. street and information signs
  - v. bicycle racks
  - vi. planter boxes
  - vii. other items suitable to the function of each public space
  - viii. shade structures
  - ix. awnings
  - x. water features
  - xi. public art.
6. Provide deep soil zones for landscape areas.
7. Landscape is integrated with public and street lighting to not diminish the effectiveness of existing lighting.
8. Minimise changes in level and enhance access for those who may be disabled.
9. Embrace Universal design initiatives.
10. Ensure landscape enhances views and vistas to and from the town centre's open spaces contributing to passive surveillance and providing visual vitality to the overall streetscape.
11. The width of the Main Street (east-west link) is to be in accordance with Figure 8.

**Figure 8: Streetscape East/West Link**



## 2.5.8 Public Domain

Pedestrian amenity incorporates all elements of individual developments that directly affect the quality and character of the public domain. The pedestrian amenity provisions are intended to achieve quality urban design and pedestrian comfort in the public spaces of the centre. The public gather spaces/places within the town centre must be attractive to all ages including both the very young as well as the elderly residents/visitors.

The controls in this section aim to increase vitality, safety, security, attractiveness and amenity of the public domain.

### 2.5.8.1 Pedestrian amenity and weather protection

Awnings and weather protection elements increases the suitability and amenity of public footpaths by protecting pedestrians from all weather conditions. They encourage pedestrian activity along streets and in conjunction with active edges such as retail frontages (cafes etc.), support and enhance the vibrancy of the local area. Awnings also provide architectural continuity and contribute to the streetscape.

Connecting the shoppers/retail visitors of the centre to the underground concealed car parking needs careful design consideration. It is envisaged that there will be alternative routes both covered and partially covered that allow shoppers to access underground car parking from either side of the Main Street. The Main Street will remain uncovered.

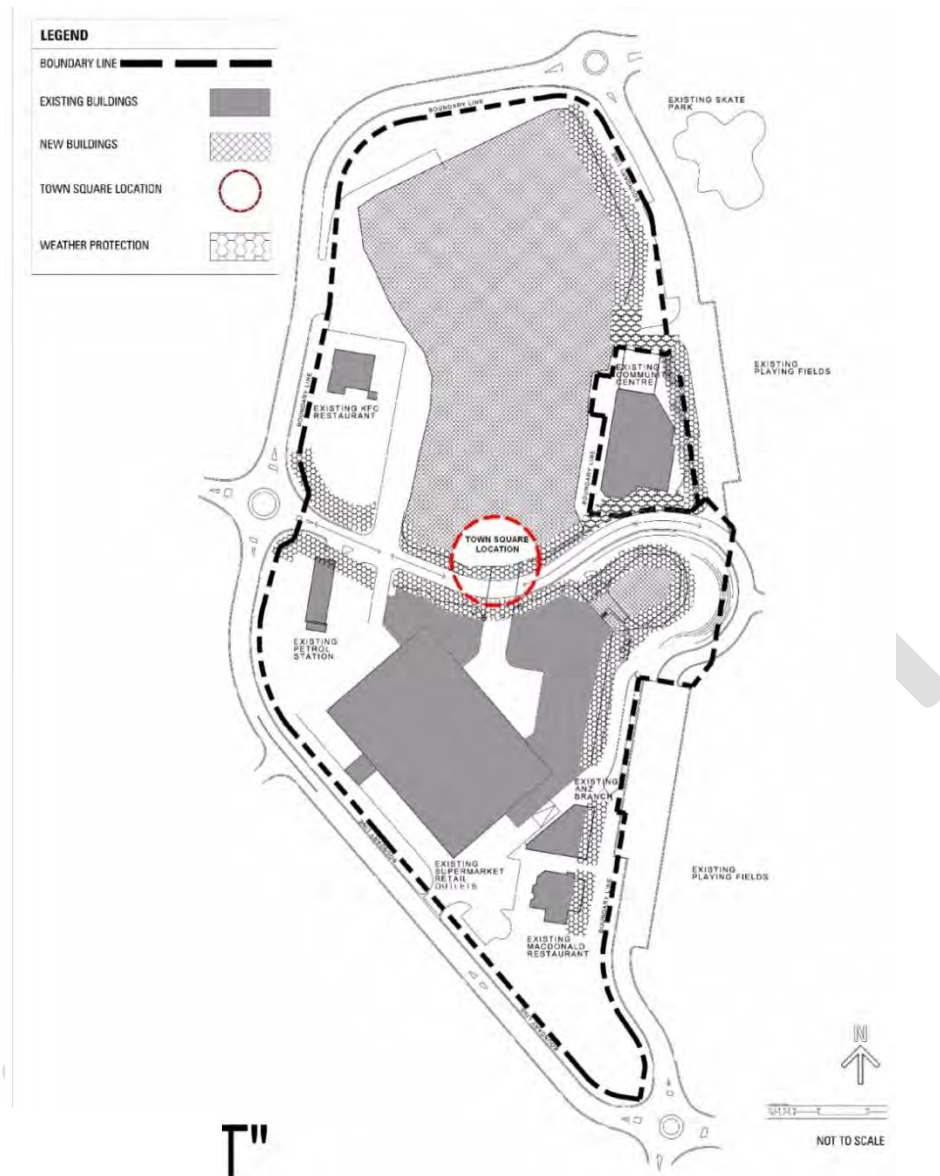
## **Objectives**

- a) To provide shelter from wind, rain and sun for streets where most pedestrian activity occurs.
- b) To provide a visually integrated streetscape.
- c) To provide pedestrian convenience and amenity from existing centre to new centre via alternative covered routes to connect to the underground parking area without covering or roofing over the Main Street.

## **Controls**

1. Weather protection is to be provided for all new development as indicated in Figure 9.
2. The design of new development should consider where practical, the ability to incorporate weather protection measures from the existing centre to new centre and underground parking.
3. Weather protection must be consistent in appearance and relate to new or existing building facades.
4. Provide under awning lighting to facilitate night use and to improve public safety.

**Figure 9: Weather protection East West Link**



### 2.5.8.2 Pedestrian Access and Mobility

Any new development must be designed to ensure that safe and accessible access is provided to all people. Additionally, pathways are to have clear sightlines and be flanked, where possible, by active uses.

#### Objectives

- a) To ensure that people who visit the centre are able to access and use all spaces, services and facilities through the creation of barrier free

environment in all public spaces, in particular the Main Street as well as arcades and retail streets.

- b) To provide a 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, diversity and vibrancy of the public domain.
- c) To maintain and enhance, where possible, connections to the centre by public transport, as shown in Figure 3.
- d) To provide services that support the needs of mobility impaired persons.

### **Controls**

1. The design and provisions of facilities for accessibility including car parking must comply with Australian Standards AS1428.
2. The development is to provide at least one main pedestrian entrance with convenient barrier free access to the ground floor and/or street level.
3. The development must provide visually distinctive accessible internal access, linking to building entry points and the public domain.
4. 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 and comply with the relevant Australian Standard.
5. Pedestrian pathways are to accommodate adequate lighting and consistent style of way finding signage/graphics.
6. Future development must maintain safe and unimpeded paths of travel from bus stops and existing pedestrian links and crossovers to the site.
7. Any new development proposing basement car park shall make provision to connect the proposed and existing development.

### **2.5.8.3 Permeability**

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 form of shared zone, arcades and pedestrian ways.

The town centre through site links should form an integrated pedestrian network providing choice of routes at ground level for pedestrians. Where level change is unavoidable, ramps and/or mechanised access such as lifts, travelators etc. connecting to basement car parks, need to be considered.

## **Objectives**

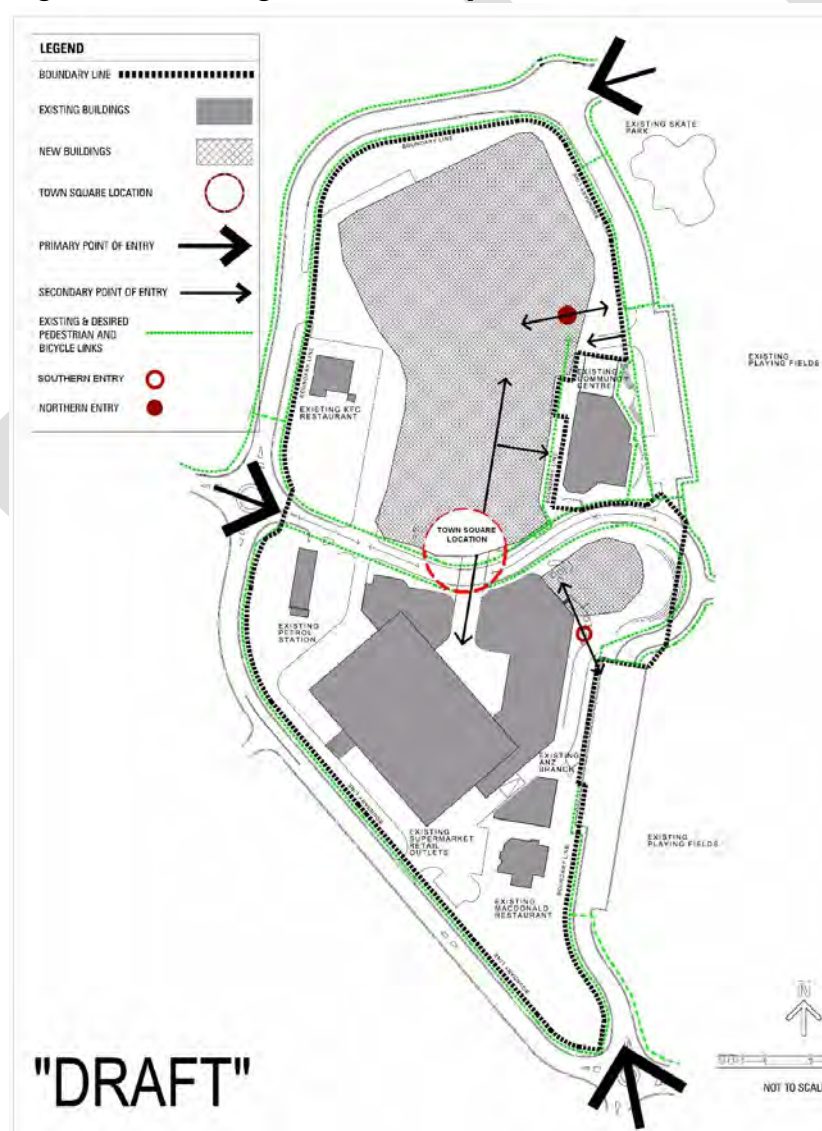
- a) To maximise accessibility and permeability through the site within the constraints of the new development and the operational requirements of the centre.
- b) To maintain current access to and from the centre or create new links as redevelopment occurs.
- c) Use opportunities to improve existing links for better connectivity to the town centre.
- d) To encourage active street format, where appropriate, along the length of the Main Street.
- e) To provide for pedestrian amenity and safety.
- f) To connect the internal mall to key entrance points to those clearly identified.
- g) To create a new northern address that activates and creates an arrival point for the centre to draw people along Luttrell Street.
- h) To retain unrestricted access to both the Main Street spine road and town square at all times except for agreed community events.

## **Controls**

1. Through site links are to be provided as indicated in Figure 10.
2. New through site links should connect to existing through site links, arcades and pedestrian ways, where possible.
3. Comprehensive way finding signage is to be provided throughout the site.
4. Designated pedestrian routes are to be well designed incorporating the following elements, natural and artificial lighting, seating and other street furniture appropriate for public use.

5. All 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.
6. Provide safe and legible pedestrian access to and from car park.
7. Future development is to provide safe pedestrian movement through the car park to the centre.
8. New development along Luttrell Street (eastern) frontage to incorporate pedestrian links to the site in accordance with Figure 10.
9. Improve existing links along the eastern terrace south of Main Street through to Luttrell Street.

**Figure 10: Existing and desired pedestrian links**



#### **2.5.8.4 Active street frontages and address**

Active street frontages promote an interesting and safe pedestrian environment. Busy pedestrian areas (such as shops, cafes, offices, etc.) that offer direct physical engagement with the public space create the most active street frontage.

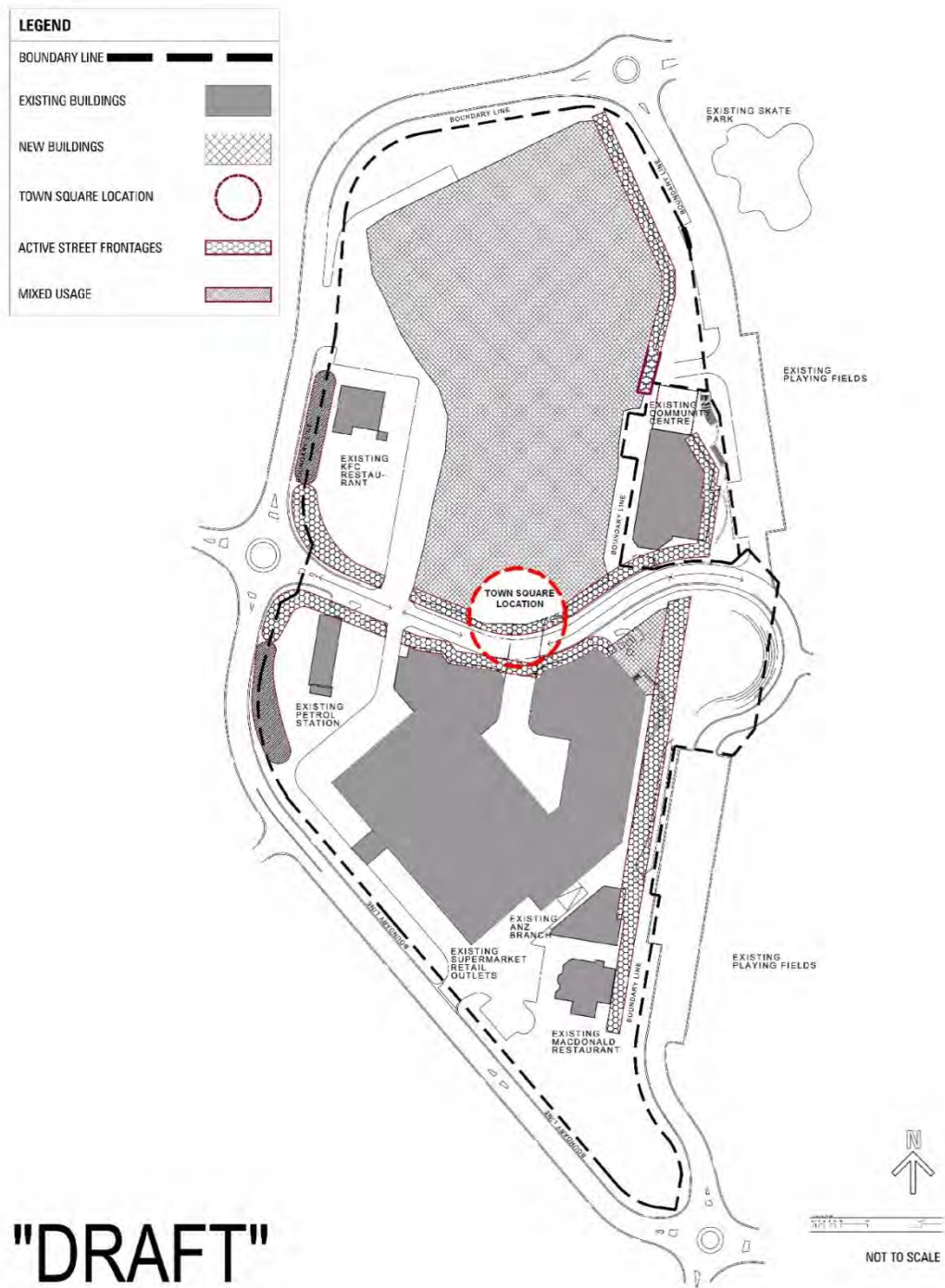
##### **Objectives**

- a) To promote pedestrian activity and safety in the public domain.
- b) To maximise active street frontages to the site.
- c) Promote shop front displays or encourage outdoor dining that externalise the buildings both night and day.

##### **Controls**

1. Active frontage uses are defined as one or a combination of the following at street level:
  - i. Entrance to a retail premises.
  - ii. Shop front.
  - iii. Glazed entrance to an active commercial premises located on the ground floor, such as reception.
  - iv. Café or restaurant if accompanied by an entry from the street
2. Active street frontages are to be located at the ground level of all buildings located in those areas shown in Figure 11.
3. Only open grill or transparent security shutters are permitted to retail frontages or approved innovation.
4. Restaurants, cafes and the like are to consider providing operable shop fronts.

**Figure 11: Active street frontages**



**"DRAFT"**

### **2.5.8.5 Internal building circulation space**

Internal pedestrian retail paths/arcades are an integral part of the public space network. Although they are privately owned they are perceived as “public spaces” during centre operating hours. As these spaces form a significant part of the internal urban structure of the site, it is desirable for them to achieve a high level of environmental performance including thermal comfort, natural ventilation and good daylight access. Furthermore, these accessways should be connectors to the public domain.

#### **Objectives**

- a) Pedestrian retail access paths should connect to external through site links and pedestrian ways, where possible.
- b) Provide pedestrian convenience and amenity.
- c) Promote pedestrian activity and safety.

#### **Controls**

1. Pedestrian retail access paths are to:
  - i. Be direct and publicly accessible during business trading hours.
  - ii. Be designed as an accessible path for all persons.
  - iii. Have active frontage on either side by the full length.
  - iv. Have, where possible, access to natural light for part of their length and at all openings.
  - v. Where air conditioned, have clear glazed doors to at least 50% of the entrance.

## **2.6 Car Parking and Access**

This section contains detailed objectives and controls on vehicular access and site facilities.

### **2.6.1 Vehicle footpath crossings and driveways**

GPLC benefits from having access from a number of streets including Glenmore Parkway, Luttrell Street and Town Terrace. Vehicle crossings over

footpaths disrupt pedestrian movement and raise safety implications. The design and location of vehicle access to buildings also influences the quality of the streetscape, building facade and the active use of street frontages. The design and location of vehicle access to developments should minimise conflicts between vehicles and pedestrians on footpaths, particularly in pedestrian priority places such as the spine road as well as Luttrell Street.

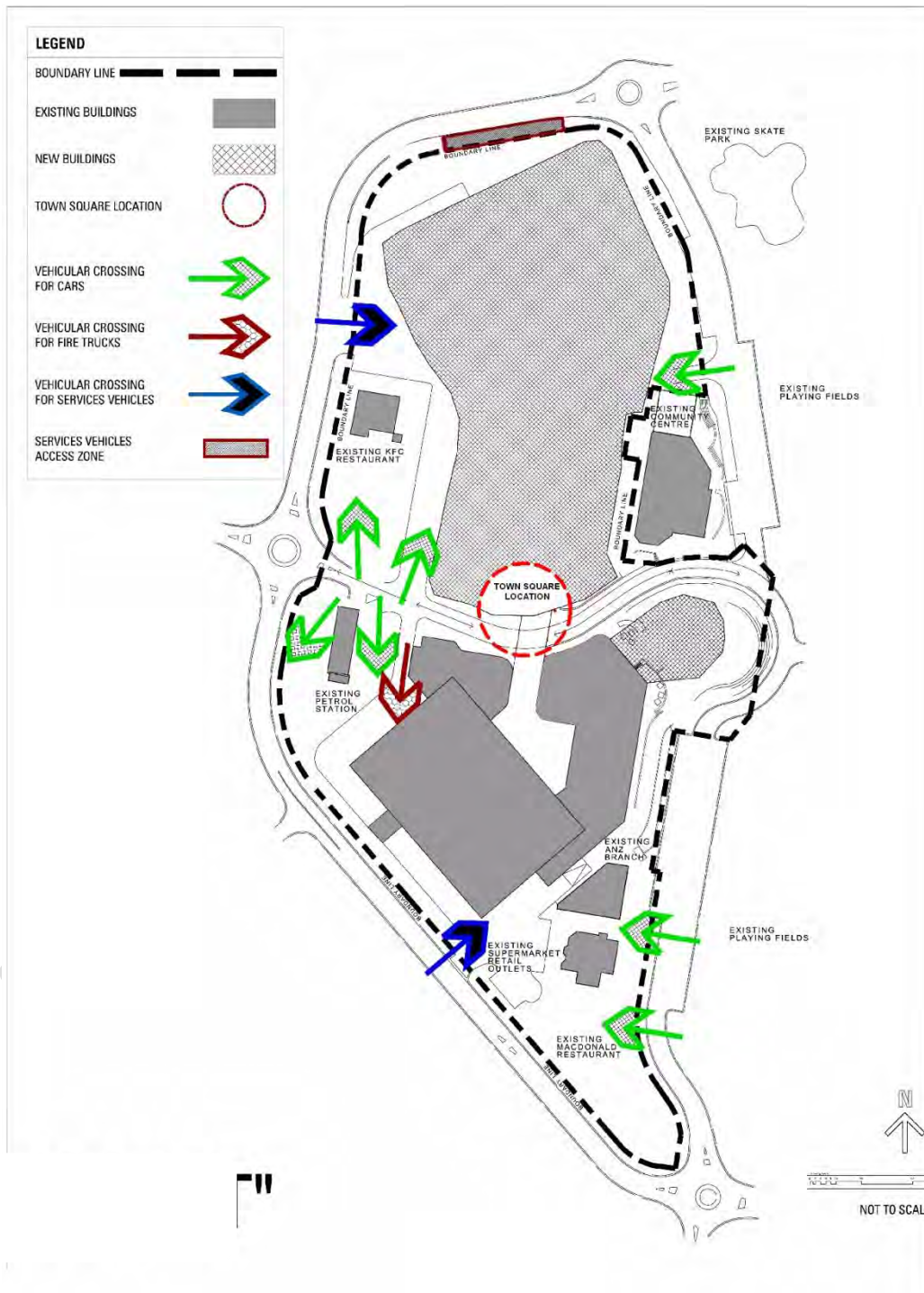
## **Objectives**

- a) To facilitate efficient and convenient access to and from the site.
- b) To avoid conflict between pedestrian/cyclists and vehicles, particularly in high priority pedestrian locations.
- c) To minimise the impact of vehicular access points on the quality of the public domain.
- d) To ensure vehicle entry points are integrated into building design.
- e) To minimise stormwater runoff from uncovered driveways and parking areas.

## **Controls**

1. Vehicle access points to the centre shall be provided generally in accordance with the Access Plan, shown on Figure 12.
2. Vehicle access widths and grades are to comply with the Australian Standards.
3. Design of driveway crossings must be in accordance with Council specifications for Vehicle crossovers.
4. The driveway threshold is to be designed to prevent ingress of stormwater.
5. Vehicle entries are to have high quality finishes to walls and ceilings as well as high standard detailing.
6. Vehicular driveways should be located wherever practical as follows:
  - i. Setback a minimum of 6m from the tangent point in the kerb.
  - ii. Located taking into account any services within the road reserve, such as power poles, drainage inlet pits and existing street trees.

**Figure 12: Vehicle entry/crossing diagram**



## 2.6.2 Access, Servicing and Manoeuvring

Adequate on-site provision for delivery and service vehicle access should be made to facilitate the efficiency of the commercial, retail and other functions.

### Objectives

- a) To ensure the appropriate on-site provision for parking of service vehicles.
- b) To provide for efficient service vehicle movements and access within the site.
- c) Establish appropriate access and location requirements for servicing.
- d) Ensure that servicing routes and egress points do not adversely impact on the pedestrian routes connecting to the centre.

### Controls

1. All vehicles must be able to enter and leave the site in a forward direction without the need to make more than a three point turn.
2. The final location for the ingress of large trucks to the northern boundary of the site from Glenmore Parkway is subject to detailed design and traffic analysis.
3. Loading/unloading facilities are to be:
  - i. Separated from customer parking and circulation path of other vehicles.
  - ii. Integrated into the design of developments and screened from the street.
  - iii. Located away from circulation paths of other vehicles.
  - iv. Designed for commercial vehicle circulation and access complying with AS2890.2.
4. The Main Street is to be a traffic calmed roadway together with raised thresholds for pedestrian cross over points and a reduced speed limit. Vehicular traffic is to give way to pedestrian at the raised threshold location/s.

5. Traffic calming devices are to be provided along the Main Street for safe pedestrian movement.
6. Traffic calming devices are to be considered along Town Terrace to reduce speed and truck movements as appropriate.
7. Generally, provision must be made for all vehicles, including emergency vehicles, to enter and leave the site in a forward direction.
8. For large scale retail and commercial development, consultation is to occur with Westbus regarding future bus access routes to the site.

### **2.6.3 On-site parking**

Onsite parking includes underground (basement) and surface (at-grade) parking for vehicles and bicycles. The following section provides on-site parking controls for the site.

#### **Objectives**

- a) To provide an appropriate amount of on-site car and bicycle parking to cater for future development.
- b) To integrate parking appropriately with the design of buildings to minimise its visual and environmental impact.
- c) To provide adequate space for parking and manoeuvring of vehicles.
- d) To ensure the appropriate on-site provision and design of accessible car parking.

#### **Controls**

1. Car parking is to be provided in accordance with the rates outlined in the Transport, Access and Parking Chapter of this DCP, unless it can be demonstrated that a lesser rate can still achieve sufficient parking provision to meet the needs of the shopping centre.
2. Accessible car parking spaces are to be provided and designed in accordance with the requirements with the Building Code of Australia and AS2890.
3. The car park and all its components including but not limited to driveway, aisle and ramp widths, ramp grades, and car space dimensions are to

comply with the relevant Australian Standard (AS 2890.1 2004) – *Parking Facilities – Off-Street Car Parking*, as amended.

4. Where possible, natural ventilation is to be provided to underground parking areas with ventilation grills and structures that are integrated into the overall façade of the development and located away from the primary street frontage.
5. Short term parking is to be provided along one side of the Town Terrace east/west spine road.
6. 4 Council car spaces and driveway access adjacent to community centre are to be retained and integrated into design. These spaces are to be dedicated parking spaces for the community centre.
7. Proposals for basement parking areas are to be accompanied with a geotechnical report prepared by appropriately qualified professional and other supporting information to the Development Application.

#### **2.6.4 Site Facilities and Services**

Adequate site facilities and amenities are important elements of a successful local centre function, and include bicycle storage and associated amenities, toilets and parents change rooms, accessible toilets, public telephones and staff facilities. Other servicing requirements of the site should be designed and sited to minimise visual and environmental impact.

#### **Objectives**

- a) To provide adequate site facilities to meet the needs of the local community.
- b) To establish appropriate access and location requirements for servicing.

#### **Controls**

1. The provision of site facilities such as bicycle storage and associated amenities, toilets and parents change rooms, accessible toilets, public telephones and staff facilities are to be considered as part of any redevelopment of the site.
2. Air conditioning, service vents and other associated structures should be:
  - i. Located away from street frontages.

- ii. Located in a position where the likely impact is minimised.
- iii. Adequately set back from the perimeter wall or roof edge of buildings.
- iv. Where it is to be located on the roof it should be integrated into the roof scale design and in position where such facilities become a feature in the skyline at the top of the building.

The responsibility for the ongoing management of waste facilities must be determined prior to work commencing on any redevelopment of the centre. Details of the management of waste by future tenants are to form part of the Waste Management Plan (in accordance with the Waste Management Chapter of Penrith DCP) for the development.

## **2.7 Design principles**

### **2.7.1 Energy efficiency**

The ability of development to optimise thermal performance, thermal comfort and day lighting will contribute to the energy efficiency of the buildings, provide increased amenity to occupants and reduce greenhouse emissions.

#### **Objectives**

- a) To encourage architectural design to minimise the need for mechanical heating and cooling of spaces to provide comfortable conditions for the community.
- b) To reduce the proportion of overall energy consumption in the construction and use of buildings.

#### **Controls**

- 1. Integration of shading devices and ventilation of building faces where practical, in order to reduce solar energy loads at high luminance periods of the day.
- 2. Using an architectural design to harness natural light into spaces where practical through integration of light wells, sky lights and voids to reduce lighting energy consumption.

## 2.7.2 Water management and Water Sensitive Urban Design

Building design can contribute to environmental sustainability by incorporating measures for improved water quality and efficiency of use. Integrating water use, collection and reuse measures into building and infrastructure design contribute to achieving environmentally sustainable outcomes.

### Objectives

- a) To help improve the environment by improving the quality of water runoff.
- b) To ensure infrastructure design is complementary to current and future water use.
- c) To maintain pre-existing stormwater runoff flows off site.

### Controls

1. The following water saving measures to be incorporated into new development:
  - i. Water fixtures (low flow shower heads and taps, dual flush toilets, low flush/ water efficient urinals, etc.) are to be 3 stars (WELS Scheme) or better rated.
  - ii. Select water efficient plants and/ or, indigenous vegetation for landscape in accordance with Council's preferred species.
  - iii. Use non-potable water for watering new gardens and landscape features.
2. A Stormwater Management Plan is to be prepared that identifies how the quantity and quality of urban runoff from the site will be managed on the site as part of any major redevelopment of the centre.

## 2.8 Waste management

Waste management refers to all stages of development from demolition to design, construction and occupation. The following objectives and controls are in addition to those outlined in the Waste Management Chapter of Penrith DCP, and are specific to the GPLC.

## Objectives

- a) To minimise waste generation and disposal to landfill with careful source separation, reuse and recycling.
- b) To plan for the types, amount and disposal of waste to be generated during demolition, excavation and construction of the development.
- c) To ensure efficient storage and collection of waste and quality design of facilities.

## Controls

1. Development applications involving major demolition or construction works should include proposed waste management strategies.
2. Such strategies could include any of the following:
  - i. Proposals for recycling and reuse of construction and demolition materials.
  - ii. Use of sustainable building materials that can be reused or recycled at the end of their life.
  - iii. Handling methods and location of waste storage areas, such that handling and storage has no negative impact on the streetscape, building presentation or amenity of occupants and pedestrians.
  - iv. Procedures for the on-going sustainable management of green and putrescibles waste, garbage, glass, containers and paper, including estimated volumes, required bin capacity and on-site storage requirements.
3. Details of the management of waste by future tenants are to form part of the Waste Management Plan for any redevelopment of the centre.
4. A Waste Management Plan for the site is to be implemented as part of any redevelopment of the site, in accordance with the Waste Management Chapter of Penrith DCP.

## 2.9 Safety and security (Crime Prevention through Environmental Design)

A safe and secure environment encourages activity, vitality and viability, enabling a greater level of security. Planning and design can identify and

address safety and security issues through the use of environmental and technical measures.

## **Objectives**

- a) To address safety, security and crime prevention requirements in the planning and design of development (including the NSW Police 'Safer by Design' crime prevention through environmental design (CPTED) principles).
- b) To ensure developments and the public domain is safe and secure for pedestrians.
- c) To encourage a sense of ownership of the public domain.

## **Controls**

1. For any large scale retail and commercial development an assessment is to be provided in accordance with the CPTED principles.
2. Applicants should refer to the Safety and Security Chapter of this DCP and address the CPTED principles in their development application.

## **2.10 Site Topography**

A site's natural topography and landform are important features that inform the urban structure of the place.

## **Objectives**

- a) Development should respond to a site's natural topography and landform, minimising excavation and potential visual impacts and in turn reduces construction costs.

## **Controls**

1. Applicants must demonstrate how their design/ development respond to the natural topography and landform of the site, based on site analysis drawings.

## 2.11 Other Controls

### 2.11.1 Town Square

The Town Square is to be the primary social focus of the GPLC. It is to be a vibrant, active town square that forms the hub of the centre.

The Town Square should be designed as a multi-functional public space that is able to operate on various levels responding to special events (such as markets) without disrupting the pedestrian flows of the shopping centre or the traffic calmed vehicular movements. On a few occasions each year this space will be totally closed off but this will be done within a clearly defined and communicated management regime.

#### Objectives

- a) To provide a vibrant, active, town square with a shopping Main Street character.
- b) To provide improved connectivity and interaction between the Town Square and the community centre.
- c) To encourage the Town Square is to be the pedestrian focus of the GPLC.
- d) To promote uses around the square that maximise activity and vibrancy, which permit and promote after hours usage of the space.
- e) To encourage use of high quality and durable materials.
- f) To ensure that the Main Street will be a primarily a pedestrian oriented street with traffic calming measures for vehicular movement, which allows for local access and a limited amount of short term parking for shoppers on both sides of the street.
- g) To provide a flexible Town Square space capable of being enlarged without disrupting the normal pedestrian flows or vehicular traffic movements, provision should be made for temporary closing of the road for specific larger community events and be controlled within the town centres management program.

## Controls

1. Retail facades should be designed to activate the frontages to the Square both during and after hours.
2. Two/three storey buildings are encouraged forming the edge of Town Square to provide a sense of enclosure.
3. Development fronting the Town Square is to have active retail premises on the ground floor.
4. Active uses including restaurants and cafés fronting the Town Square are encouraged, specifically after normal business hours e.g. restaurants/cafes. Awnings and/or colonnades create a weather edge to the Town Square.
5. Adequate lighting should be provided for evening use, safety and security.
6. The surface of Town Square should reflect its primary pedestrian focus. Appropriate traffic calming measures, different paving or clearly defined pedestrian crossings should be considered for the east/west spine road.
7. The area of the Town Square shall be not less than 400m<sup>2</sup> and will not incorporate the vehicular traffic's carriageways and/or the standard public pedestrian width within its dimensions.
8. The surface of Town Square should be designed to permit its use by service and emergency vehicles.
9. Allow sunlight access into the town square in all seasons while also allowing for adequate weather protection and sun-shading opportunities.
10. A detailed design for the Town Square should be prepared with any major DA for the centre. The detailed design should establish the appearance of facades to the Square, materials, street furniture, seating, lights, signage, traffic management devices, soft landscaping and other elements relevant to the character of the Town Centre.
11. The Town Square and adjacent 'Main Street' roadway is to be managed in order to allow for specific community events and activities.

## 2.11.2 Community Centre Building

The current Community Centre Building is isolated from the remainder of the existing shopping centre fronting towards the playing fields. The development of the shopping centre will bring opportunities to better connect and integrate the community facility with the surrounding development, although this will remain relatively constrained while the community facility remains in its present configuration.

The role and function of the Community Centre Building is expected to continue to evolve and expand over time in order to meet the needs of the growing community. Accordingly, provision should be made to ensure that if and when a substantial expansion or redevelopment occurs with the community facility there is a mechanism in place that would enable the potential to physically integrate or link with any approved retail development.

However, in the interim, the space between the Community Centre and any new development should be treated as usable public walkway/pathway space with provision for adequate landscaping and passive surveillance from the retail centre.

### Objectives

- a) To consider any additional community needs and facilities that may arise with an expansion to the Community Centre Building.
- b) To ensure that the new development improves connections and access to the Community Centre Building in its present form.
- c) To provide for improved connections and physical linkages between the shopping centre development and the Community Centre Building in the event that this facility is redeveloped or substantially expanded.

### Controls

1. New development is to demonstrate that the design enhances the amenity of existing linkages and access to the community facility building in its present form.
2. New development is to make provision for access by a potential future physical connection from the community facility building in the event of a major expansion or redevelopment of the community facility building, which would enable a connection at a floor level consistent with the

adjacent development. The provision of access will be approximately 3m in width and be of mutually acceptable timing, design and location between the Council and the owners of GPLC.

3. New Development to have a minimum setback of 8m between the existing Community Centre building and any new development. Additionally the interim space between the community centre and new shopping centre is to be landscaped, attractive and enjoy a high degree of surveillance with pedestrian paths.

### **2.11.3 Management Plan**

The management for the ongoing care, control and management of both public and private domain is important and needs to be clearly defined in terms of responsibility for these various areas.

#### **Objective**

- a) To ensure that all public and private domain located within the town centre is adequately managed.

#### **Control**

1. Prior to the final approval of any further development of the town centre a Plan of Management is to be prepared and submitted to Council for approval. The Plan of Management shall incorporate measures for the ongoing care, control and maintenance of both the public and private domain and shall differentiate those lands and facilities, which will remain in private ownership.

## **3. Glenmore Park major land use**

### **3.1 Land to which this Section applies**

This Section applies to all land at Glenmore Park Stage 1.

### **3.2 Purpose of the Section**

The central purpose of this section is to clearly establish and identify major land use areas within Glenmore Park Stage 1.

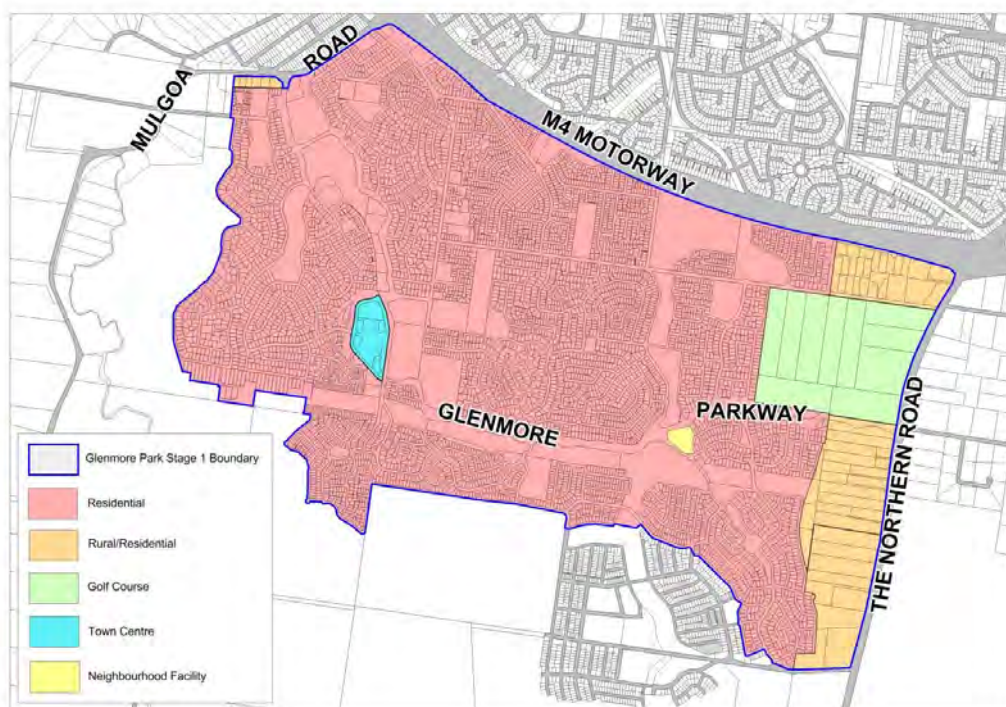
## Objectives

- a) To establish major land use areas which identify specific precincts for key development activities.
- b) To promote the continuation of the open, semi-rural character of the estate's edges along The Northern Road and Mulgoa Road by maintaining a low density development pattern; and
- c) To restrict commercial or retail related activities from establishing along The Northern Road or Mulgoa Road frontages.

## Controls

The following controls applying to all development proposals within Glenmore Park set the guidelines to be observed for each major land use area, as shown in Figure 13.

**Figure 13: Major land use development areas in Glenmore Park Stage 1**



### 3.3 Residential

In addition to the controls outlined in the Residential Chapter of Penrith DCP, the following objectives and controls apply:

## Objectives

- a) To provide for a range of activities consistent with the establishment of a quality living environment.
- b) To encourage a diversity of housing types; and
- c) To provide development opportunities for non-residential activities which:
  - i. Support neighbourhood planning concepts.
  - ii. Do not impact on neighbourhood amenity.
  - iii. Enhance access to a range of community services and facilities; and
  - iv. To make provision for a general store / neighbourhood shop within Glenmore Park, as show in Figure 25.

## Controls

- 1. Minimum average density of 11 dwellings per net hectare; and
- 2. Range of lot sizes desirable.

### 3.4 Rural / Residential

#### Objectives

- a) To conserve the open, semi-rural character of The Northern Road and Mulgoa Road frontages of Glenmore Park.
- b) To promote the need to maintain a low density settlement pattern which:
  - i. recognises the importance of conserving the rural land use pattern and image of the gateways into the urban areas of the City located along the major road frontages; and
  - ii. provides sufficient flexibility for dwelling siting and orientation of allotments to minimise the visual impact of development and to overcome noise constraints.
  - iii. To provide an acceptable level of development in the event that reticulated sewer is not available to The Northern Road sub-catchments; and

- iv. To provide for large lot residential living opportunities.

### **Controls**

1. A minimum dwelling setback of 50m.
2. A range of lot sizes is desirable; and
3. No additional vehicle access to The Northern or Mulgoa Roads.

## **3.5 Neighbourhood shopping facilities**

### **Objectives**

- a) To provide for a range of commercial and retail activities and services at a neighbourhood level which satisfy day-to-day resident needs; and
- b) To encourage the early provision of retail and professional services and temporary facilities.

### **Controls**

1. Scale and nature of the neighbourhood facility shall be supportive to, and not delay the timing for the natural inception of the major shopping facility at the Town Centre.
2. Activities which are inconsistent with the objectives of this major land use or which detract from the establishment of a high quality neighbourhood scale business centre, or the amenity of the surrounding area, will not be supported by Council; and
3. Maximum floorspace up to 1,500m<sup>2</sup>.

## **3.6 Golf Course**

### **Objectives**

- a) To enable the continuation of the Penrith Golf Course to service the needs of Glenmore Park and the broader community.

### **Controls**

1. Ensure that supplementary development is:

- i. Consistent with the above-stated objectives for the rural/residential edge of the estate along The Northern Road and that the visual quality and amenity of the surrounding locality is conserved.
- ii. Managed in a manner which does not give rise to traffic conflicts on The Northern Road; and
- iii. Corporate signage is limited and consistent with the semi-rural character of the area.

DRAFT

## Contents

Part B Glenmore Park Stage 2.....	4
1. Preliminary.....	4
1.1 Land to Which This Part Applies.....	4
1.2 Relationship to other plans and documents.....	5
1.3 Supporting studies.....	5
1.4 How to Use This Section.....	5
1.5 Concept Plans.....	6
<b>2. Structure Plan.....</b>	<b>7</b>
2.1 Introduction.....	7
2.2 Urban structure.....	8
2.3 Dwelling yield.....	11
2.4 Diversity.....	12
<b>3. Public Domain.....</b>	<b>13</b>
3.1 Responding to the site's natural features.....	13
3.1.1 Corridors.....	13
3.1.2 Bushfire hazard management.....	17
3.1.3 Water management.....	17
3.1.4 Flood Management.....	18
3.1.5 Trees.....	19
3.1.6 The Northern Road view shed.....	20
3.2 Access and movement.....	21

3.2.1 Urban structure.....	21
3.2.2 Vehicular movement.....	22
3.2.3 Public transport .....	24
3.2.4 Pedestrians and bicycles .....	26
3.3 Streetscapes .....	28
3.3.1 Landscape character .....	28
3.3.2 Street furniture and public art.....	30
3.3.3 Road sections.....	31
3.4 Open spaces .....	40
3.4.1 Active open space.....	40
3.4.2 Neighbourhood parks .....	45
3.5 Neighbourhood Precinct.....	47
3.5.1 Urban Structure .....	47
3.5.2 Urban Character.....	48
3.5.3 Retail Built Forms .....	49
3.5.4 Primary School.....	53
<b>4. Private Domain.....</b>	<b>53</b>
4.3 Site planning .....	59
4.4.4 Solar Planning.....	66
4.4.5 Dwelling design .....	67
<b>5. Typical development forms.....</b>	<b>72</b>
5.1 Apartments.....	73
5.2 Terrace dwellings and live - works.....	75
5.3 Semi-detached dwellings.....	77
5.4 Studios.....	79
5.5 Built to Boundary Dwellings.....	80
5.6 Detached Dwellings .....	81

5.6.1 Surveyors Creek catchment.....	82
5.6.2 Mulgoa Creek catchment.....	84
5.7 Non-residential development.....	86

DRAFT

# Part B Glenmore Park Stage 2

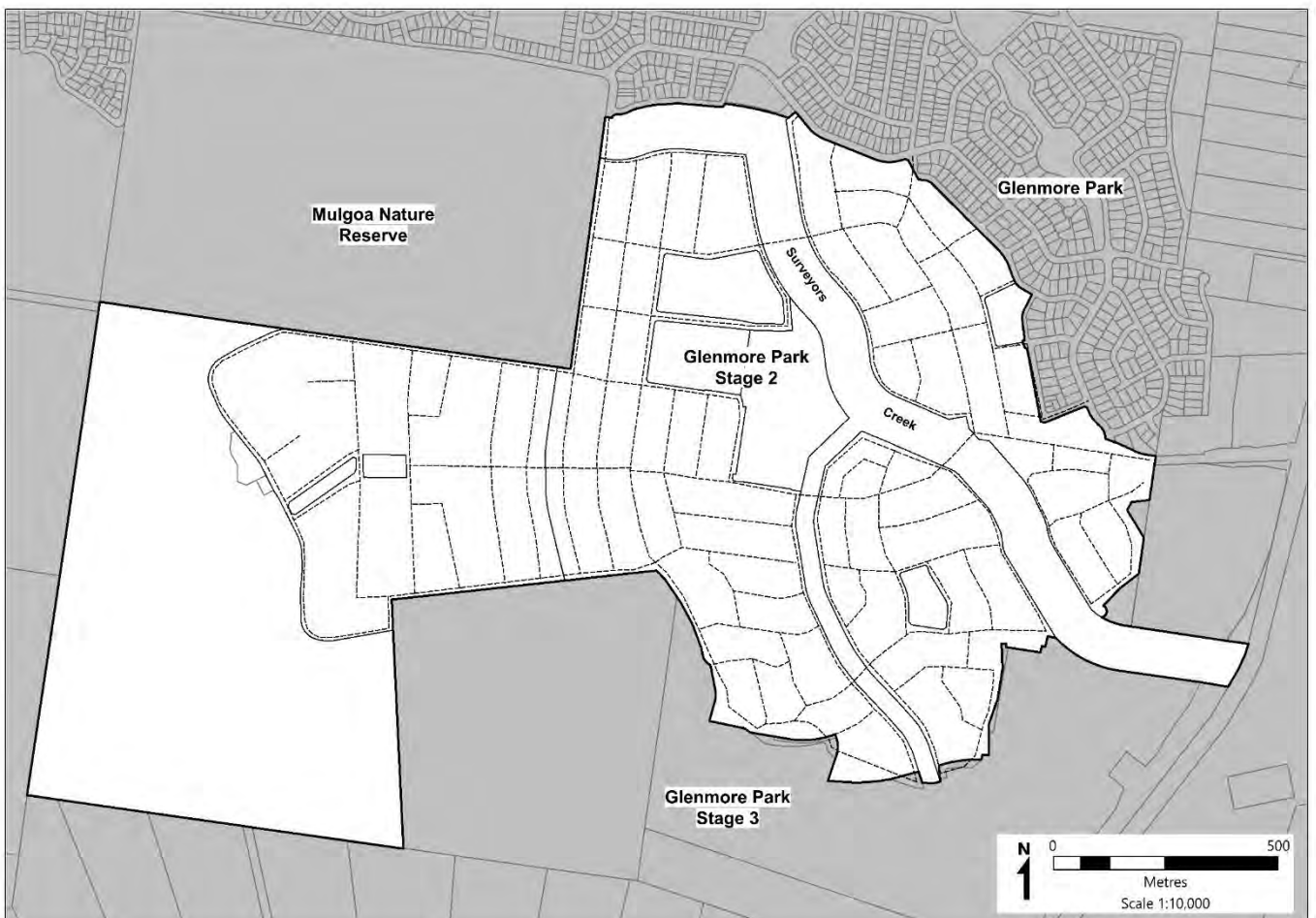
## 1. Preliminary

This Part is called 'Glenmore Park Stage 2' and supports the objectives of the Penrith Local Environmental Plan 2010 and to facilitate the sustainable development of residential, mixed use, retail and open space on the site.

### 1.1 Land to Which This Part Applies

This Section applies to the land as shown on Figure 1 below.

**Figure 1: Glenmore Park Stage 2 Subject Land**



## 1.2 Relationship to other plans and documents

In addition to the provisions of the Penrith LEP 2010, this Section must be read in conjunction with any relevant Planning Agreement between the Glenmore Park Stage 2 Landowners (or individual landowners) and Penrith City Council. This section must be also read in conjunction with the Glenmore Park Stage 2 Development Contributions Plan 2007 where relevant.

The requirements of this Section are informed by Penrith's adopted Sustainability Blueprint for Urban Release Areas 2005.

## 1.3 Supporting studies

The following supporting studies and documents have been used in the preparation of this Section:

- *Local Environmental Study* prepared by EDAW (November 2003).
- *Asset Protection Zone Assessment* prepared by Bushfire + Environmental Services (December 2006).
- *Corridor Management Plan* prepared by Cumberland Ecology (October 2006).
- *Stormwater Management Strategy* prepared by J. Wyndham Prince (October 2006).
- *Transport Management and Accessibility Plan* prepared by Transport and Traffic Planning Associates (October 2006).

These documents are available for reference from Council.

## 1.4 How to Use This Section

The section identifies key planning issues that Council will address when considering Development Applications. Each planning issue is structured in the following manner to provide a clear understanding of Council's expectations with regard to development:

<b>Objectives:</b>	Describe the rationale of the planning issue and what it is trying to achieve.
<b>Performance Measures:</b>	Qualitative measure against which a development's ability to achieve the objectives will be assessed. These measures provide flexibility for developers to achieve those objectives through a suite of design responses.
<b>Development Controls:</b>	Numeric based measures that will need to be achieved to meet the relevant objectives.

## 1.5 Concept Plans

A Concept Plan setting out proposals for the development of each precinct or site is required to be lodged and approved by Council prior to, or with, the first subdivision development application for each precinct.

A Concept Plan shall demonstrate:

- a) Proposed urban structure and public domain elements, including Landscape Masterplan.
- b) Delivery of required dwelling yield and diversity targets set out in Table 1.
- c) Distribution of lot types and housing forms to suit a variety of lifestyles, household types and financial capacities.
- d) Road hierarchy, sections and details.
- e) The location and design of open space networks
- f) The location of pedestrian and cycle paths.
- g) The Northern Road view shed analyses where required.
- h) Development Staging.
- i) Infrastructure Delivery Strategy.

## 2. Structure Plan

### 2.1 Introduction

#### Vision

A vision for Glenmore Park Stage 2 was established through the Local Environmental Study (LES). In brief, it recommended that the southern expansion of the Glenmore Park community should:

- a) Promote, service, and support a diverse, vital, and healthy community that is socially, environmentally, and economically sustainable, ensuring the quality of life for future generations.
- b) Demonstrate new benchmarks in urban outcomes and quality lifestyles.
- c) Be characterised by garden village precincts and rural living environments.
- d) Reflect the site's unique identity while building on its connection with Penrith City and the wider Region.
- e) Be characterised by innovation, accessibility, connectivity, sustainability, and diversity, celebrating the natural and cultural heritage of the area.

#### Objectives

- f) To provide a clear planning framework for development of the subject lands.
- g) To ensure that the most efficient use of urban zoned land is achieved.
- h) To ensure development meets sound environmental planning practices and standards.
- i) To encourage development that satisfies ecologically sustainable design principles.
- j) To protect the environmental heritage of the area.
- k) To utilise and enhance the area's natural character of the lands to provide opportunities for a unique community identity.

- l) To promote sustainable building forms.
- m) To facilitate the provision of diverse housing forms reflecting the increasingly diverse profile of Penrith's communities.
- n) To facilitate increased dwelling densities in areas of the highest amenity and accessibility.
- o) To integrate all modes of transport to ensure there are efficient links within and between open spaces, neighbourhood centre and adjacent residential areas and services.
- p) To protect and enhance watercourses as natural systems, riparian corridors and biological linkages.

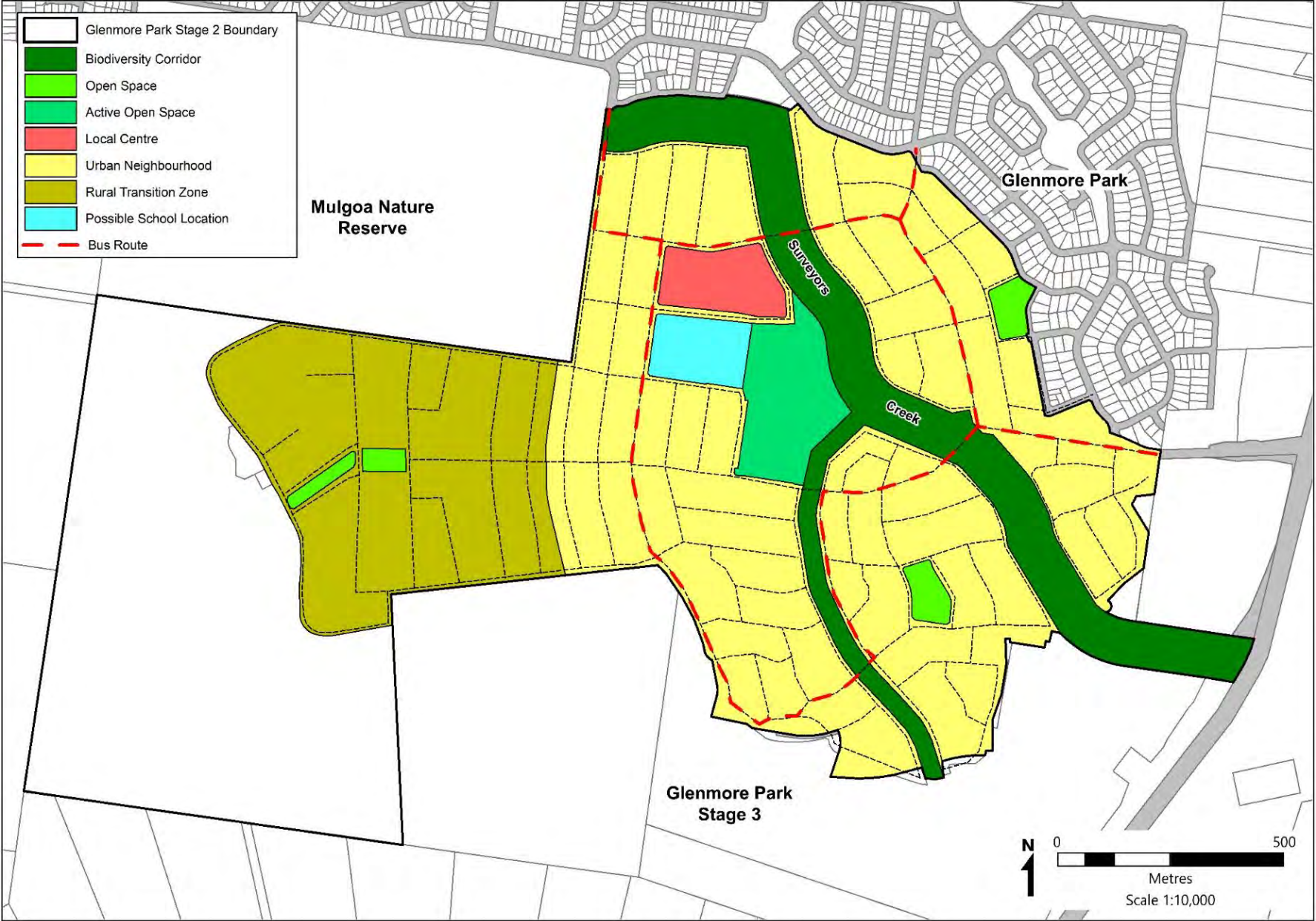
## **2.2 Urban Structure**

- a) The principal land use within Glenmore Park Stage 2 will be residential. The residential areas will straddle either side of a lineal open space network represented as a riparian corridor that is centred on and conserves Surveyors Creek.
- b) A neighbourhood centre, active open space and primary school, are centrally located to provide a focal point for the new community.
- c) Vehicle access will be provided via Bradley Street and a loop collector road will represent the primary organising element of the road network.
- d) The loop road enables a legible road hierarchy to permeate throughout the subject lands.
- e) Two additional road connections through to the existing Glenmore Park suburb will also be provided at the northern edge of the release area.
- f) Active and passive open spaces will be distributed throughout the urban area, building on existing natural assets and providing a coordinated and integrated network throughout the release area.
- g) Higher density forms of housing will be provided along corridor edges, around the Neighbourhood Centre, in good proximity to public transport routes and adjacent to active and passive open spaces

- h) Residential areas in the west of the release area will provide larger lots that provide a transition between urban areas and the surrounding rural landscape.
- i) Glenmore Park Stage 2 Structure Plan establishes the structure and form for the planning and future development of the subject lands. This Plan is illustrated at Figure 14 with the main elements being described and expanded upon in more detail in Section 7.4.3 Public Domain of this Section.

DRAFT

**Figure 2: Glenmore Park Stage 2 Structure Plan**



## 2.3 Dwelling yield

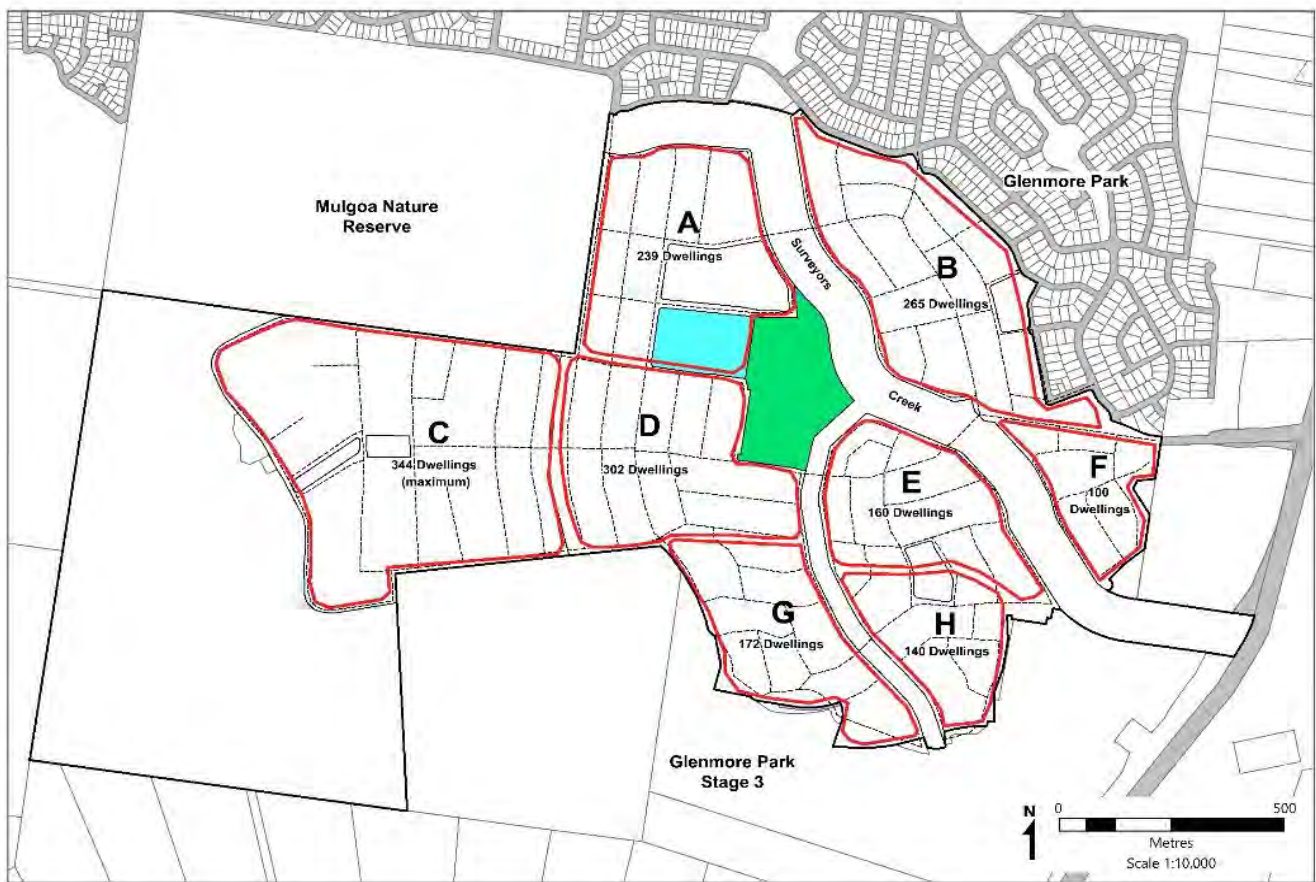
### Objectives

- a) To achieve ensure efficient use of zoned land and required infrastructure is achieved
- b) To sustain services and facilities required for diverse urban communities, including public transport.
- c) To promote a diverse range of housing types which will accommodate a wide demographic profile.
- d) To promote affordable housing opportunities.
- e) To achieve a dwelling density of 15 dwellings per hectare over the Net Developable Area.

### Controls

1. A minimum of 1,628 dwellings is delivered across the entire release area.
2. Precincts as identified at Figure 3 are to deliver the dwelling yield indicated. All dwelling numbers identified at Figure 3 are minimum targets except Precinct C which provides a maximum dwelling target.
3. As subdivision of a precinct occurs a mechanism (such as Section 88B instrument) will accompany the subdivision plan and will identify individual lots for future accommodation of single dwellings, dual occupancies, terraces, apartments, etc. inclusive of the number of dwellings that each lot will deliver.
4. Any creation of 'super lots' and residue parcels will specify the minimum dwelling yield that those lots will be required to deliver. This may be achieved by way of a Section 88B instrument or other mechanism as agreed.
5. Council may require a detailed demonstration that proposed yields for lots are able to be suitably met as part of a Development Application.

**Figure 3: Dwelling Yield**



## 2.4 Diversity

### Objectives

- a) To promote diverse housing forms that meet the increasingly diverse demands of the local community.
- b) To ensure affordable housing strategies for the release area are achieved.

### Performance Measures

These objectives may be achieved where diverse housing forms are provided within precincts and across the overall development area.

### Controls

1. Development achieves indicative housing type numbers identified for each precinct at Table 1.

**Table 1: Dwelling diversity**

Precinct	Apartments and Studios	Terraces/Live-Works and Semi-Detached	Built to Boundary	Detached	Precinct Total
A	50	33	56	100	239
B	15	20	70	160	265
C	0	30	0	314	344
D	25	40	97	140	302
E	25	40	30	65	160
F	4	20	30	46	100
G	4	21	45	102	172
H	4	18	40	78	140
Total	127	222	368	1,005	1,722
% of Total	7.4	12.9	21.3	58.4	100

**Note:** Representations of these dwelling types are provided at Section 5- Typical Development Forms of this chapter.

## 3. Public Domain

### 3.1 Responding to the site's natural features

#### 3.1.1 Corridors

##### Objectives

- a) To conserve biodiversity by providing linkages between significant natural vegetation units within the City.
- b) To ensure that important natural features inform the urban structure of the place.
- c) To provide high amenity areas for residents.

- d) To protect, restore and enhance the environmental values and functions of watercourses and riparian corridors along Surveyors Creek and the western tributary of Surveyors Creek.

## **Performance Measures**

These objectives may be achieved where:

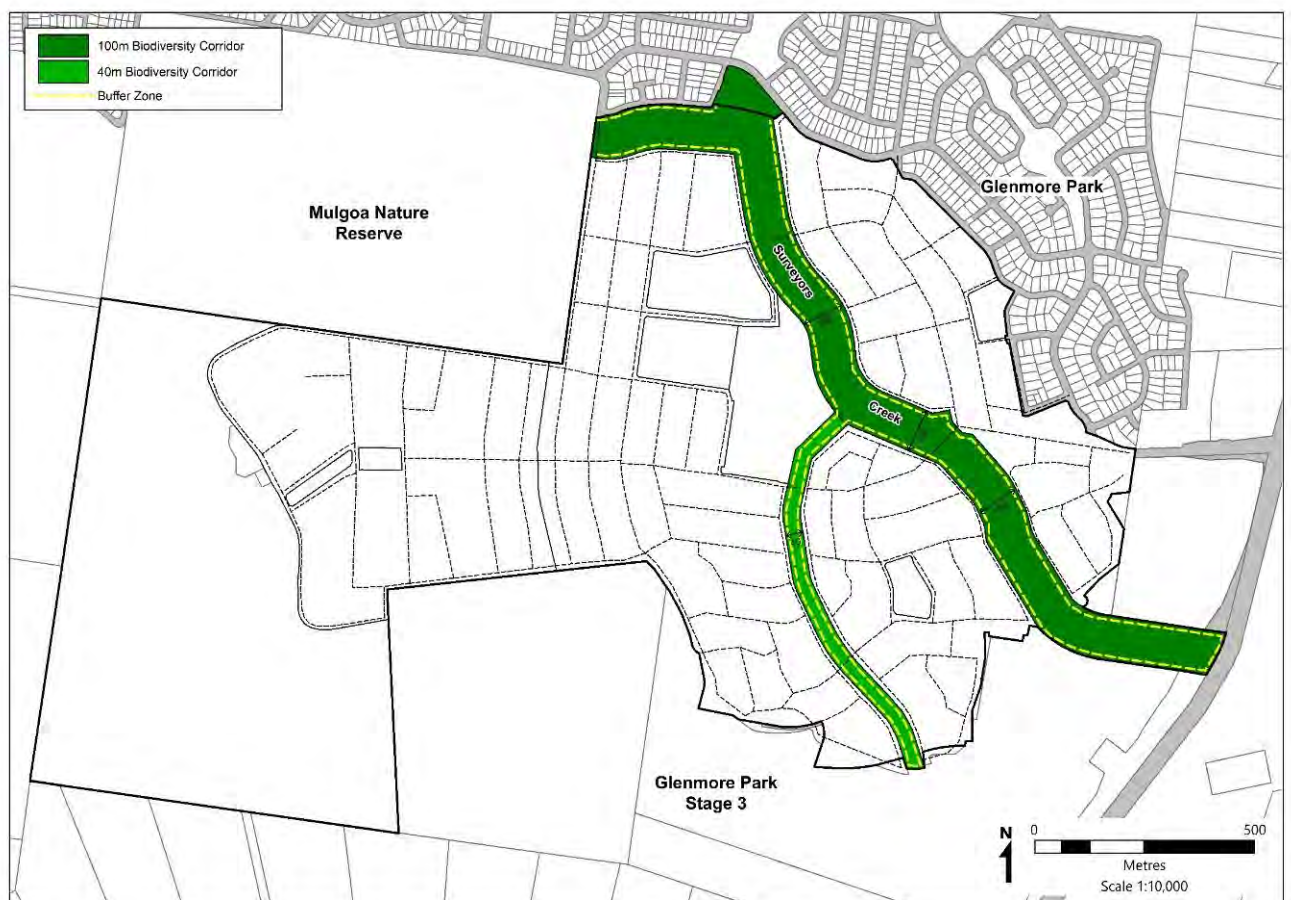
- a) The natural drainage lines of Surveyors Creek and its western tributary are conserved as healthy and naturally functioning riparian corridors.
- b) Existing healthy remnant vegetation is retained within those corridors.
- c) Significant revegetation of the riparian corridors occurs as part of development.
- d) The corridors and other topographical features are represented as special places within the urban form.
- e) The design of the bridging structures over the corridor ensure the following:
  - i. Use of open piered bridge structures.
  - ii. 1% AEP flood conveyance.
  - iii. Flora and fauna connectivity.
  - iv. Scour protection.
  - v. Light penetration beneath structure.
- f) A Corridor Management Plan that identifies how the corridor will be established is prepared developed and implemented on site as part of its development.

## **Controls**

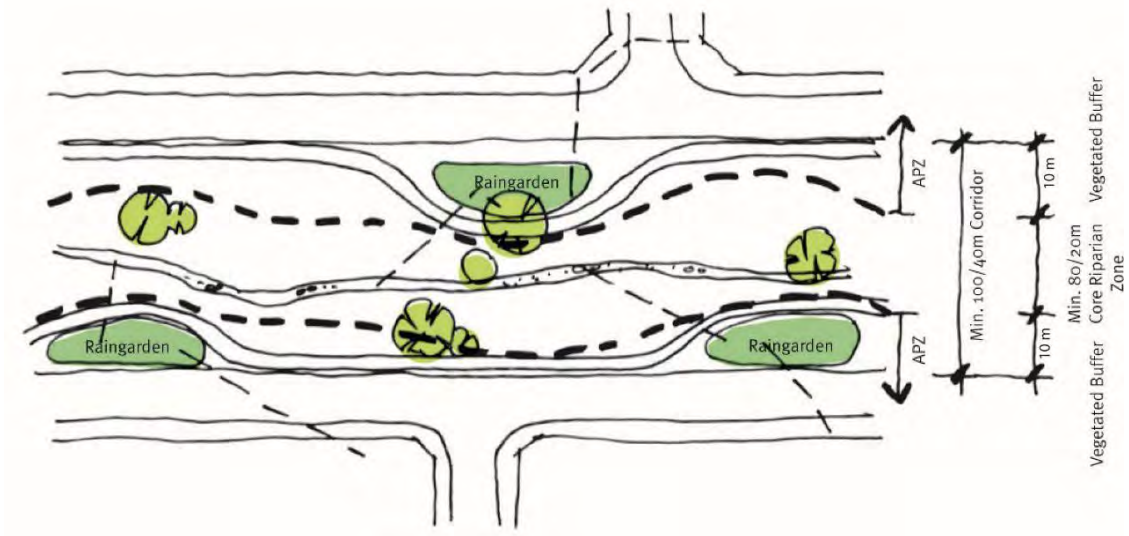
1. A minimum corridor width of 100m is provided along the Surveyors Creek Corridor with an 80m Core Riparian Zone.
2. A minimum corridor width of 40m with 20m Core Riparian Zone is provided along the western tributary of Surveyors Creek.
3. The profile of the riparian corridors is consistent with that represented at Figures 5 and 6.

4. Riparian corridors are to be fully vegetated and provided in accordance with Figures 4, 5 and 6.
5. A Vegetation Management Plan must be prepared for the rehabilitation of the riparian corridors in Glenmore Park Stage 2 in accordance with the Department of Climate Change, Energy, the Environment and Water guidelines.
6. All remnant vegetation within the riparian corridors must be protected and rehabilitated.
7. All riparian corridors are to be vegetated with appropriate local native vegetation (i.e. fully structured trees, shrubs and groundcovers) at a density that would occur naturally.
8. An open and low perimeter fence or low bollard type barrier is to be provided along the entire perimeter of the riparian corridors to prevent inadvertent damage to riparian corridors.

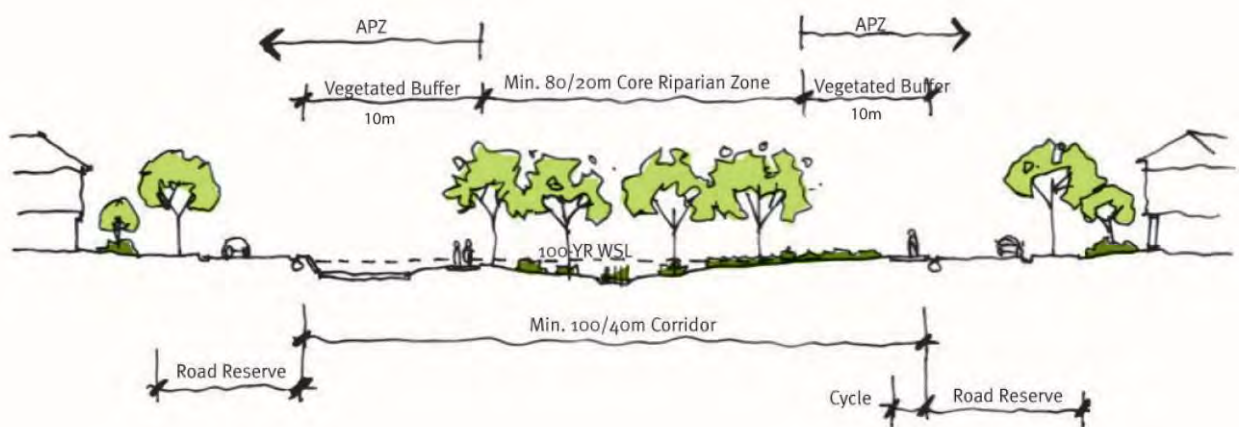
**Figure 4: Corridor width plan**



**Figure 5: Corridor profile plan**



**Figure 6: Corridor profile section**



### **3.1.2 Bushfire hazard management**

#### **Objectives**

- a) To manage the risk to life and property assets from bushfire events while ensuring that the natural environment including riparian corridors are protected and enhanced.

#### **Performance measures**

The objectives may be achieved where:

- a) Asset Protection Zones (APZs) of a scale and type suitable to the NSW Rural Fire Service are provided between all built forms and adjacent bushland units.
- b) APZ may incorporate the building setback of the adjoining built forms.

#### **Controls**

1. A minimum of 50m of the 100m wide corridor connection to the Mulgoa Nature Reserve is to be kept clear of vegetation that might promote the eastward spread of fire within the Reserve.

### **3.1.3 Water management**

#### **Objectives**

- a) To ensure Mulgoa Creek and Surveyors Creek are able to function as healthy, natural riparian corridors.
- b) To maintain the stability and integrity of the finished creek profile.
- c) To ensure the quality of water leaving the urban areas does not adversely impact upon the health of Mulgoa Creek and Surveyors Creek.
- d) To reduce the volume of stormwater run-off from the site.
- e) To ensure stormwater runoff is adequately treated before it enters the riparian corridors.

#### **Performance measures**

These objectives may be achieved where:

- a) Trunk drainage works are provided as an initial stage of development of the release area.
- b) Stability within the watercourses prevents bank erosion.
- c) The stormwater management regime provides a treatment trains including pit inserts, bio- retention swales and rain-gardens to improve the quality of urban runoff before it enters the creek channels.
- d) The active playing fields, school site and neighbourhood centre incorporate on-site water quality treatment devices as part of their development.
- e) Separate Stormwater Management Plans for both the Mulgoa Creek and Surveyors 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.

## **Controls**

1. Achieve Council's downstream water quality objectives and measures in accordance with the Water Management section within the Environmental Management Chapter of Penrith DCP.

### **3.1.4 Flood Management**

#### **Objectives**

- a) To manage the risk to life and property assets from flooding events.
- b) To allow the riparian corridor to function as a naturally occurring waterway.
- c) To manage most flood waters within the site.

#### **Performance measures**

These objectives may be achieved where:

- a) Appropriate areas of land are provided outside the Core Riparian Zone for detention and storage of flood waters and may only be located within the vegetated buffer if no alternative location outside the vegetated buffer can be found, the basins only occupy limited areas and the basins

can be designed in such a way that they will not reduce the function of the adjacent core riparian zone.

- b) Flood waters are managed within the riparian corridor.
- c) A Stormwater Management Plan for both the Mulgoa Creek and Surveyors Creek that identifies how the flood waters will be managed is prepared and implemented on site as part of its development.
- d) Refer to the flood liable provisions of the Water Management section within the Environmental Management Chapter of Penrith DCP for further details.

### **Controls**

1. Stormwater detention is provided to reduce 1 year ARI post development flows to pre development levels.
2. Stormwater events larger than the 1 year ARI will be managed within the existing Blue Hills Wetland.

### **3.1.5 Trees**

#### **Objectives**

- a) To protect and embellish local vegetation and habitat.
- b) To integrate significant trees within the landscape of the new urban area.

#### **Performance measures**

These objectives may be achieved where:

- a) Existing mature trees are conserved for their natural functions and aesthetic value.
- b) Open spaces are co-located with existing stands of significant trees.
- c) Significant trees located within developable areas are able to conserved on site as part of the landscaped area of future development.
- d) No disturbance to existing ground levels occurs within the drip line of existing significant trees.

- e) Existing native vegetation in riparian corridors will be protected and corridors revegetated to fully structured native vegetation communities to provide habitat and movement for flora and fauna species.

### **3.1.6 The Northern Road view shed**

#### **Objectives**

- a) To conserve the important local view shed from The Northern Road as identified at Figure 7.
- b) To ensure that development in Glenmore Park Stage 2 is not visible from The Northern Road.

#### **Performance measures**

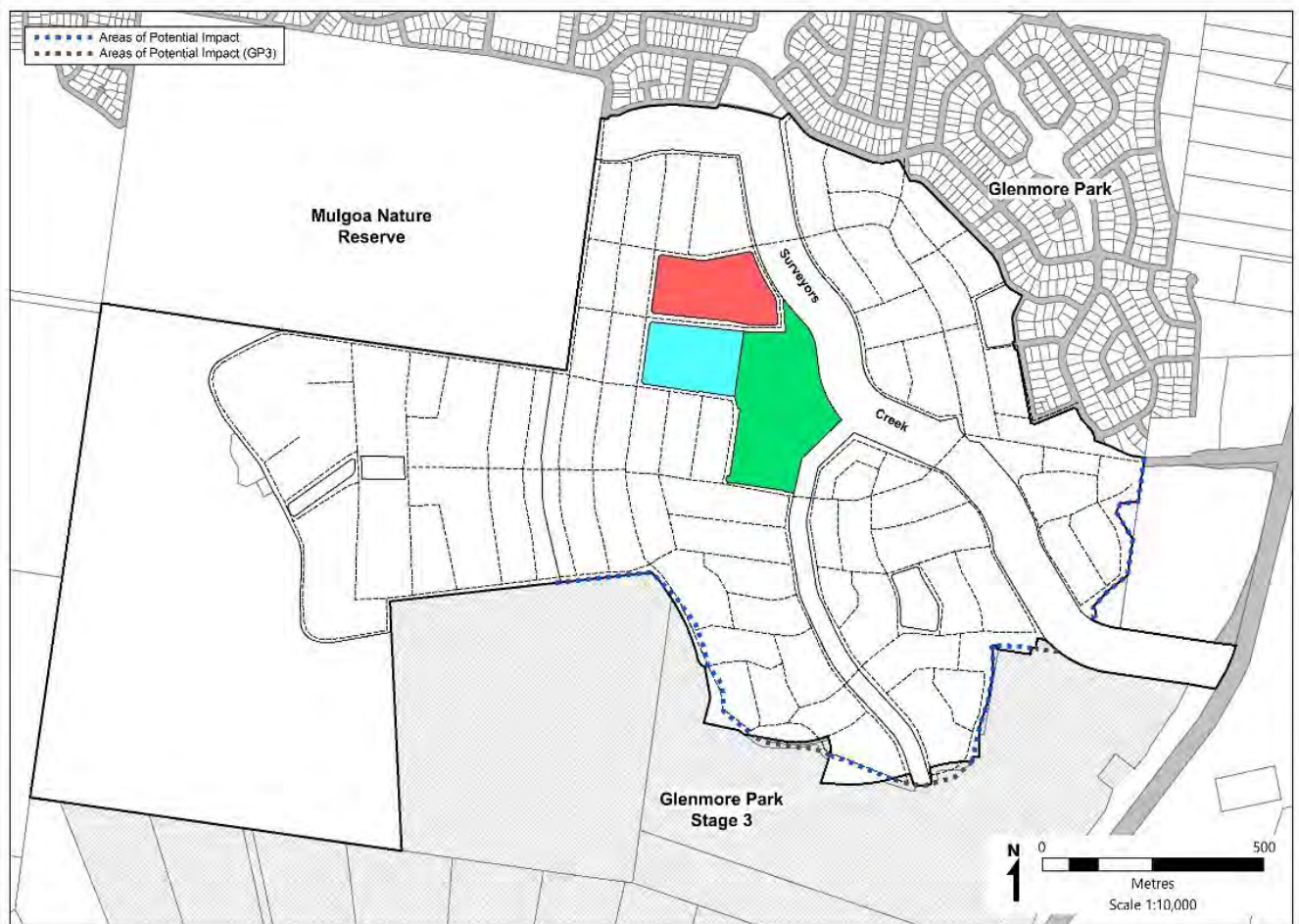
These objectives may be achieved where:

- a) Built forms (including outbuildings, fences and other structures) are located below the level of the ridge that extends along the southern and eastern perimeter of the site.
- b) Built forms do not adversely impact upon the existing rural landscape character as viewed from The Northern Road and its view shed.
- c) Urban infrastructure such as street lighting and other structures do not adversely impact upon the existing rural landscape character as viewed from The Northern Road and its view shed.

#### **Controls**

1. The roofline of dwellings and other buildings are to be located below the southern and eastern ridgeline when viewed from The Northern Road. This may be achieved through:
  - i. Benching of road reserves and building lots.
  - ii. Use of single storey dwelling construction along precinct edges.
2. Road reserves adjacent to the southern and eastern ridgeline are to be landscaped with local native species.
3. View-line analysis maps are to accompany each Precinct Concept Plan for Council's approval.

**Figure 7: Areas of potential views from The Northern Road**



## 3.2 Access and movement

### 3.2.1 Urban structure

#### 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.

## **Performance measures**

These objectives may be achieved where:

- 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 of mixed use and open space areas at focal points within convenient walking distance for residents.
- d) The vehicle, cyclists and pedestrian networks, land-use mix 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.

### **3.2.2 Vehicular movement**

#### **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.

#### **Performance measures**

These objectives may be achieved where:

- 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) A loop type internal collector road is provided as a defining element of the urban form and can accommodate bus movements. The route of this road is shown at Figure 8.
- c) The street network connects with adjacent collector routes and

neighbouring streets to maximise movement efficiency and social connection.

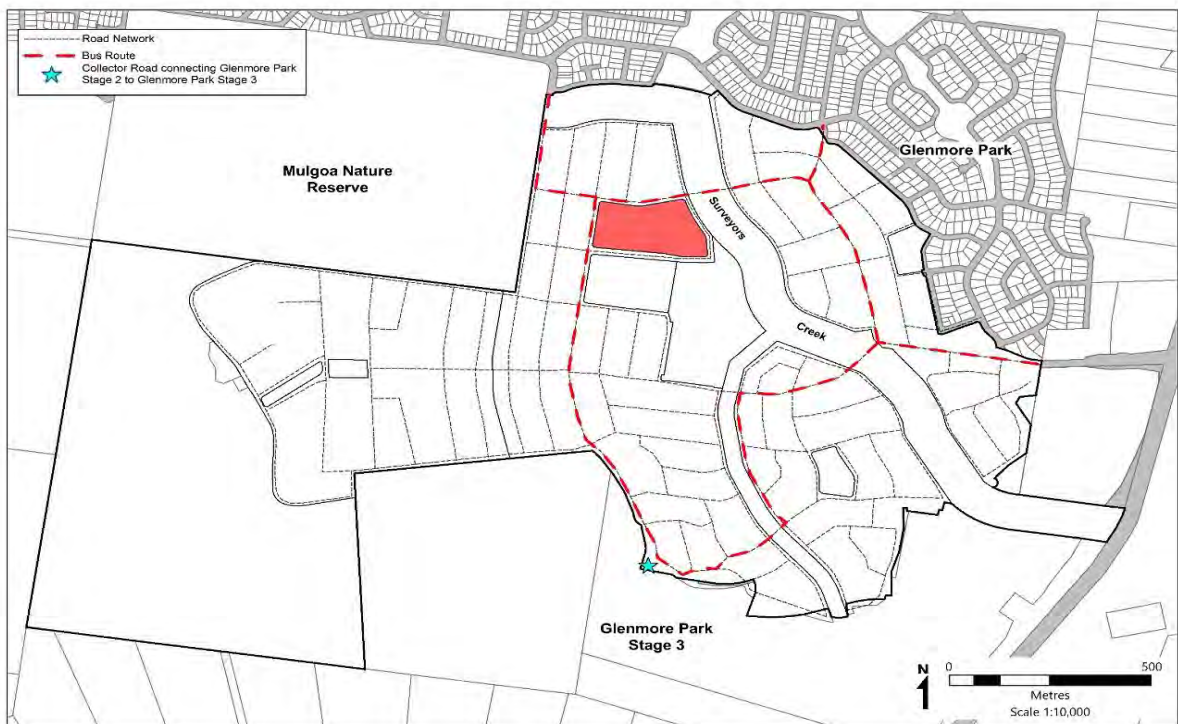
- d) 3 vehicular access points to adjoining areas will be provided at locations shown at Figure 18.
- e) The predominant local street pattern is an east-west axial grid that maximises quantity of lots with a north-south axis.
- f) The street network takes account of the topography and vegetation and respects any existing or potential site assets.
- g) The street network allows all development to address the street.
- h) Rear lanes assist in reducing potential pedestrian and vehicle conflicts within the broader road network.

DRAFT

## Controls

1. Street blocks have a maximum length of 300m and a maximum depth of 90m.
2. Cul-de-sacs are discouraged, however where their use is justified, will have a maximum length of 60m and only be used to improve the lot efficiency of deep or odd shaped street blocks and will always have their head located away from dominant movement direction.

**Figure 8: Road Network**



### 3.2.3 Public transport

#### 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.

## **Performance measures**

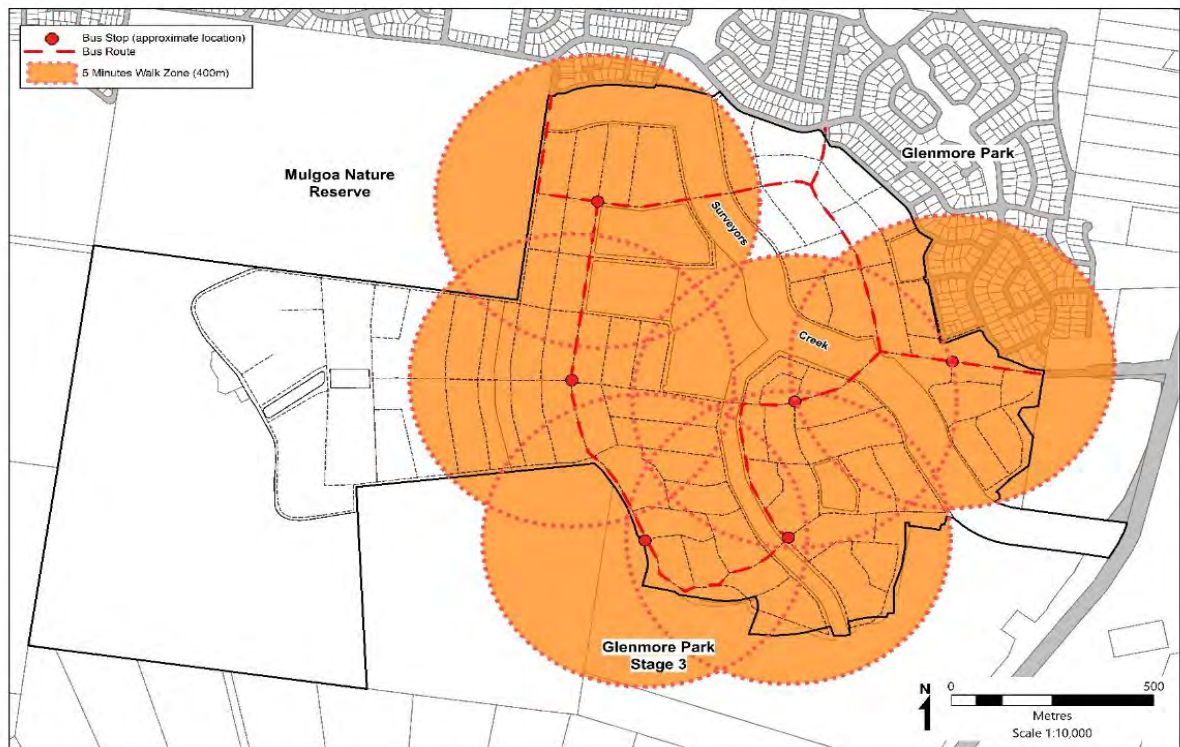
These objectives may be achieved where:

- a) The bus route facilitates connections between Precincts, the existing Glenmore Park estate and key facilities within the subject lands, local facilities and the Penrith CBD.
- b) A 10% modal shift from private vehicle to active and public transport modes is reached or exceeded.
- c) Bus routes and sheltered bus stops are designed, constructed and clearly marked.
- d) The planning principles for public transport are shown at Figure 9 are delivered as part of the development.
- e) The early delivery of bus services as the community grows.

## **Controls**

1. All dwellings within the Surveyors Creek catchment are within 400m distance from the designated bus route.
2. The bus route will be designed and constructed in accordance with the road profiles identified at Section 3.3.3 Road Sections of this Part.

**Figure 9: Public Transport Principles**



### 3.2.4 Pedestrians and bicycles

#### Objectives

- a) To promote active transport options by providing safe and convenient routes to and from key focal points within the release area and to the existing Glenmore Park estate.
- 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.

#### Performance measures

These objectives may be achieved where:

- 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 10.

- 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) When provided within the street network, development that adjoins the shared pathway will generally provide vehicle access from rear lanes.
- f) Pathways are designed and constructed wherever possible and practical to be of appropriate width, longitudinal gradient and sight distance.
- g) 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.
- h) Street landscaping is provided to enhance the appearance of the street and pedestrian environment, including providing protection from the sun.
- i) A primary pathway network is designed, constructed and clearly marked in accordance with Figure 11, and with appropriate connections to existing Glenmore Park.
- j) Bicycle racks are provided as part of all developments that attract significant public patronage.
- k) Pedestrian paths and cycleways that are located within the riparian corridor must be in accordance with the Department of Water and Energy's 'Design and Construction of Paths, Cycleways and Accessways along Watercourses and Riparian Area Guideline 2007'.

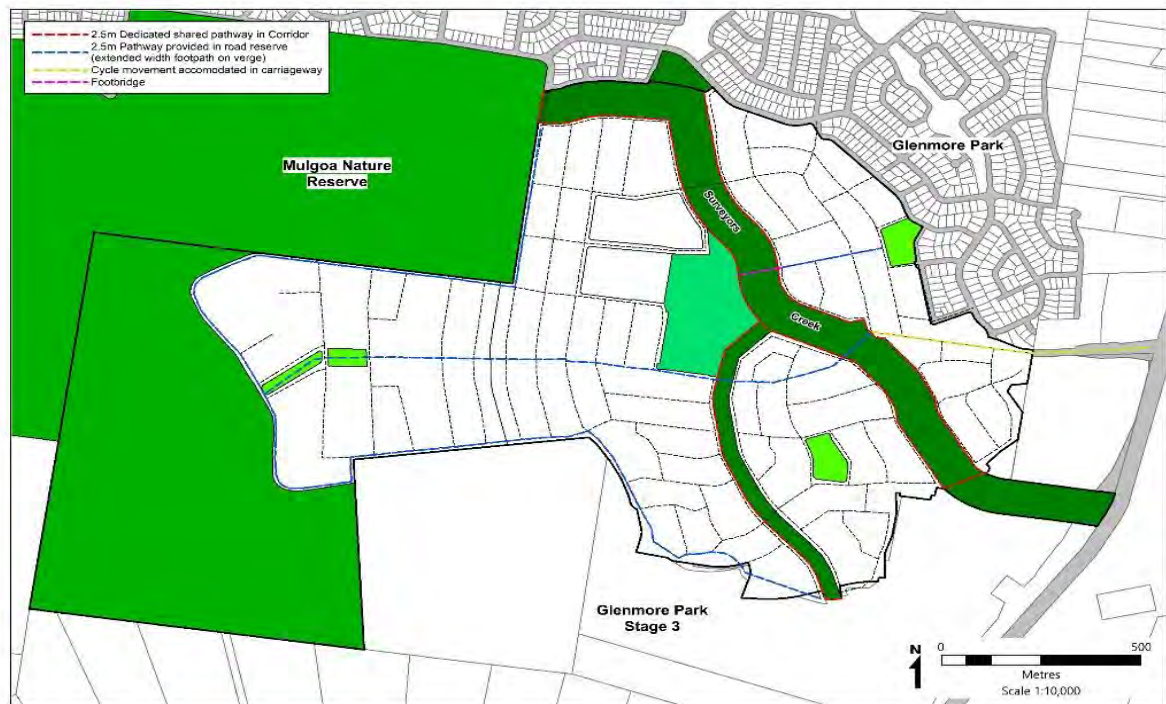
## **Controls**

1. The minimum width for footpaths provided as part of a road reserve is 1.2m.
2. Pathways on the collector roads and Bradley Street will be a minimum of 1.5m.
3. Pathways that form part of the open space network are a minimum of 2.5m.
4. Where the pathway aligns with the street network, as identified at Figure 10, 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 3.3.3 Road Sections, to ensure a 2.5m pathway can be provided.

5. Footpaths are to be provided to both sides of all roads (except Bradley Street Entry Area where a footpath is required only on the northern side).

**Figure 10: Pedestrian and cycle network**



## Streetscapes

### 3.3.1 Landscape character

#### 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 is appropriate to the character and constraints of each locality.

## **Performance measures**

These objectives may be achieved where:

- a) The release area landscape includes streets lined with tall tree species.
- b) Landscaping is provided to create a character that is distinct to each Precinct.
- c) Streets are designed to establish or enhance the unique character of the precinct by responding to its topography, desirable views or local features.
- d) Street vistas are terminated with views to open spaces, parks and the Blue Mountains, where possible.
- e) 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 within the carriageway and/or verge.
- f) Boundaries between street verges and private front yards are clearly defined and houses are designed to encourage passive surveillance.
- g) Landscaping helps define boundaries, create continuity and provide shade.
- h) Water sensitive urban design elements are integrated into street verges, where possible.
- i) On-street parking is provided at a rate appropriate to the anticipated demand while ensuring the landscape character and street function is not compromised.
- j) Design details such as footpath and driveway cross-overs are uniformly applied to make the street character more consistent.

- k) Street signage is designed to be complementary to the overall streetscape design and character and signage clutter is avoided.

## **Controls**

1. Street trees are provided at a rate of one tree for every 10m of site frontage.
2. Street trees are provided at minimum size of 75 litres and fitted with tree guards.
3. Species selection is appropriate to the character and constraints of the locality.
4. Footpath verges are increased adjacent lots which have building setbacks less than 4.5m and where large street tree planting is proposed.

### **3.3.2 Street furniture and public art**

#### **Objectives**

- a) To visually define and promote attractive public spaces.
- b) To enhance public spaces so that they are vibrant, safe and welcoming.
- c) To create a sense of identity for the area by building distinctive places which reflect cultural diversity and local heritage and illuminate contemporary significance and meaning.
- d) To facilitate cultural identity through art and design in public places, with the engagement of the local community.

#### **Performance measures**

- a) Public art is used to define entry ways to the new release area.
- b) Public art is provided throughout key public domain areas.
- c) Public art may be freestanding art objects or works integrated into building facades, other built edges, and landscaping adjoining public spaces.
- d) Street furniture maximises pedestrian comfort, convenience and amenity.
- e) Street furniture forms an integrated element of the streetscape.
- f) Street furniture is integrated into the design of all public spaces and

includes:

- i. Seats.
  - ii. Litter bins.
  - iii. Drinking fountains.
  - iv. Lighting.
  - v. Street and information signs.
  - vi. Bicycle racks.
  - vii. Planter boxes.
  - viii. Other items suitable to the function of each public space.
- g) Street furniture throughout precincts should be consistent in design and style.
- h) Street furniture is to be located so as not to impede mobility, in accordance with AS1428:1-4.
- i) Location and detailing of all proposed street furniture and public art is indicated on Landscape Plans submitted with Development Applications.

### **3.3.3 Road sections**

#### **Objectives**

- a) To provide a safe and efficient movement network for all users.
- b) To encourage responsible driving behaviour, particularly low travel speeds on residential streets.
- c) To cater for the efficient provision of public utilities.
- d) To incorporate the natural features of the site including the movement of stormwater, existing and new trees.

#### **Performance measures**

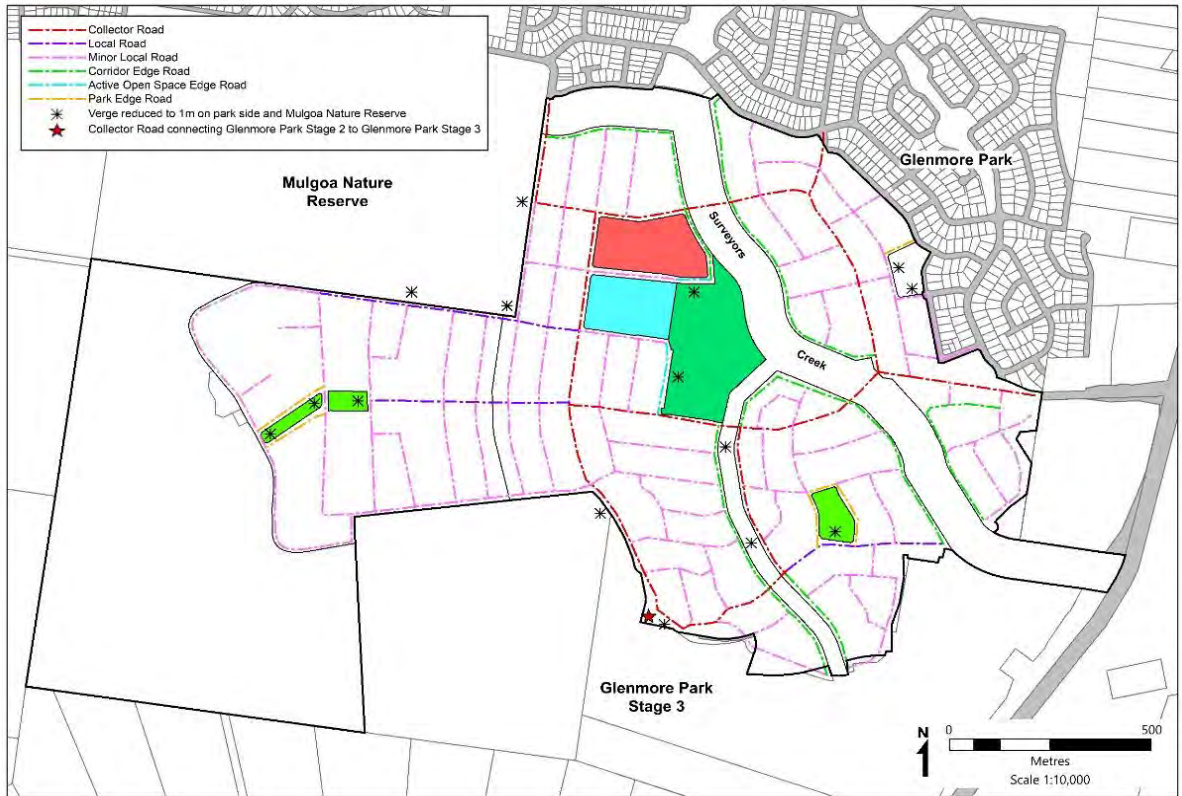
These objectives may be achieved where:

- 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) Kerb radii at intersections and junctions are kept to a minimum, subject to satisfying required turning templates, to keep pedestrian crossing distances to a minimum, to control the speed of turning vehicles and to reduce the visual impact of large junctions.
- h) Speed control devices are provided to achieve target speeds.
- i) Any speed control devices, inclusive of road narrowing, are to be designed to take into account the needs of cyclists.
- j) Varying degrees, relative to the road hierarchy, of delays or the need for driver co-operation due to vehicles parking on local roads is an acceptable, traffic calming outcome.
- k) Upright kerbs are used throughout the suburb.
- l) Development occurs in accordance with the road hierarchy demonstrated at Figure 11.

### **Figure 11: Road hierarchy**



### 3.3.3.1 Bradley Street

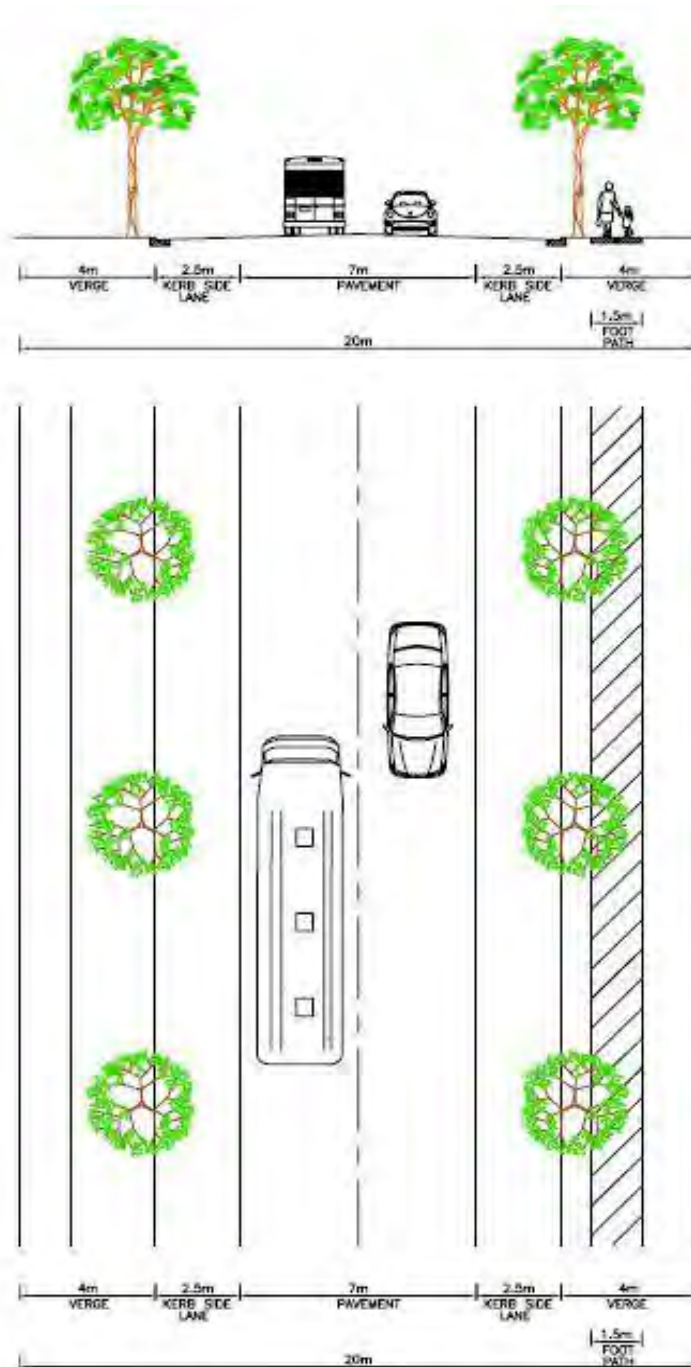
#### Performance Measures

- a) Provides an entry statement to the release area.
- b) Where the topography allows, the road reserve provides water treatment swales rather than kerb and gutter.
- c) All development directly addresses the road.
- d) Direct vehicular access to development occurs only where topography and site distances allow.
- e) Provides for dedicated cycle lane on carriageway.
- f) The configuration of Bradley Street within the Urban Area – specifically the width of the kerb side lanes, can be adjusted to suit alternate access arrangements, such as services roads or areas where access is denied or not required.

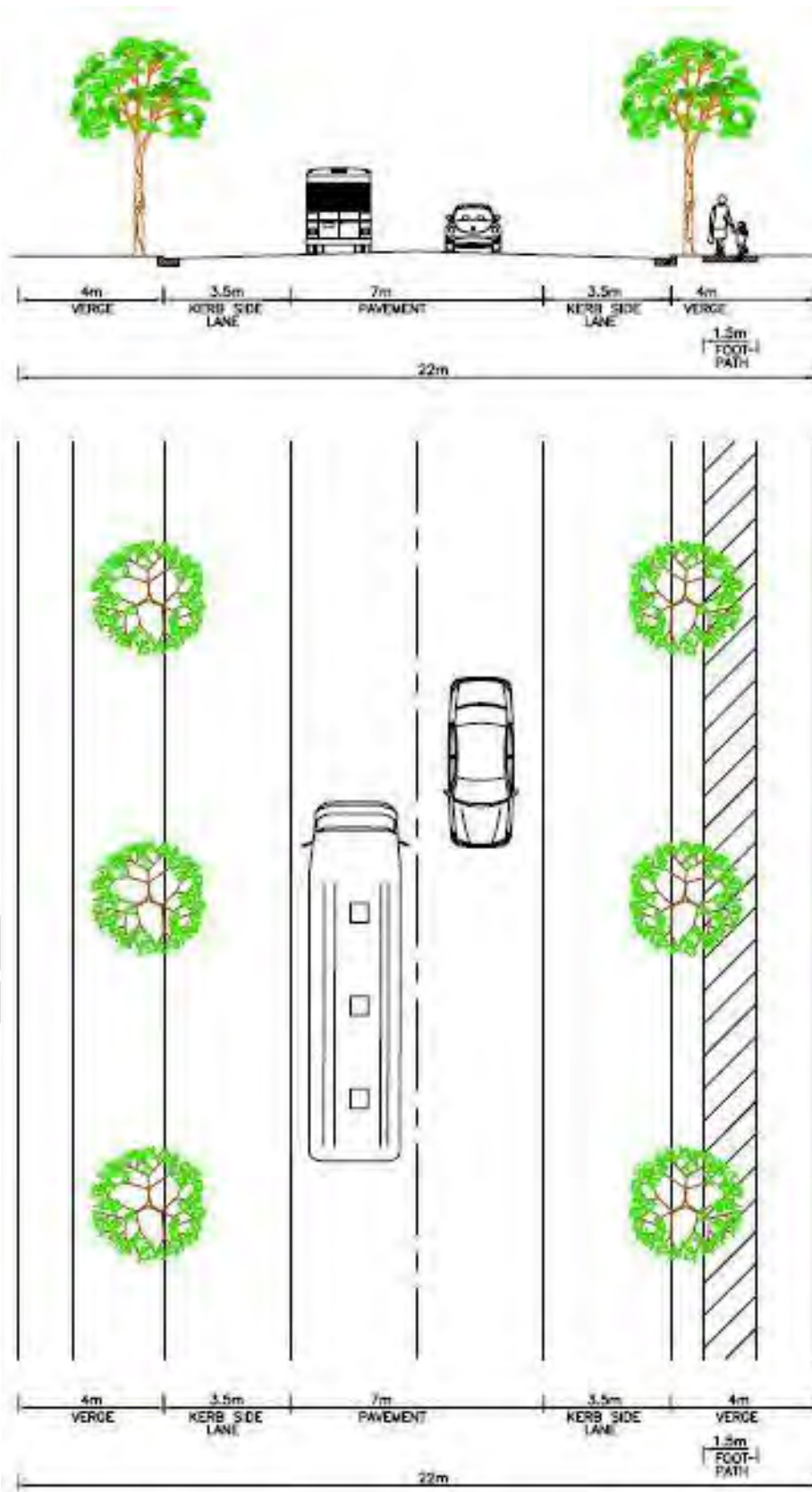
## Controls

1. Bradley Street entry area is constructed in accordance with dimensions identified at Figure 12.
2. Bradley Street urban area is constructed in accordance with dimensions identified at Figure 13.

**Figure 12: Bradley Street – Entry Area**



**Figure 13: Bradley Street – Urban Area**



### 3.3.3.2 Collector Roads

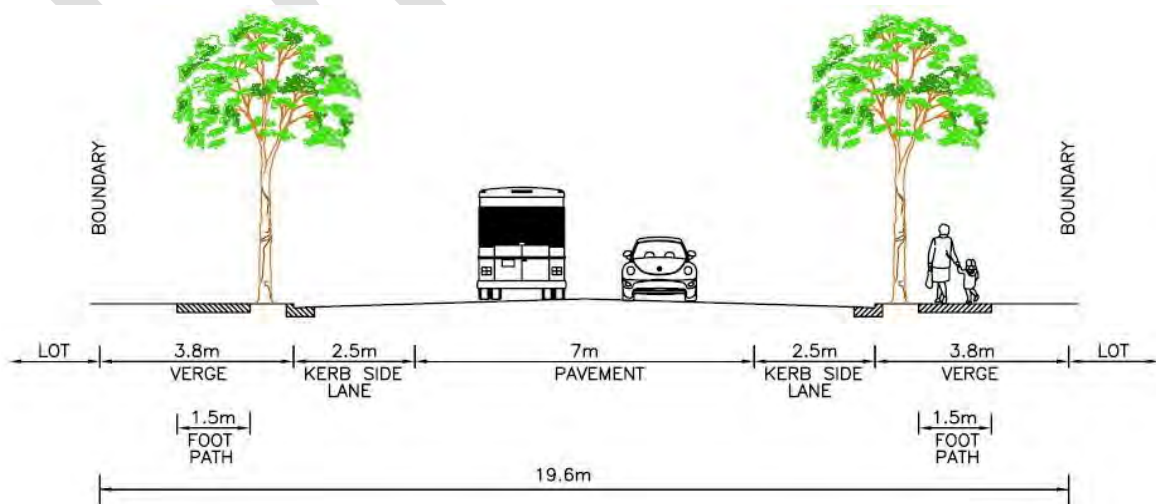
#### Performance Measures

- a) Provide high accessibility for all road users throughout the release area.
- b) Exhibit an urban landscape character.
- c) Have a clear lane width able to handle local bus services.
- d) Are of a scale consistent with the higher order role these roads will play in the overall movement network the release area.
- e) Integrate footpaths and establish pedestrian amenity that reflect the linking role these streets will play in the urban fabric.
- f) Be designed to provide safe pedestrian crossing points and lighting in accordance with the relevant Australian Standard.
- g) Are able to comfortably accommodate the co-location of bus shelters and pathways.

#### Controls

1. Collector Streets are constructed in accordance with Figure 14.
2. Widening of road may be required where topographical or road curve circumstances dictate.

**Figure 14: Collector Road**



### 3.3.3.3 Local Roads

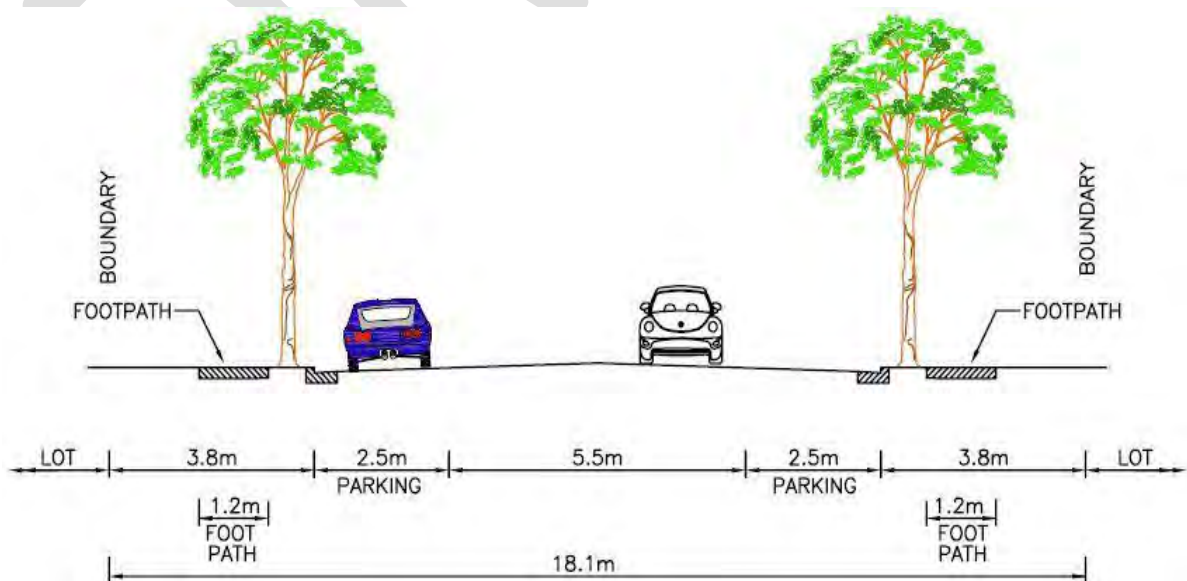
#### Performance Measures

- a) Provide high levels of accessibility between the loop road and adjoining precincts.
- b) Roads are designed to allow a reasonable free flow of traffic at lower speeds.
- c) Occasional, minor delays or the need for driver co-operation due to vehicles parking on local roads is an acceptable, traffic calming outcome.
- d) Speed controls are provided as integrated element of the streetscape.
- e) Comfortably accommodate informal on-street parking.

#### Controls

1. Streets are constructed in accordance with the dimensions identified at Figure 15.
2. Widening of road may be required where topographical or road curve circumstances dictate.

**Figure 15: Local Road**



### 3.3.3.4 Minor Local Roads

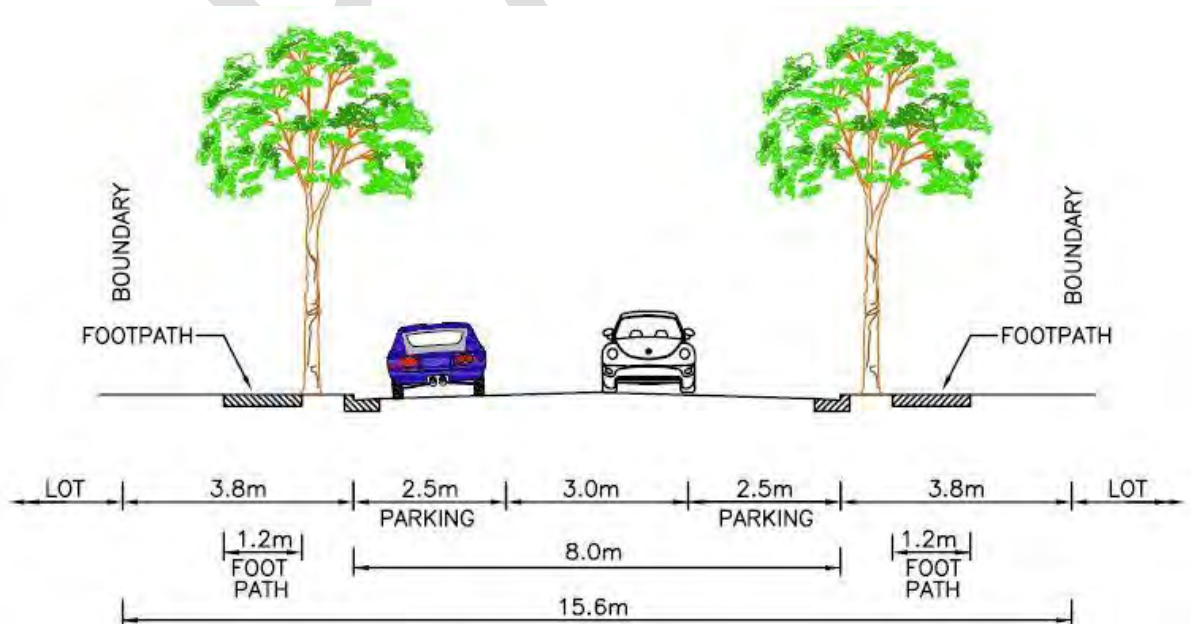
#### Performance Measures

- Provide limited vehicle access for through traffic looking to access or exit the local road network.
- Regular, minor delays or the need for driver co-operation due to vehicles parking on local roads are an acceptable, traffic calming outcome.
- Maintaining high levels of permeability for non-vehicle road users.
- Roads are designed to ensure a low speed traffic environment.
- Informal on street parking constrains traffic movement.

#### Controls

- Streets are constructed in accordance with the dimensions identified at Figure 16.
- Widening of road may be required where topographical or road curve circumstances dictate.

**Figure 16: Minor Local Road**



### 3.3.3.5 Laneways

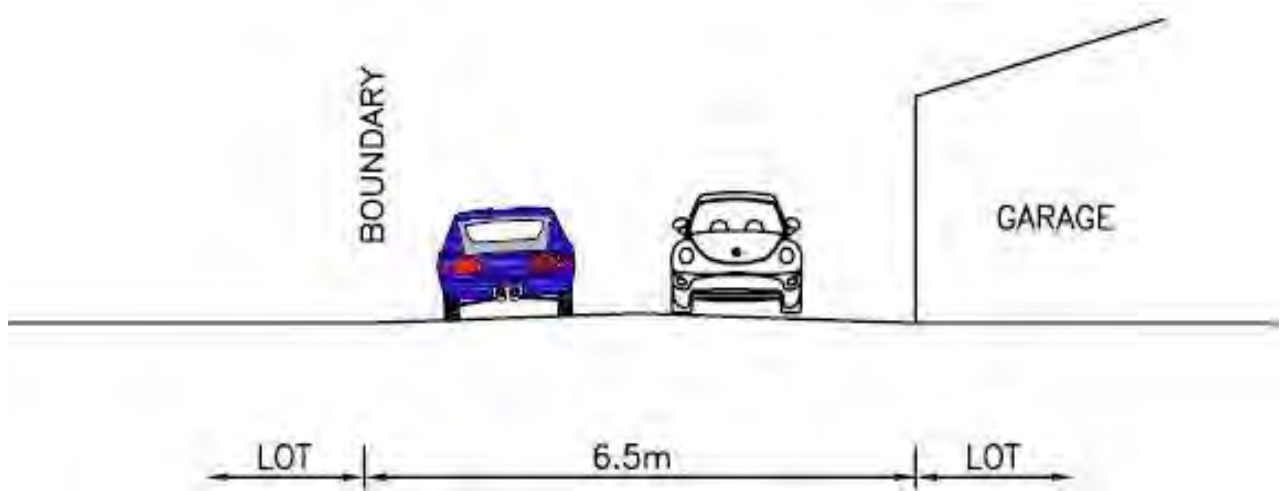
#### Performance Measures

- a) Laneways 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) Laneways provide distinctive plantings at lane entry areas.

#### Controls

1. Streets are constructed in accordance with the dimensions identified at Figure 17.
2. Widening of road may be required where topographical or road curve circumstances dictate.
3. The road design seeks to provide a maximum speed of 15 km/h.

**Figure 17: Laneways**



## 3.4 Open spaces

### 3.4.1 Active open space

#### Objectives

- a) To provide for the active recreational needs of the local community.
- b) To provide multipurpose sporting and recreational activities that reflects seasonal demands.
- c) To provide a central neighbourhood place for community activities and gatherings.
- d) To provide the focus of interconnected high amenity landscaped environment.
- e) To encourage an active lifestyle for residents.

#### Performance Measures

These objectives may be achieved where:

- a) An active open space area is provided in accordance with the Figure 18.
- b) The open space provides a diverse range of active and sporting facilities.
- c) Active playing areas are provided with facilities and infrastructure to

support various sporting events, including amenities for spectators.

d) Active playing areas are differentiated as separate places by plantings, paths and other landscape elements.

e) Pathways provide:

i. Connection between the site and the broader pedestrian and bicycle network.

ii. Spectator access to and around the playing fields.

iii. Connection to the neighbourhood centre and primary school.

f) Adjacent buildings provide passive surveillance of the park area.

g) No back fences of development are to face public open space.

h) Parking is provided both as a central parking lot and parking bays on the streets around the park.

i) Large trees are provided around the perimeter of the park to enclose the space.

j) The park is provided with an open and low fence or bollard type barrier along its perimeter.

k) The park either provides or is co-located with the following facilities

i. Large children playground.

ii. BBQ + Picnic facilities.

iii. Shade and seating structures.

within or adjacent the riparian zone, but only within the vegetated buffer if no alternative location outside the vegetated buffer can be found, they only occupy limited areas, and they can be designed to not reduce the function of the adjacent core riparian zone.

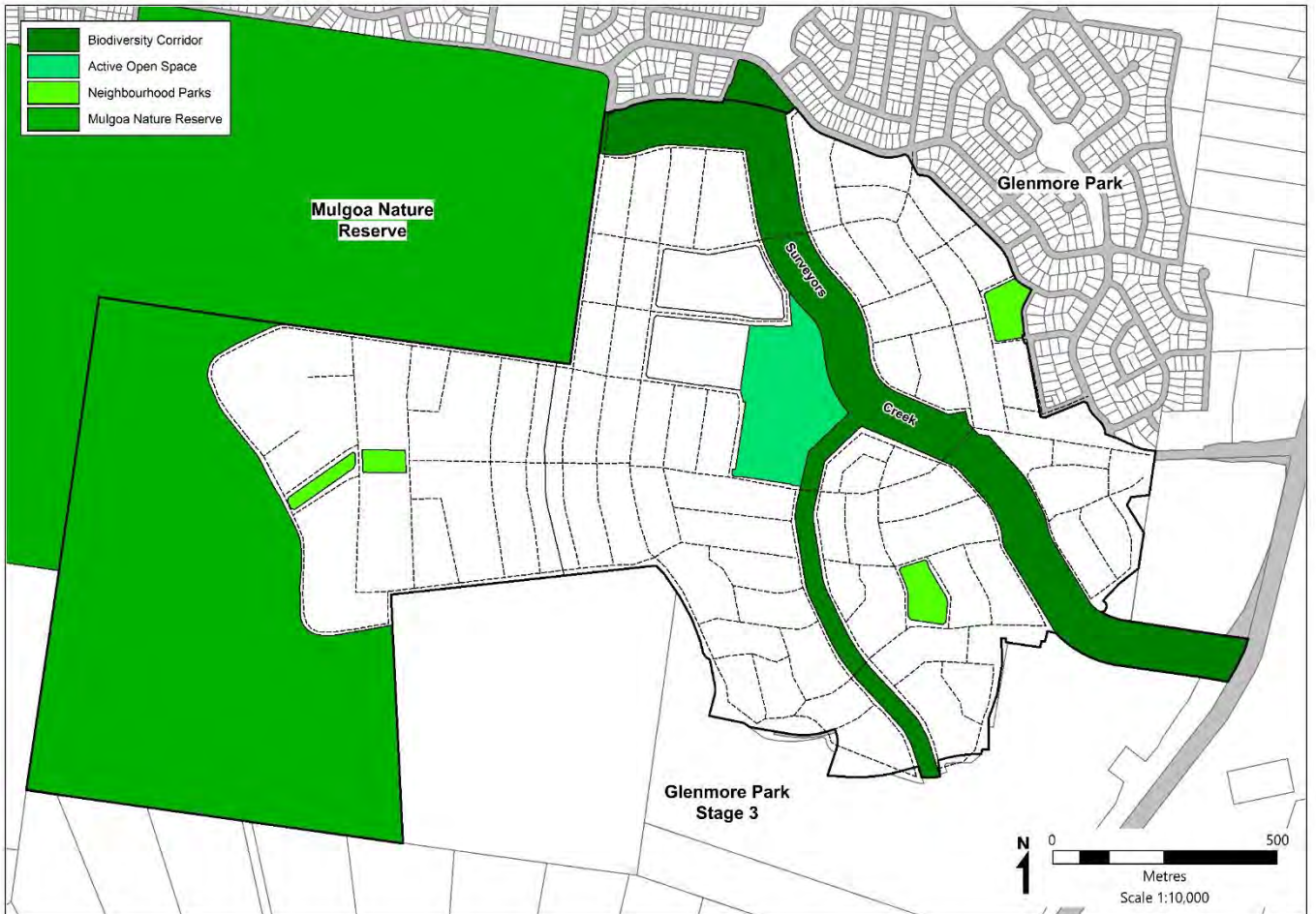
l) The indicative layout of the open space areas is shown on Figure 19.

## Controls

1. A minimum area of 6.9 hectares is to be provided for active open space in a single location and configuration that can accommodate all identified uses.
2. Minimum Sporting facilities are to include:
  - i. Two Rugby League fields capable of use for cricket in summer cricket.
  - ii. A multi-purpose Little Athletics and AFL field.
  - iii. Two long jump pits.
  - iv. One discus and shot put cage with associated throw space.
  - v. All active areas are provided with training lights.
  - vi. Playing fields are provided on a north-south axis.
  - vii. Safe and functional spectator seating and standing areas adjacent to the playing on their east and west sides.
  - viii. A centrally metered irrigation system for the playing fields.
  - ix. Shade structures for spectators.
3. A centrally located amenities complex containing:
  - i. 4 x team change rooms.
  - ii. 2 x referee change rooms.
  - iii. 2 x public toilet facilities appropriate for the number of spectators.
  - iv. 2 x canteen spaces with a shared kitchen.
  - v. 2 x storage spaces.
  - vi. 1 x field management facility approximately 200m<sup>2</sup> in area.
  - vii. Wide paved apron area and roofed verandahs.

- viii. A bitumen sealed, line-marked and lit area for 100 parked cars (including adequate accessible parking) and associated manoeuvring.

**Figure 18: Open space network**



**Figure 19: Active open space layout**



### 3.4.2 Neighbourhood parks

#### Objectives

- a) To create a variety of public spaces that provides both passive and informal active open spaces.
- b) To conserve natural features of the site.
- c) To provide high amenity areas for adjacent residential development.
- d) To facilitate cultural identity through art and design in public places, with the engagement of the local community.

#### Performance measures

These objectives may be achieved where:

- a) Each park is provided with has its own distinctive landscape character.
- b) Existing vegetation is retained and enhanced by additional complementary plantings.
- c) Parks create a precinct focus for the surrounding neighbourhood.
- d) Parks are generally bounded by streets with buildings oriented towards the open space providing outlook and passive surveillance.
- e) There are no back fences of development facing public open space.
- f) The parks provide linkages between the broader pedestrian and bicycle networks.
- g) Playground facilities are provided within the parks.
- h) Seating and shade opportunities are provided within the parks.
- i) The indicative location of neighbourhood parks is shown on Figure 18.
- j) Public art is provided throughout key public domain areas (refer Section 3.3.2 Street Furniture and Public Art).

## Controls

1. A minimum total of 3.0 ha will be dedicated to Council to create 3 x large neighbourhood parks in areas generally shown at Figure 18.

### 3.4.3 Riparian corridor edge parks

#### Objectives

- a) To provide an integrated network of open spaces.
- b) To enhance the character of major drainage routes through revegetation of those corridors.
- c) To provide high amenity areas for adjacent residential development.
- d) To link and extend the access and movement network for bicycles and pedestrians.
- e) To encourage an active lifestyle for residents by providing recreational and educational opportunities.

#### Performance Measures

These objectives may be achieved where:

- a) Recreational and educational opportunities dominate over the stormwater function of this location.
- b) A perimeter pathway is provided along both edges of the corridors.
- c) The pathway meanders through a diversity of landscaping settings that provide shade opportunities for users.
- d) The park is generally bounded by streets with buildings oriented towards the open space providing outlook and passive surveillance.
- e) There are no back fences of development facing the public open space.
- f) The park is provided with an open and low perimeter fence or bollard type barrier along the entire edge.
- g) Facilities including seating, shade, playgrounds and interpretive signage are provided at regular intervals along the edge.
- h) Parking opportunities are provided within the road reserve and co-located

with recreational facilities.

- i) Riparian corridor parks can be co-located with active open spaces and neighbourhood parks.

### **Controls**

1. The minimum width for shared and dedicated paths in open space network is 2.5m.

## **3.5 Neighbourhood Precinct**

### **Objectives**

- a) To create a memorable village experience for the local community.
- b) To provide a highly accessible community focal and gathering point.
- c) To create a retail centre based on traditional 'Main Street' shopping experiences.
- d) To ensure that a safe public domain represents a defining element of the centre.
- e) To accommodate a diverse mix of land uses including residential.
- f) To ensure that adequate land is reserved for the provision of a Primary School.
- g) To ensure the scale of retailing facilities sits comfortably within the local and regional retail hierarchy.
- h) To avoid duplication of parking provision by co-locating key land uses.
- i) To facilitate and encourage walking, cycling and public transport access as well as car access.

### **3.5.1 Urban Structure**

#### **Performance measures**

- a) The Neighbourhood Precinct is located at the heart of the community within a 10 minute walk for most of that community.
- b) A high quality public domain area is provided as part of a central

organising element of the centre.

- c) The centre is co-located with other high use public places including active open space and the primary school.
- d) The retail area is located on the loop collector road.
- e) Accessible and legible linkages are provided between other key community components such as recreation areas and schools.
- f) The Precinct accommodates multi-mode transport ensuring excellent pedestrian and cycle links.
- g) Public transport is accommodated within the centre of the retailing precinct.
- h) The precinct shall provide both open-lot car parking and street based parking for convenience.
- i) Various land uses co-located in the Neighbourhood Precinct make efficient use of the total car parking spaces available.
- j) People are able to park their car in one location and engage in a variety of activities in close proximity to that space and within a safe pedestrian environment.
- k) Retail facilities are delivered as an early element of the broader release area.

### **3.5.2 Urban Character**

#### **Performance measures**

- a) The Precinct creates a sense of arrival and community identity.
- b) The Precinct is integrated into the overall release area landscape structure, emphasising the hierarchy of the precinct in the overall urban structure.
- c) A walkable pedestrian friendly environment is to be established with leafy active wide footpaths and pedestrian links that connect activities and gathering spaces.
- d) The precinct includes public meeting places, squares or promenades to create varied, comfortable, and accessible environments that provide a

focus and destination for community activity.

- e) Car parks are to be leafy plazas that provide opportunities for other uses (i.e. markets or public gathering) with clear defined pedestrian links.
- f) Where medium to large scale uses are planned, finer grained uses should be incorporated time to time to minimise the impact of bulk and scale to the main thoroughfares of pedestrian movement.
- g) Opportunities for residential development are carefully planned within and adjacent to the Precinct Centre providing for passive security and surveillance.
- h) Appropriate dwelling forms encourage growth of the Precinct in time, both in terms of extended active hours and adaptive uses that allow for home based incubator businesses to emerge.
- i) The building form creates a series of spaces that provide shade in summer, sun in winter and are sheltered from unpleasant prevailing winds.
- j) Buildings define the street and provide a relatively continuous street frontage.
- k) Public art is incorporated at key focal points to promote community identity.
- l) The Main Street road reservation will allow for the provision of generously wide footpaths.
- m) Housing forms in the precinct will provide opportunities for home based employment and businesses.
- n) Key street intersections and transport interchanges are provided with distinctive paving and threshold type landscape treatments.

### **3.5.3 Retail Built Forms**

#### **Performance measures**

- a) Retailing is provided in a combination of traditional main street and internalised spaces.
- b) Smaller scaled single shops are presented to the main street.

- c) Maximise the percentage of active shopfront to public streets.
- d) Buildings are built primarily to the street edge.
- e) Glazed shop fronts are provided at the interface with the street.
- f) Wide awnings or verandahs are provided to the main street to provide pedestrian amenity.
- g) Shop fronts and awnings return around corners.
- h) Building design reflects a human and village scale.
- i) Buildings provide an appropriate environmental response to encourage pedestrian activity, seating and gathering spaces and contributing to safety and security.
- j) Two storey scale forms are provided at key road intersections within the centre.
- k) Entry areas to internalised retail areas are well defined and highly legible.
- l) The impact of deliveries should be minimised through location and separation of those activities.
- m) Figure 20 provides an indicative structure and layout image for the Neighbourhood Precinct.

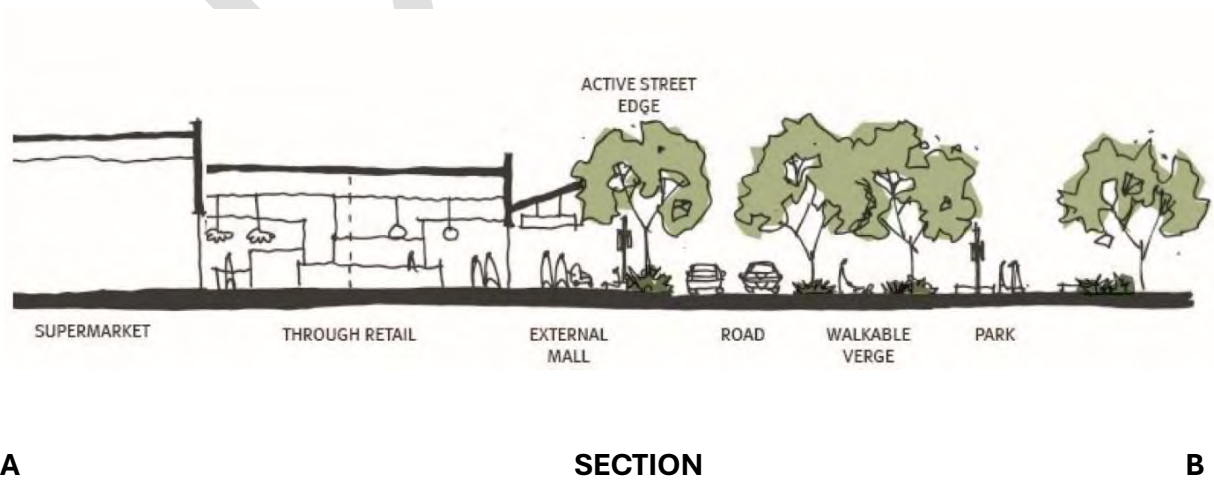
## **Controls**

1. Detailed design and planning of the Neighbourhood Precinct shall be subject to the formulation of a Concept Plan as part of a Staged Development.
2. The road reservation for the Neighbourhood Centre Main Street will be designed and constructed as per Figure 23.
3. Any supermarket facility has an 'open' exterior.

**Figure 20: Neighbourhood Precinct structure**



**Figure 21: Section for the Neighbourhood Centre Main Street**





### 3.5.4 Primary School

#### Performance measures

- a) The school is located adjacent or closely linked by a pedestrian safe route to public playing fields.
- b) The school is located on a public bus route.
- c) Provides landmark buildings that define key road intersections.
- d) The built form of the school engages and activates the street edge to contribute to the pedestrian character and mutually benefit from passive surveillance.
- e) Suitable space should be provided for the short term pick-up and drop-off of students that avoid the need for continuous circulating traffic.

#### Controls

1. Detailed design and planning of the School and Neighbourhood Centre shall be subject to the formulation of a Concept Plan as part of a Staged Development.
2. A minimum site frontage of 60m must be provided. This includes a minimum length of 40m for a single bus bay. Additional frontage, the equivalent of 12m per bus, may be required if a larger bus set-down area is needed.

## 4. Private Domain

### 4.1 Subdivision

#### 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 reflect 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 assets.

## **Performance measures**

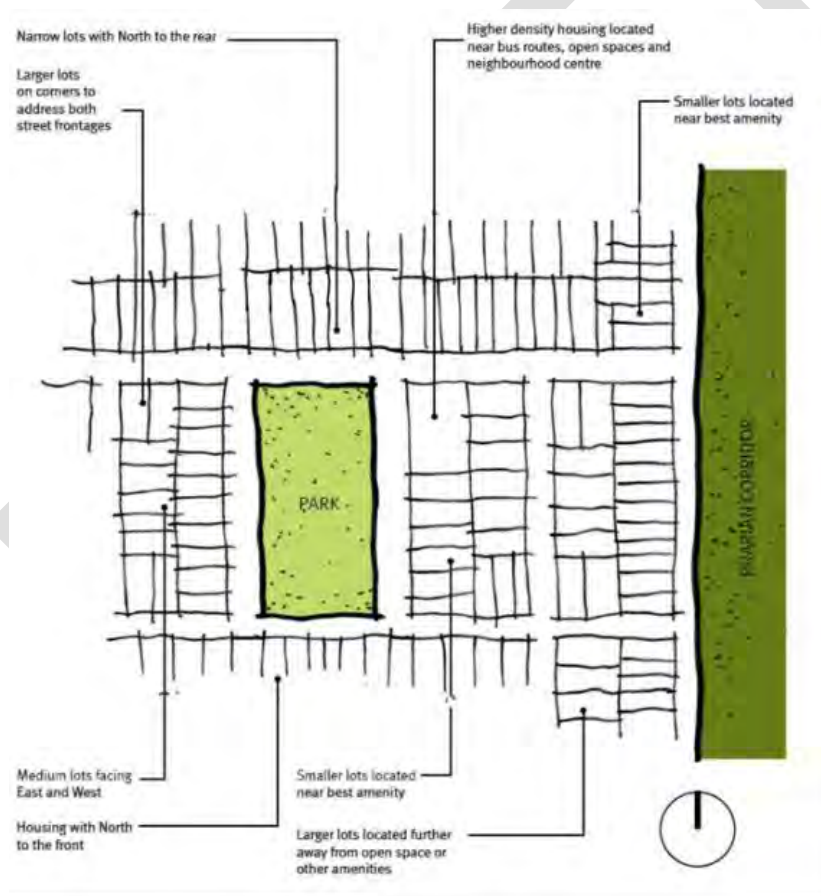
- a) Blocks and lots are generally rectilinear.
- b) Lots are oriented to facilitate siting of dwellings and private open space to take advantage of winter solar access and summer sun deflection.
- c) Lots identified to accommodate higher density housing forms will be focused on or around:
  - i. Open space areas.
  - ii. Neighbourhood centre.
  - iii. Areas of highest accessibility.
  - iv. Areas of high quality amenity.
- d) Larger lot frontages provided on street corners to allow development to address both street frontages.
- e) Lot sizes will respond to site topography by providing larger lots on sloping lands.
- f) Larger lots are provided in the rural transition (R2 Low Density Residential) zone.
- g) Lot sizes and dimensions take into account site topography and reduce the need for earthworks and retaining wall construction.
- h) Lot sizes and dimensions allow for retention of existing trees as part of subsequent site development.
- i) Lots front streets and overlook open spaces to provide passive surveillance of those areas.
- j) Benching of sites should preferably be undertaken at subdivision stage and earthworks plans should indicate positions of necessary retaining structures and associated drainage.

## **Controls**

- 1. Subdivision including the creation of super lots will provide for the achievement of minimum dwelling targets.

2. Single dwelling lots are a minimum of 25m deep.
3. Lots in the rural transition (R2 Low Density Residential) zone will have a minimum lot size in accordance with Penrith LEP 2010.
4. Vary the depth of north-south oriented lots to provide longer, narrower lots on the south side of the street and shorter, wider lots on the north side, where possible.
5. Ensure lots with an east-west axis are 12m or more wide where possible, unless they are intended for use by attached dwellings.
6. Retaining walls are to be constructed with appropriate masonry materials.

**Figure 24: Lot design principles**



## 4.2 Shared driveways

### Objectives

- a) To provide make efficient use of urban land.

- b) To create high quality streetscapes.
- c) To minimise conflict between pedestrians and vehicles.

### **Performance measures**

- a) Shared driveways are formalised through the creation of right of carriageways as part of the subdivision.
- b) Provide safe and convenient access to rear garages.
- c) Shared driveways are a low maintenance environment.
- d) Shared driveways are used solely by residents with garages accessed by the private driveways.
- e) Shared driveways are the smallest configuration possible to serve the required rear garages.
- f) At the street entry, the driveway is narrow and landscaped to have low visual impact at the street entry and be clearly distinguishable as private access only.
- g) A studio is provided at the end of the longest driveway axis and provides windows that overlook the shared driveway.
- h) Adjacent dwellings provide additional passive surveillance opportunities over the driveway.
- i) Pedestrian gates are provided from the driveway to adjoining rear yard areas.
- j) Subdivision provides an appropriate arrangement for the long term maintenance and management for the driveway.

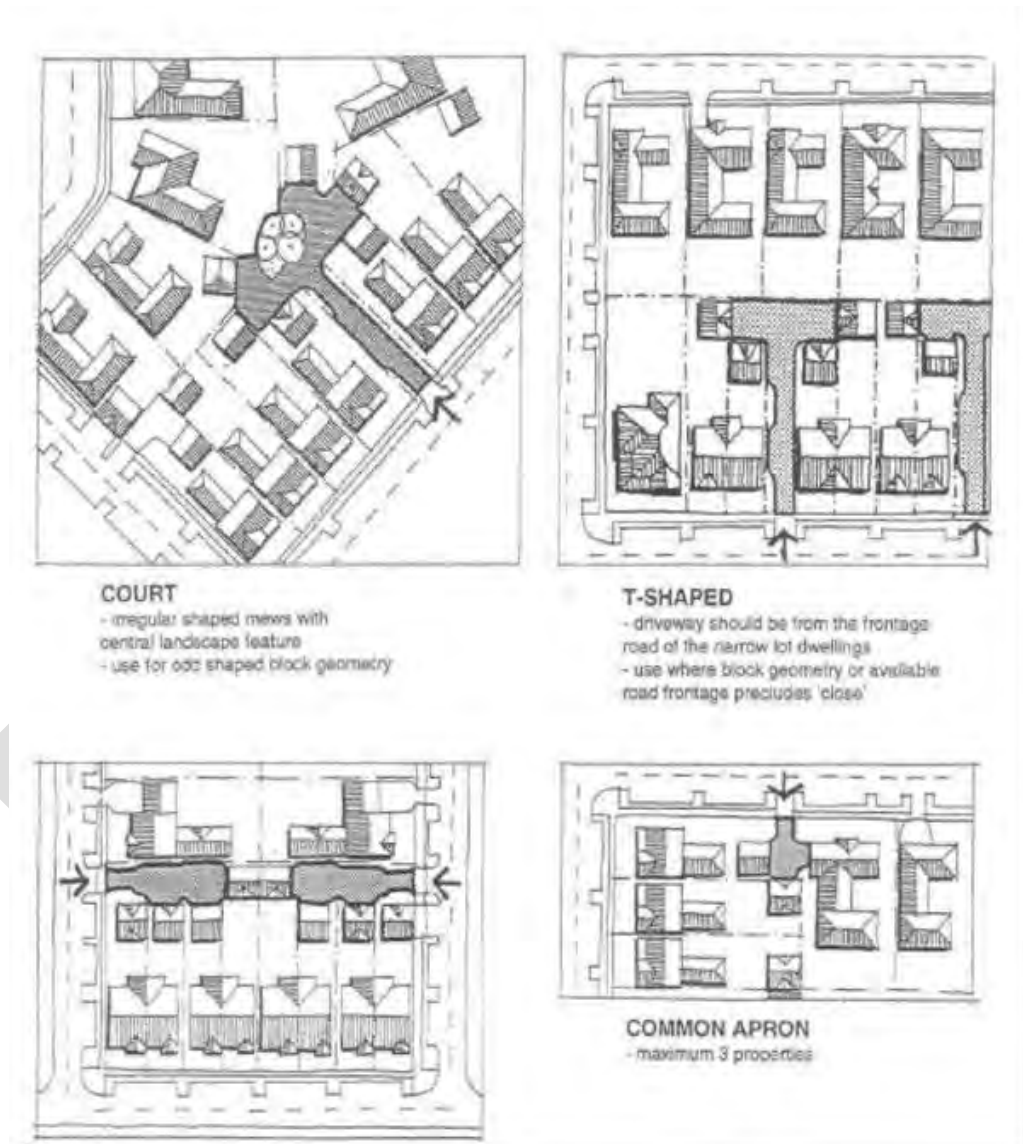
### **Controls**

1. Will serve a maximum of 6 dwellings.
2. Are generally configured as one of four general types depending on block geometry and garages to be accessed as per Figure 25.
3. Are generally 3m wide and allow for exiting in a forward direction.
4. If connected to a street that will carry more than 300 vehicles per day, the shared driveway shall have a width of 5.5m for a distance of 6m from the

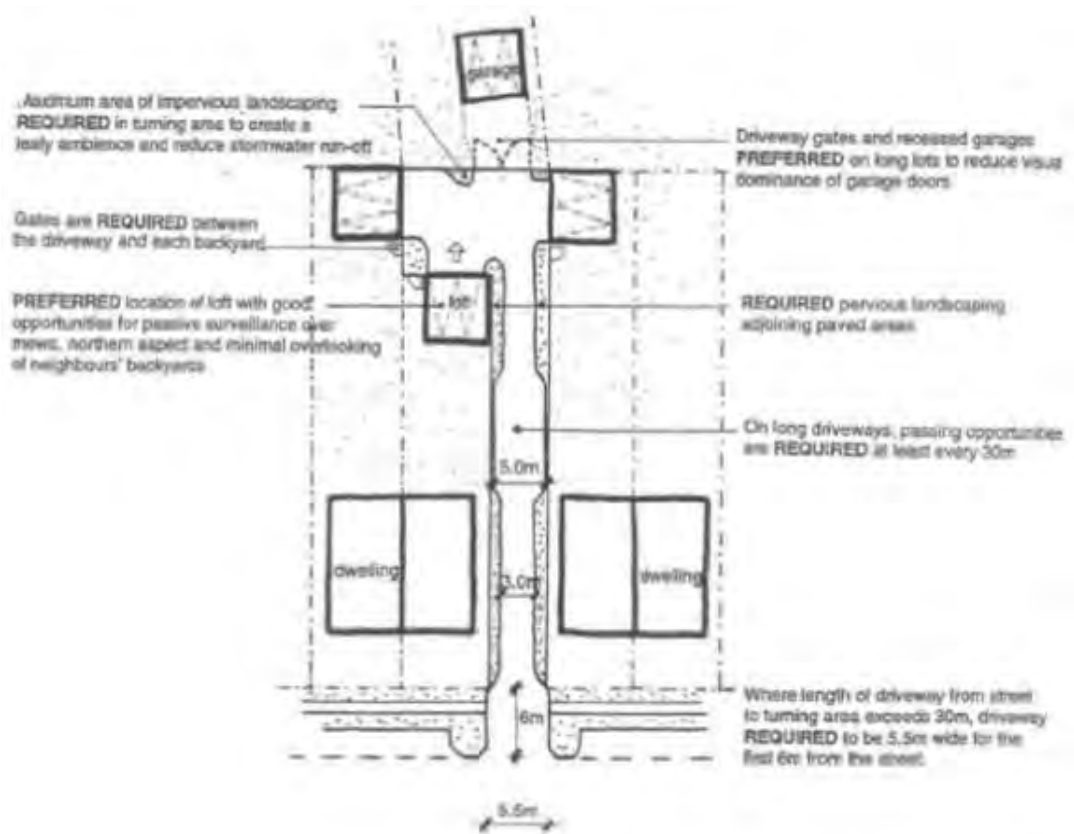
kerb line.

5. All private driveways shall achieve the design standards as identified per Figure 26.
6. A minimum of one garage fronting the Shared Driveway provides a studio above the garage.

**Figure 25: Shared driveways access options**



**Figure 26: Shared Driveway - design principles**



## 4.3 Site planning

### 4.3.1 Principal private open space

#### 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.

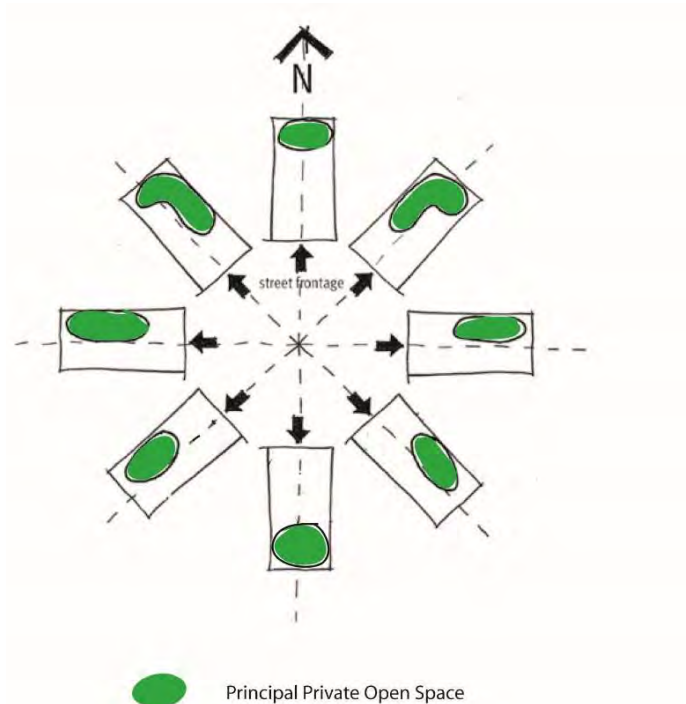
#### Performance measures

- 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 27.

#### Control

1. Dwellings will achieve the minimum standards for Principal Private Open Space as identified at Section 5 of this Part.

**Figure 27: Private open space siting**



### **4.3.2 Garages and parking**

#### **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.

#### **Performance measures**

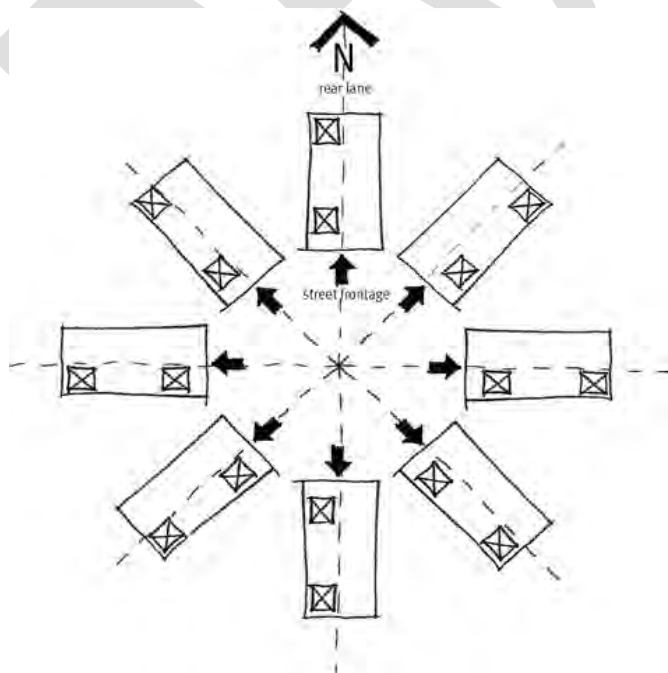
- a) Garages are sited as per the preferred siting diagram at Figure 28.
- b) The width of the lot will determine the maximum size of garage provided in either street frontage or rear lane locations as demonstrated at Figure 29.
- c) Front garages are to be setback behind the front most element of the house and integrated as part of the dwelling façade.
- d) Garages are constructed in materials and colours, which blend the garage doors into the main building.

- e) Garages provide flexible accommodation for vehicles, storage, and covered areas for outdoor recreation.
- f) Stacked parking is an acceptable outcome provided it is accommodated entirely within the property.
- g) Studios are provided over garages to rear lanes to provide surveillance, work from home or residential accommodation opportunities.
- h) Vehicle crossings between the street and front boundary shall be constructed in plain concrete only.

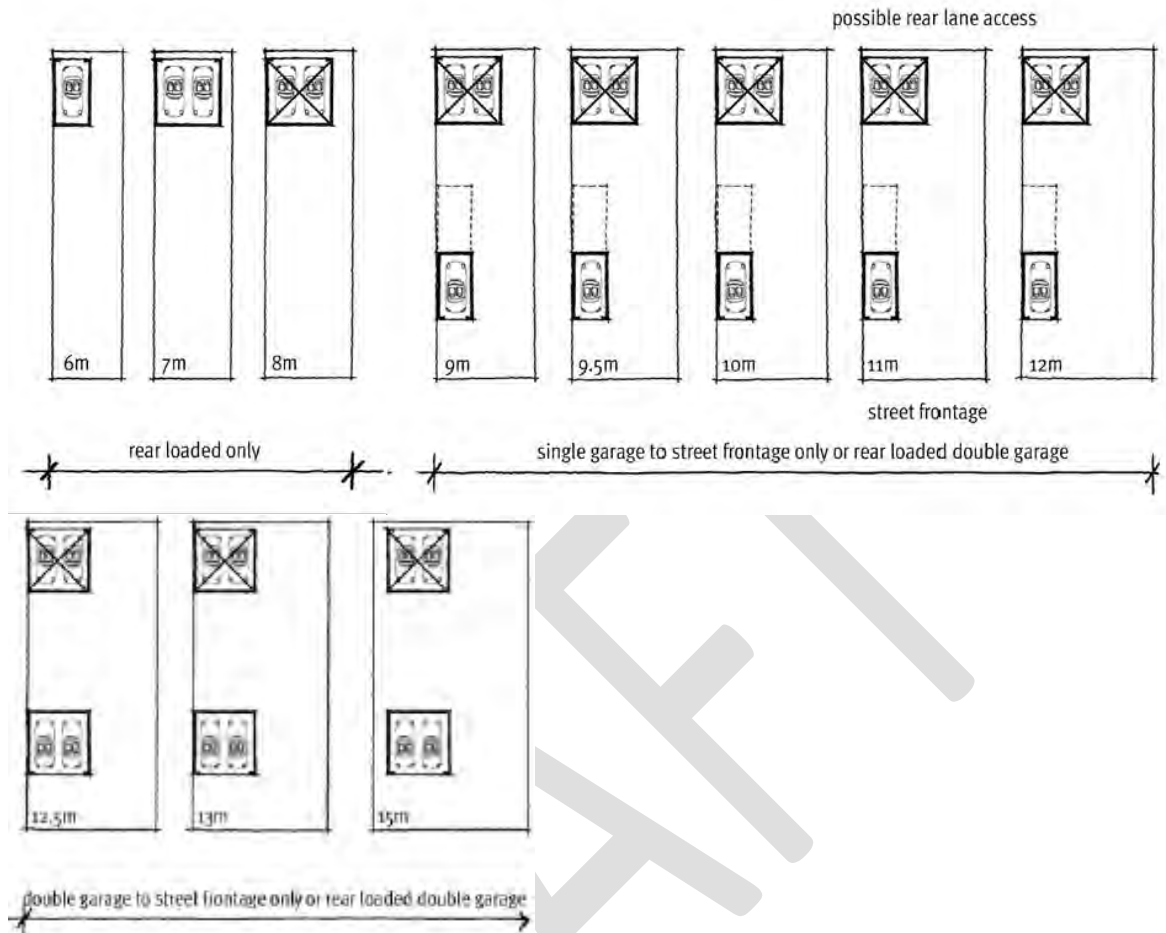
## Controls

1. Double garages are the maximum garage size allowed for single dwelling houses.
2. Where a dwelling provides vehicular access to the street the garage will be setback a minimum of 5.5m from the front boundary.
3. Garages are to be provided per AS 2890.1 Off Street Parking, including:
  - i. Minimum width of 3.2m for single garages.
  - ii. Minimum width of 5.8m for double garages.

**Figure 28: Garage siting**



**Figure 29: Maximum garage size**



### 4.3.3 Building footprints

#### Objectives

- a) To provide a variety of streetscapes that reflect 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.

#### 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

b) Landscaping provision to allow tall trees in the rear yard area to provide a vegetated backdrop to the development.

## **Controls**

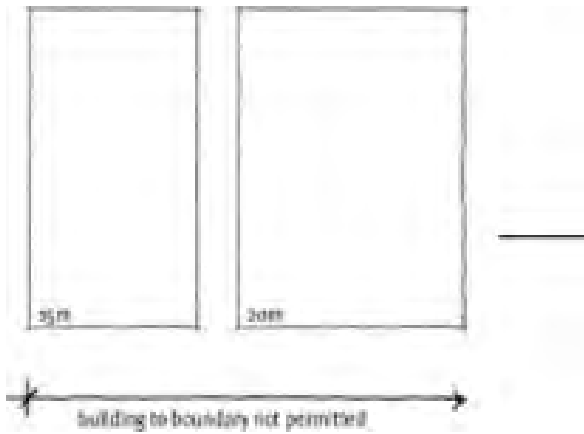
### Front setbacks

1. Front setbacks are identified in Section 7.4.5 – Typical Development Forms, for each dwelling type.

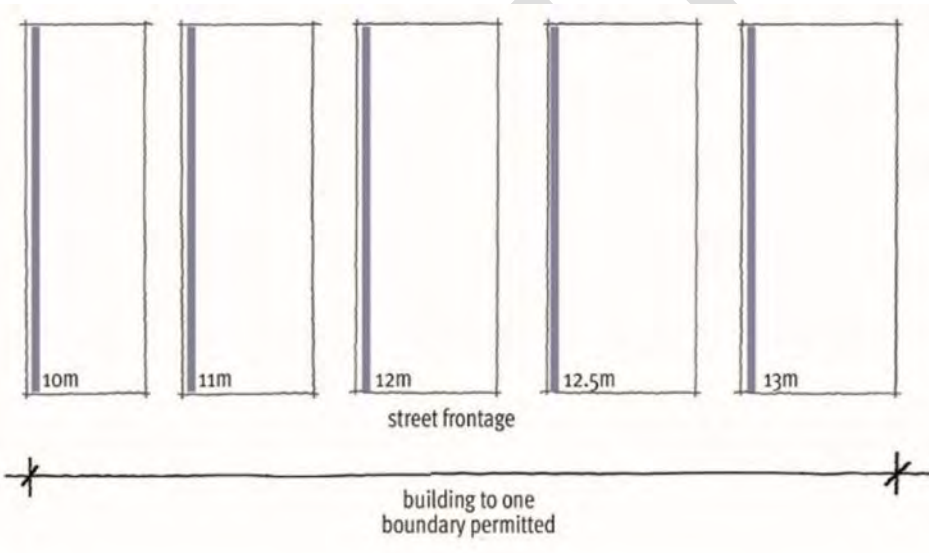
### Side setbacks

2. The width of the lot will determine the ability of the site to provide zero lot lines as demonstrated at Figure 30.
3. Where only one side of a lot can provide a zero lot line, then Figure 31 will be used to determine which of those boundaries accommodates that zero lot line.
4. A maintenance easement of at least 900mm is to be provided on the boundary adjacent to the zero lot line.
5. All other side setbacks will be a minimum of 900mm.
6. Fascias, gutters, downpipes, eaves (up to 450mm wide) and chimneys flues may encroach into the side setback.
7. No windows are provided in zero lot line walls.

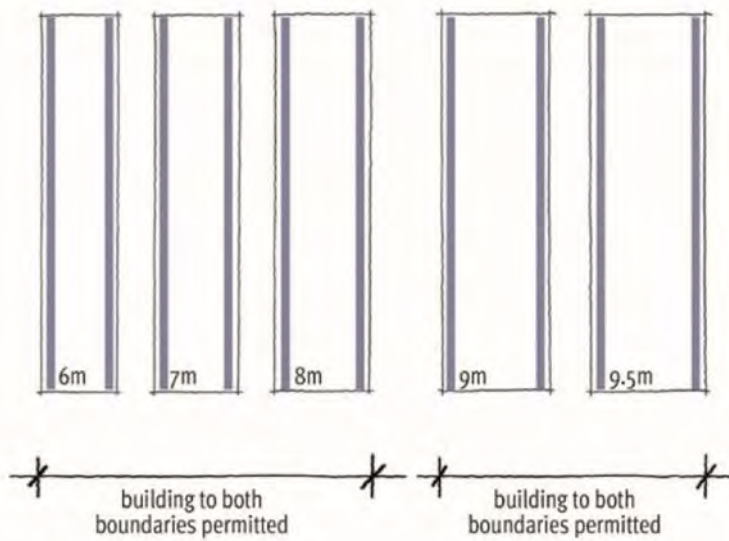
**Figure 30 Zero lot lines**



**DETACHED DWELLINGS**

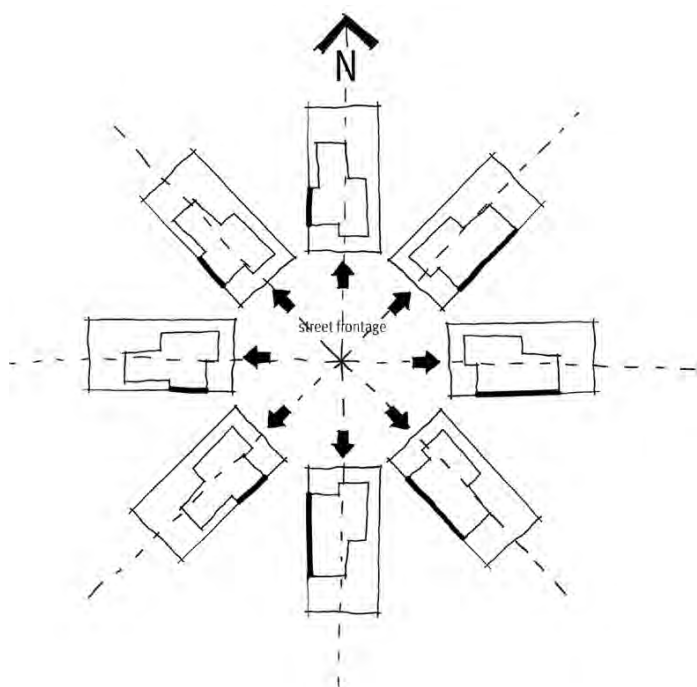


**SEMI-DETACHED AND BUILDING TO BOUNDARIES DWELLINGS**



**ATTACHED DWELLINGS**

**Figure 31: Zero Lot Line Location**



#### **4.4.4 Solar Planning**

##### **Objectives**

- a) To achieve a high standard of residential amenity; and
- b) To protect reasonable amenity expectations of neighbouring sites.

##### **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 areas of adjoining dwelling sites receive a minimum of 3 hours of sunlight between 9.00am and 3.00pm on 21 June each year.

## 4.4.5 Dwelling design

### 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.

### 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 will achieve the principle of three layers of front setbacks as illustrated at Figure 32.
- 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

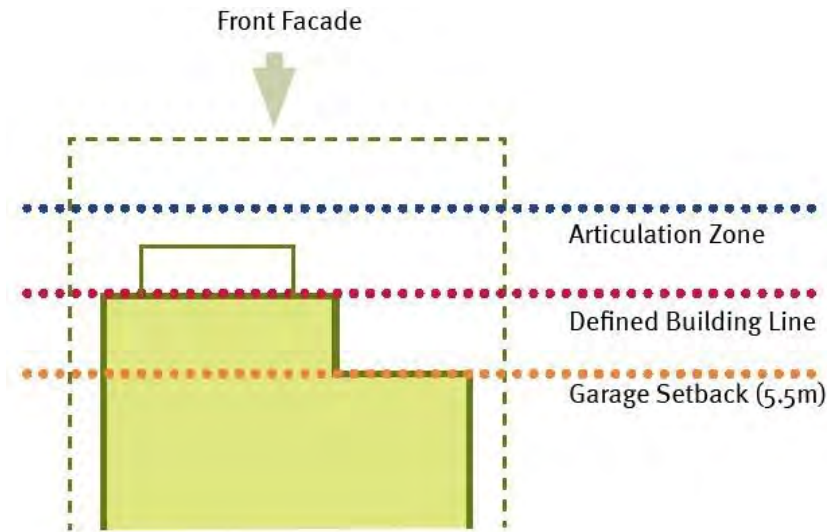
windows and doors opposite each other within rooms.

- 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 a wraparound verandah, bay window, corner entry or roof feature.
- l) Garages on corner lots are accessed from the secondary street.
- m) Dwellings provide adaptable house floor plans for the inclusion of a home office/business activity area.

## **Controls**

1. Verandahs, awnings, etc. may project forward of the front building setback line by a maximum of 1.5m.
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.

### **Figure 32: Setbacks and Articulation**



#### 4.4.6 Visual and acoustic privacy

##### 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.

##### Performance measures

- a) Windows to upper storeys to be 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 not permitted to directly overlook private open space of adjoining dwellings unless suitable screening is provided.
- d) The design of attached dwellings must minimise 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) 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.
- g) Noise sensitive areas are to be located away from the noise emitting sources.

### **Controls**

1. Habitable room windows with a direct sight line to habitable room windows in adjacent dwellings are to be avoided, however within 9m 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.

### **4.4.7 Defining boundaries**

#### **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.

#### **Performance measures**

- a) Delineation of front property boundaries is achieved through use of landscaping, low fences or changes of site level.
- b) Front fences must be transparent.
- c) Side property fences in front of the building line shall be treated as the

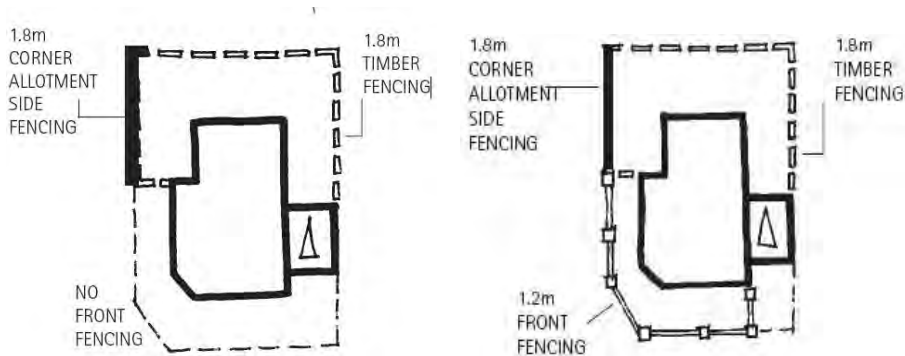
front fence.

- d) Side property fences terminated at the front building line and returned to finish against the building.
- e) All retaining walls are to be of a masonry construction and where located on a boundary, traditional fencing material to be positioned on top of the retaining wall.

## **Controls**

1. Fences to the street frontage:
  - i. are to be a maximum of 900mm in height.
  - ii. 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 1,800mm in height.
4. Fences to corner lots that accommodate multi-unit housing forms are to be a maximum of 900 mm on the primary street frontage and 900 mm 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.
5. Transparent fencing shall have a minimum opening ratio of 50%.
6. Where solid fences are required to satisfy acoustic abatement, these fences shall not exceed 8m in length without some articulation or detailing to and must be softened on the street side with a landscaping strip of 700mm minimum.

### **Figure 33: Examples of Corner Lot Principles**



## 4.8 Site facilities

### Objectives

- To ensure that adequate provision is made for site facilities.
- To ensure that site facilities are functional and accessible to all residents and are easy to maintain.
- To ensure that site facilities are thoughtfully integrated into development and are unobtrusive.

### Performance measures

- Development demonstrates that the design takes into account garbage bin storage and collection without reducing the amenity of the dwelling or neighbouring lots.
- 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.
- External clothes drying areas are to be provided for all residential development

## 5. Typical development forms

The development controls outlined in this Section are typical, generic arrangements for Glenmore Park Stage 2. Developers can establish more detailed controls for each precinct as part of approved Concept Plans, as long as those controls reflect the objectives and performance measures identified.

## 5.1 Apartments

### Performance measures

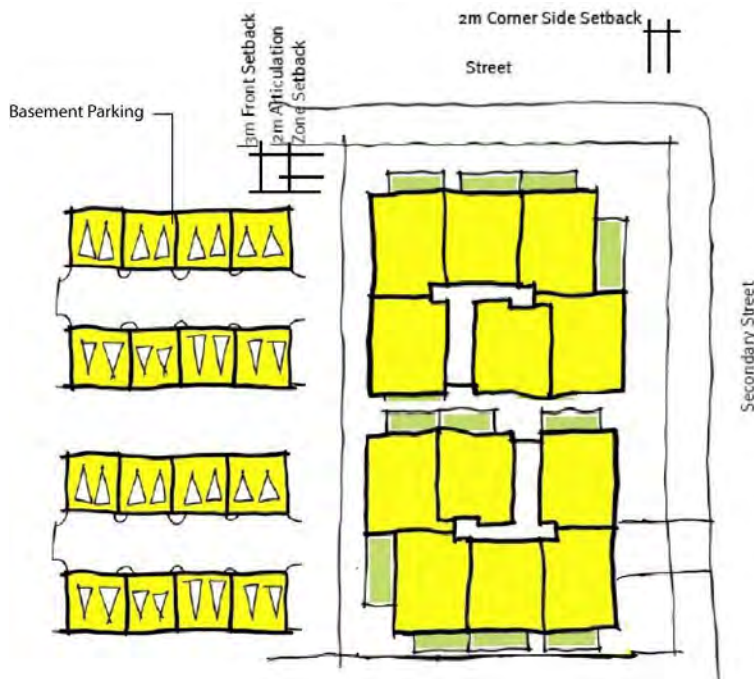
- a) Development is designed to:
- i. Provide a higher degree of urban orientated development outcomes.
  - ii. Be compatible in scale with the mass and character of adjacent building types.
  - iii. Provide parking on site and underground where possible.

### Controls

Allotment requirements	
Allotment Requirements	650m <sup>2</sup>
Minimum Lot Frontage	25m
Open space	
Ground level Principal Private Open Space	
Minimum Area	20m <sup>2</sup>
Minimum Dimension	2.5m
Upper Level Principal Private Open Space	
Minimum Area	10m <sup>2</sup>
Minimum Dimension	2m
Communal Open Space	
Development that provides more than 10 dwellings will provide a communal open space area that is at least 10% of the total site area.	
Minimum dwelling setbacks	
Front	3m
Secondary Setback	2m
Side	<ul style="list-style-type: none"> <li>• 1.5m for walls without openings to habitable rooms.</li> <li>• 3m for walls with an opening to a habitable room.</li> </ul>

Rear	<ul style="list-style-type: none"> <li>• 5m where development directly adjoins other residential development.</li> <li>• 0m where development adjoins a rear lane or other public domain areas.</li> </ul>
Garage to rear lane	0m
<b>Other requirements</b>	
Location	<ul style="list-style-type: none"> <li>• In and adjacent to the Neighbourhood Centre</li> <li>• Adjoining the major active open space facility</li> </ul>
Height	<p>Development shall:</p> <ul style="list-style-type: none"> <li>• Have a maximum height of 4 storeys.</li> <li>• Ensure building facades are articulated (balconies, blade walls, stepped facades, etc.) to provide visual interest and reduce overall building bulk.</li> </ul>
Built Forms	Development must utilise multiple entries and circulation cores in buildings where a length greater than 15m.
Adaptable Dwellings	10% of dwellings shall be adaptable as per AS1428.1 – 1998 – Design for Access and Mobility.
Vehicle Manoeuvring	Provide turning movements as defined by AS2890.1 – 2004.

**Figure 34: Apartment Design Principles**



## 5.2 Terrace dwellings and live - works

### Performance measures

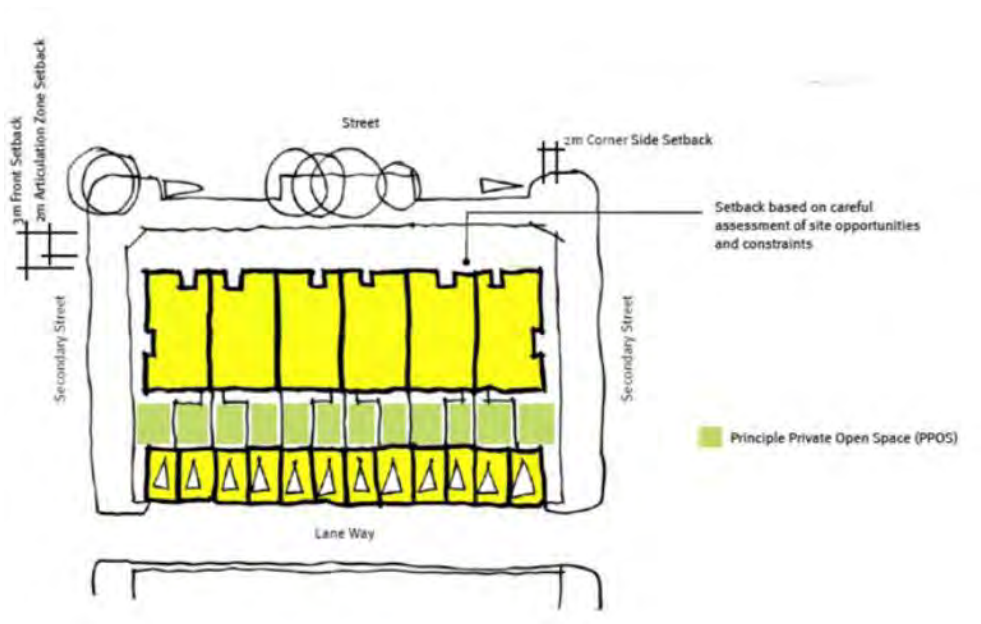
- a) Development is designed to:
- i. Provide for parking with a rear loaded garage accessed from a rear lane or shared driveway.
  - ii. Rear of lot is generally orientated to the north.
  - iii. Integrated studio units located above a ground level garage or at ground level, located at the rear of the site in some locations.
  - iv. Dwellings are designed to incorporate the option of 'live-work' activities (homed-based businesses), particularly in locations adjacent to the Neighbourhood Centre.

### Controls

Allotment requirements	
Lot Size Range	195 – 230m <sup>2</sup>

Lot Frontage	6m – 9.5m
<b>Principal private open space</b>	
Minimum Area	20m <sup>2</sup>
Minimum Dimension	4m
<b>Minimum dwelling setbacks</b>	
Front	3m
Secondary Frontage	2m
Side	0m
<b>Rear:</b>	
Ground Floor	4m
Upper Floor	6m
Garage to rear lane	0m
<b>Other requirements</b>	
Location	<ul style="list-style-type: none"> <li>• In and adjacent to the Neighbourhood Centre.</li> <li>• Adjoining the major active open space facility, riparian zones and neighbourhood parks.</li> </ul>
Height	<ul style="list-style-type: none"> <li>• Dwellings shall have a maximum height of 3 storeys.</li> </ul>

**Figure 35: Terrace Design Principles**



### 5.3 Semi-detached dwellings

#### Performance measures

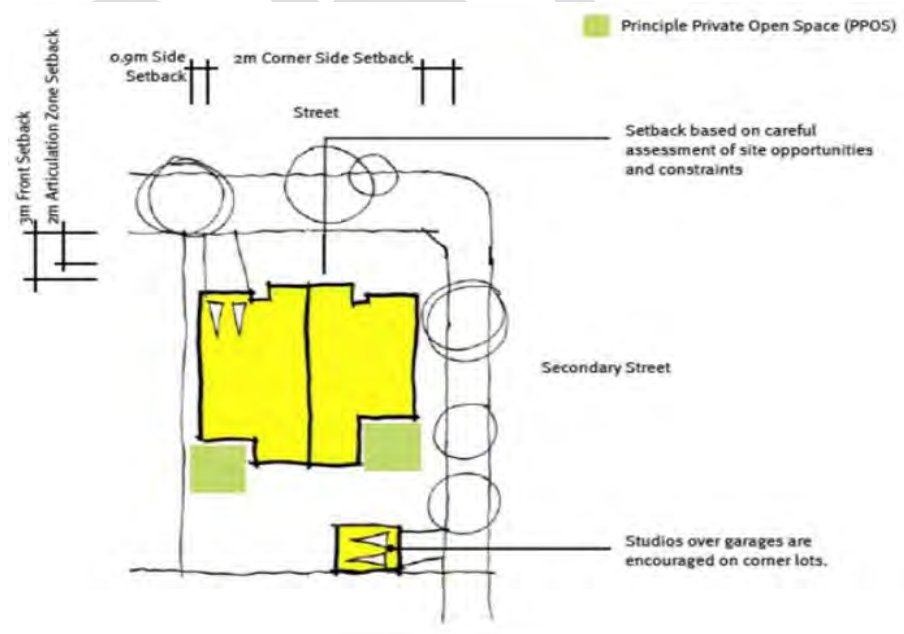
- a) Have the appearance of a larger home, but are comprised of 2 dwellings (3 dwellings including studio opportunity) on separate Title.
- b) When located at a corner, have distinct entries for each unit usually located on different street frontages.
- c) When located at a corner, provide vehicle access of different street frontages.
- d) Dwellings have an adaptable design which can incorporate options for home-based business activities.

#### Controls

Allotment requirements	
Lot Size Range	230 – 450m <sup>2</sup>
Lot Frontage	12 – 15m
Principal private open space	

Minimum Area	30m <sup>2</sup>
Minimum Dimension	4m
<b>Minimum dwelling setbacks</b>	
Front	3m
Secondary Frontage	2m
Side	<ul style="list-style-type: none"> <li>• 0m on defined boundary as Figure 32.</li> <li>• 0.9m on other boundary</li> </ul>
<b>Rear:</b>	
Ground floor	4m
Upper floor	6m
Garage to rear lane	0m
<b>Other requirements</b>	
Height	Dwellings shall have a maximum height of 2 storeys

**Figure 36: Semi-detached dwellings design principles**



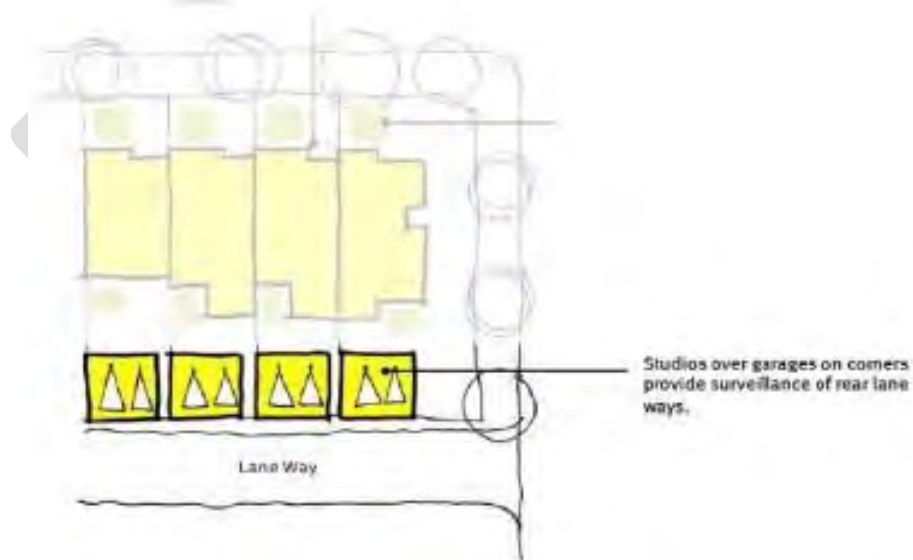
## 5.4 Studios

### Performance measures

Development is designed to:

- 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 causal 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.

**Figure 37: Studio design principles**

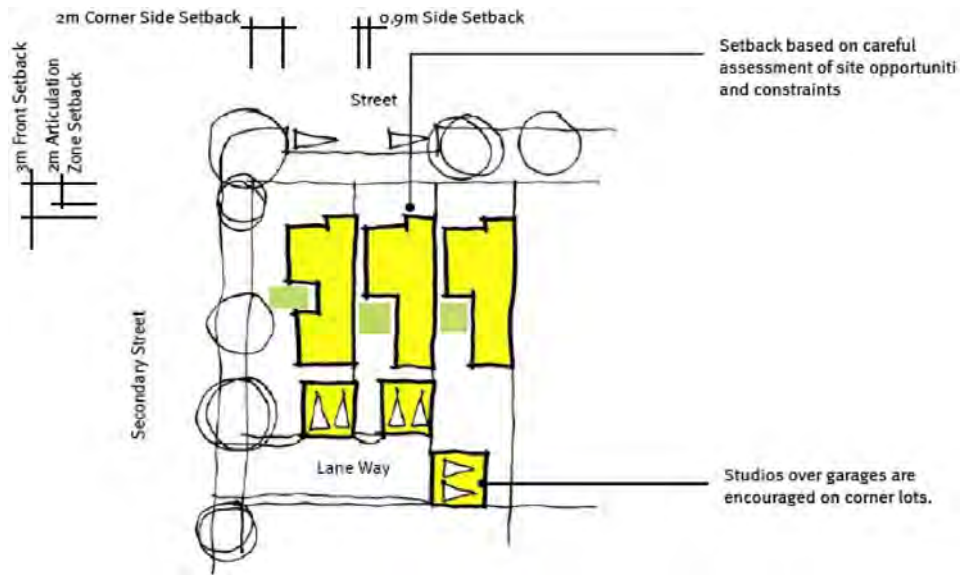


## 5.5 Built to Boundary Dwellings

### Controls

Allotment Requirements	
Lot Size Range	230 – 450m <sup>2</sup>
Lot Frontage	9.5 – 15m
Principal private open space	
Minimum Area	40m <sup>2</sup>
Minimum Dimension	4m
Minimum dwelling setbacks	
Front	4.5m
Secondary frontage	2m
Side:	<ul style="list-style-type: none"> <li>• 0m on defined boundary.</li> <li>• 0.9m from other boundary.</li> </ul>
<b>Rear:</b>	
Ground Floor	4m
Upper Floor	6m
Garage to Rear Lane:	0m
Other requirements:	
Height	<ul style="list-style-type: none"> <li>• Dwellings shall have a maximum height of 2 storeys.</li> </ul>

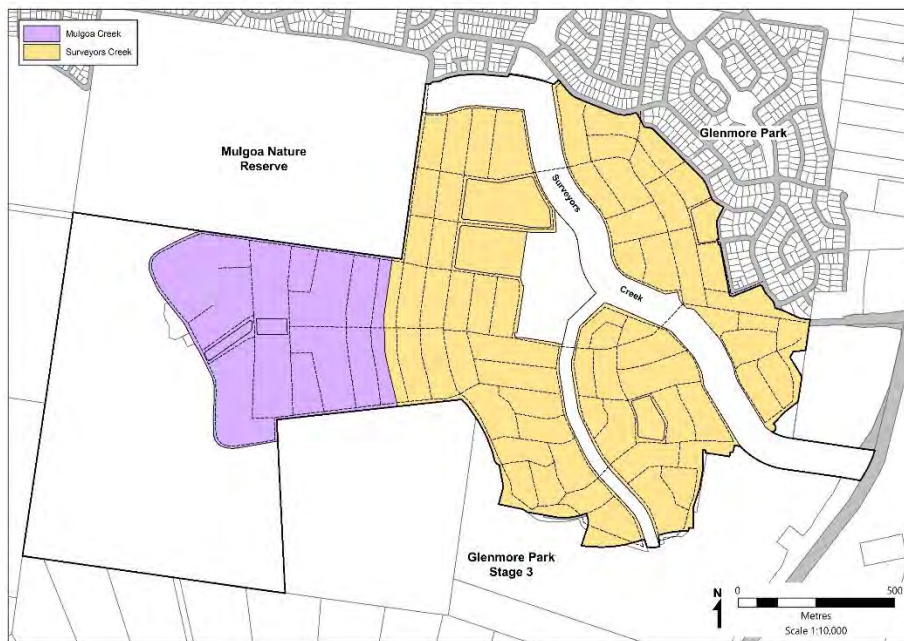
**Figure 38: Built to boundary dwelling design principles**



## 5.6 Detached Dwellings

Different development controls will apply to development of detached housing forms within the two catchments in the release area. These catchments are identified at Figure 39 below:

**Figure 39: Catchments**

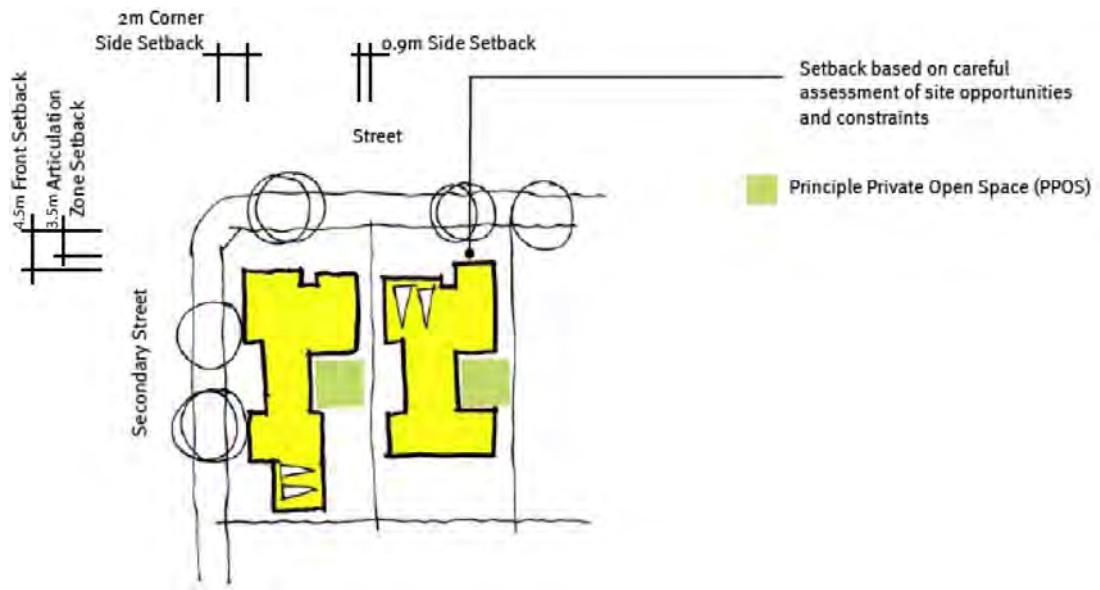


## 5.6.1 Surveyors Creek catchment

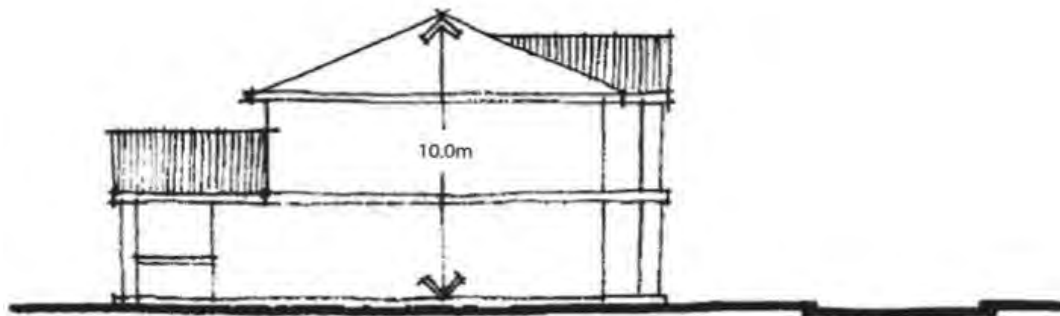
Allotment requirements	
Lot Size Range	360m <sup>2</sup> – 600m <sup>2</sup>
Lot Frontage	12m – 15m
Principal private open space	
Minimum Area	50m <sup>2</sup>
Minimum Dimension	4m
Minimum dwelling setbacks	
Front	4.5m
Secondary Frontage	2m
Side	0.9m
<b>Rear:</b>	
Ground Floor	4m
Upper Floor	6m
Garage to rear lane	0m

Other Requirements:	
Height	<ul style="list-style-type: none"> <li>• Dwellings shall generally have a maximum height of 2 storeys.</li> <li>• 3 storey development will only be permitted on land:               <ul style="list-style-type: none"> <li>○ Located at key intersections within a precinct, as identified part of an approved Concept Plan, and where they provide built form consistent with that shown at Figure 41.</li> <li>○ With slopes with a grade greater than (1:8) when they achieve built form consistent with that shown at Figure 42.</li> </ul> </li> </ul>

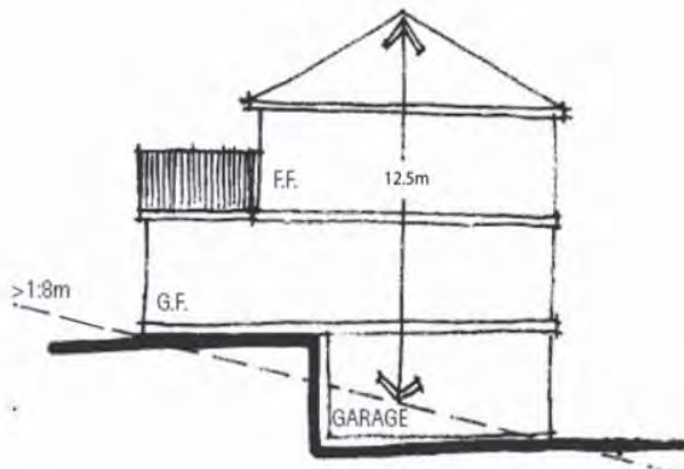
**Figure 40: Detached dwelling principles**



**Figure 41: Three storey development at key intersections**



**Figure 42: Three storey development on lands with grade >8:1**



## 5.6.2 Mulgoa Creek catchment

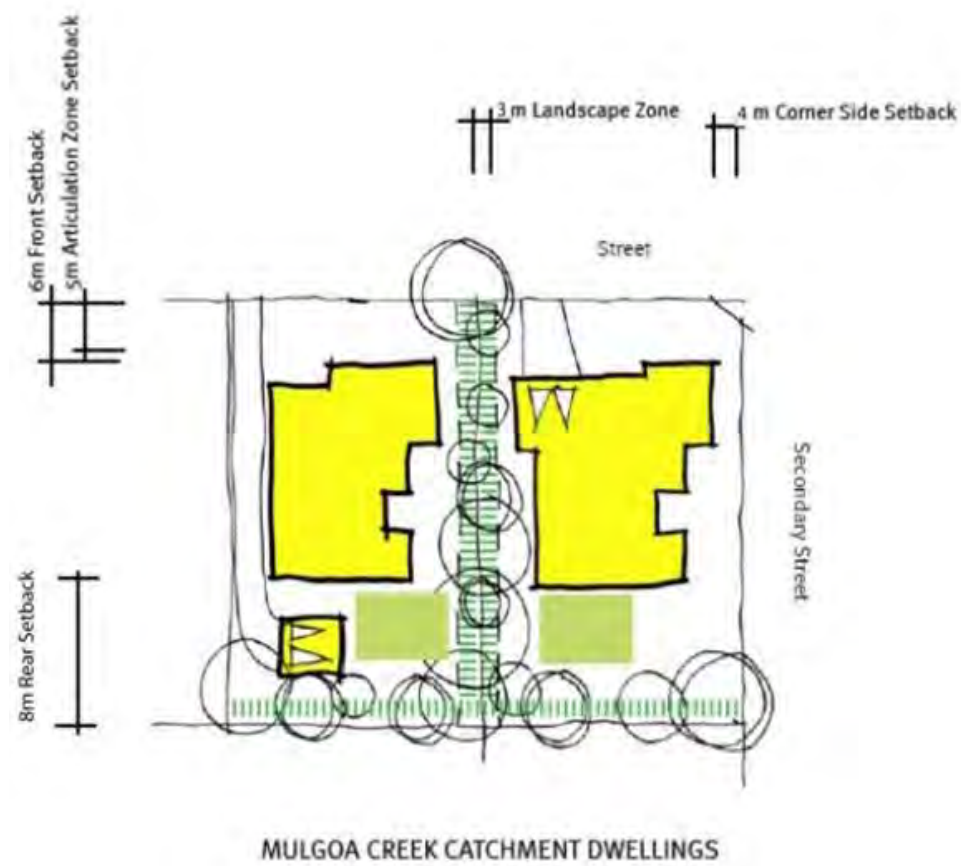
### Performance Measures

- a) Allow for landscaped side setbacks to provide visual separation between dwellings and a more spacious streetscape environment.
- b) Reflect the semi - rural character in road detailing, landscaping and fencing details.
- c) Lot sizes are to transition from the smaller lots in the Surveyors Creek catchment to the largest lots adjacent the Mulgoa Nature Reserve.

### Controls

Allotment requirements			
Lot size range	450m <sup>2</sup> – 1,000m <sup>2</sup>		
Lot Frontage	20m		
Principal private open space			
Minimum Area	100m <sup>2</sup>		
Minimum Dimension	5m		
Minimum dwelling setbacks			
	Lots <600m <sup>2</sup>	600m <sup>2</sup> – 1,000m <sup>2</sup>	Lots >1,000m <sup>2</sup>
Front	4.5m	6m	8m
Secondary Frontage	2m	4m	4m
Side	0.9m	0.9m	3m
Rear			
Ground Floor	4m	4m	8m
First Floor	6m	6m	
Other requirements			
Height	Dwellings shall have a maximum height of 2 storeys		

**Figure 43: Mulgoa Creek catchment dwelling design principles**



## 5.7 Non-residential development

### Performance measures

- a) Non-residential development should be planned and designed according to principles of traditional suburban design, and to preserve the amenity of residential neighbourhoods.
- b) Principles of urban form and urban design that apply to permissible multi-unit housing are applied to non-residential development.
- c) Particular attention is paid to:
  - i. The development site including front setbacks, rear setbacks, dual frontage situations.
  - ii. Urban form including:
    - Traditional building design features.
    - Traditional garden frontages.
    - 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 Penrith Council's parking codes, Transport for NSW 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.

- iv. Building envelope and side setbacks:
- To achieve a single storey appearance.
  - To provide for effective landscaped separation from adjacent developments.
- v. Minimise overshadowing of adjacent properties and minimise requirements for mechanical heating and cooling of interiors.
- vi. Protect the privacy of adjacent properties.
- vii. 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.

## Contents

### Part C Glenmore Park Stage 3

<b>1. Preliminary</b> .....	<b>4</b>
1.1 Land to Which This Part Applies.....	4
1.2 Relationship to other plans and documents.....	5
1.3 Supporting studies.....	5
1.4 How to use this chapter.....	6
<b>2. Structure plan</b> .....	<b>7</b>
2.1 Introduction.....	7
2.2 Urban Structure.....	8
2.3 Dwelling yield.....	11
<b>3. Public domain</b> .....	<b>13</b>
3.1 Responding to the site's natural features.....	13
3.1.1 Corridors .....	13
3.1.2 Bushfire hazard management .....	15
3.1.3 Water management.....	16
3.1.4 Flood management.....	20
3.1.5 Trees.....	20
3.2 Access and Movement.....	22
3.2.1 Urban Structure .....	22
3.2.2 Vehicular Movement.....	24
3.2.3 Public Transport .....	25
3.2.4 Pedestrians and cyclists.....	26

3.3 Streetscapes.....	28
3.3.1 Landscape Character .....	28
3.3.2 Street furniture and public art .....	30
3.3.3 Road sections.....	31
<b>3.4 Open Spaces.....</b>	<b>50</b>
3.4.1 Open spaces – district parks.....	53
3.4.2 Open Spaces – Local (Neighbourhood) Parks.....	56
3.4.3 Linear (Riparian Corridor Edge) parks.....	58
3.5 Neighbourhood Precinct .....	59
3.5.1 Urban Structure.....	60
3.5.2 Urban Character .....	62
3.5.3 Retail built forms.....	63
3.5.4 Primary School.....	64
<b>4. Private Domain.....</b>	<b>65</b>
4.1 Subdivision.....	65
4.2 Dwelling diversity.....	66
4.3 Shared driveways.....	70
4.4 Site planning.....	72
4.4.2 Garages and parking.....	74
4.4.3 Building Footprints .....	75
4.5 Solar Planning.....	78
4.6 Dwelling design.....	78
4.7 Visual and Acoustic Privacy .....	80
4.8 Defining Boundaries .....	82
4.9 Site Facilities .....	84
<b>5. Typical Development Forms.....</b>	<b>84</b>
5.1 Dwellings on R2 Low Density Residential Lots.....	84

5.2 Dwellings on R3 Medium Density Residential Lots.....	87
5.3 Studios.....	89
5.4 Dwellings on C4 Environmental Living Lots .....	90
5.5 Non-Residential Development .....	97
6. Lot development, grading and earthworks.....	98
7. Development staging .....	99

DRAFT

# Part C – Glenmore Park Stage 3

## 1. Preliminary

This chapter is called ‘Glenmore Park Stage 3’ and supports the objectives of the Penrith Local Environmental Plan 2010 to facilitate the sustainable development of residential, mixed use, education and open space on the site.

### 1.1 Land to Which This Part Applies

This chapter applies to the land as shown on Figure 1 below.

**Figure 1: Glenmore Park Stage 3 Subject Land**



## 1.2 Relationship to other plans and documents

In addition to the provisions of the Penrith LEP 2010, this chapter must be read in conjunction with:

- Any relevant Planning Agreement between the Glenmore Park Stage 3 landowners (or individual landowners) and Penrith City Council,
- The Glenmore Park Stage 3 Development Contributions Plan where relevant, and
- The relevant sections of Penrith Development Control Plan 2014.

In the event of any inconsistency between this Section and the city-wide sections, then the provisions of this Section shall apply.

## 1.3 Supporting studies

The following supporting studies and documents have been used in the preparation of this chapter:

- *Glenmore Park Stage 3 Planning Proposal Bushfire Statement* prepared by Building Code and Bushfire Hazard Solutions (April 2022).
- *Water Cycle Management Strategy Report- Post Rezoning Glenmore Park Stage 3 (GP3), prepared by J. Wyndham Prince, Revision E, (9 October 2024)*
- *Glenmore Park Extension – Residential Development Planning Proposal Comprehensive Traffic Impact Assessment (CTIA)* prepared by The Transport Planning Partnership (August 2022) & Addendum CTIA (November 2022)
- *Extensions to Glenmore Park, Chain-O-Ponds and The Northern Road, Mulgoa – Road Traffic Noise Investigation* prepared by Renzo Tonin (March 2020).
- *Public Domain and Open Space Strategy* prepared by GLN Planning and Sturt Noble Associates (January 2023).
- *High Level Risk Assessment (HLRA) to identify contamination and salinity risks* prepared by SESL (April 2022).
- *Geotechnical Assessment* prepared by D Katauskas (April 2022)
- *Desktop Aboriginal Objects Due Diligence Assessment* prepared by Niche

Consulting (March 2022)

- *Historic Heritage Assessment* prepared by Niche Consulting (April 2022)
- *Ecological & Riparian Issues & Assessment Report* prepared by Gunninah (April 2022)
- *Social Impact and Infrastructure Assessment* prepared by Elton Consulting (March 2020) and *Addendum* (April 2022)
- *Preliminary Retail Advice* prepared by Urbis (April 2022)
- *Serviceability of Glenmore Park Stage 3* prepared by Qalchek (April 2022)
- *Electrical servicing investigation* prepared by Power Line Design (April 2022)
- *Glenmore Park Extension Visual Impact Assessment*, prepared by Urbaine and GLN Planning (March 2020)

These documents are available for reference from Council.

#### 1.4 How to use this chapter

The chapter identifies key planning issues that Council will address when considering Development Applications. Each planning issue is structured in the following manner to provide a clear understanding of Council's expectations with regard to development:

<b>Objectives:</b>	Describe the rationale of the planning issue and what it is trying to achieve.
<b>Performance Measures:</b>	Qualitative measure against which a development's ability to achieve the objectives will be assessed. These measures provide flexibility for developers to achieve those objectives through a suite of design responses.
<b>Development Controls:</b>	Numeric based measures that will need to be achieved to provide acceptable solutions to meet the relevant objectives.

## 2. Structure plan

### 2.1 Introduction

#### Vision

The vision and desired future character for Glenmore Park Stage 3 at Mulgoa seeks to produce a cohesive new residential community supported by new open space areas and environmental linkages, primary school and local shops. The community will:

- a) Promote, service, and support a diverse, vital, and healthy community that is socially, environmentally, and economically sustainable, ensuring the quality of life for future generations.
- b) Demonstrate new benchmarks in urban outcomes and quality lifestyles.
- c) Be characterised by innovation, accessibility, connectivity, sustainability, and diversity, celebrating the natural and cultural heritage of the area.
- d) Conserve, rehabilitate and enhance connectivity on the site and the key environmental attributes and managing natural systems within environmental corridor linkages and new open space areas.
- e) Provide a Neighbourhood Precinct comprising local retail, shop top housing and neighbourhood amenities, located near a future school and active open space.
- f) Provide different zone for housing to encourage diverse lot sizes, streetscapes, and housing typologies.
- g) Include appropriate transitions to address the key interfaces to The Northern Road, Chain-O-Ponds Road, Mulgoa Nature Reserve, and environmental linkages.

- h) Provide sustainability initiatives including measures to reduce the urban heat island effect.
- i) Aim to maximise tree canopy outcomes within the public and private domain and open space areas to address the urban heat island effects in Penrith. A 40% tree canopy target is an aspirational target for development across the Glenmore Park Stage 3 rezoning area.
- j) To strive towards a future network design and development that is built to establish sustainable travel behaviour from the outset and encourages a mode share towards public transport, walking and cycling

## **Objectives**

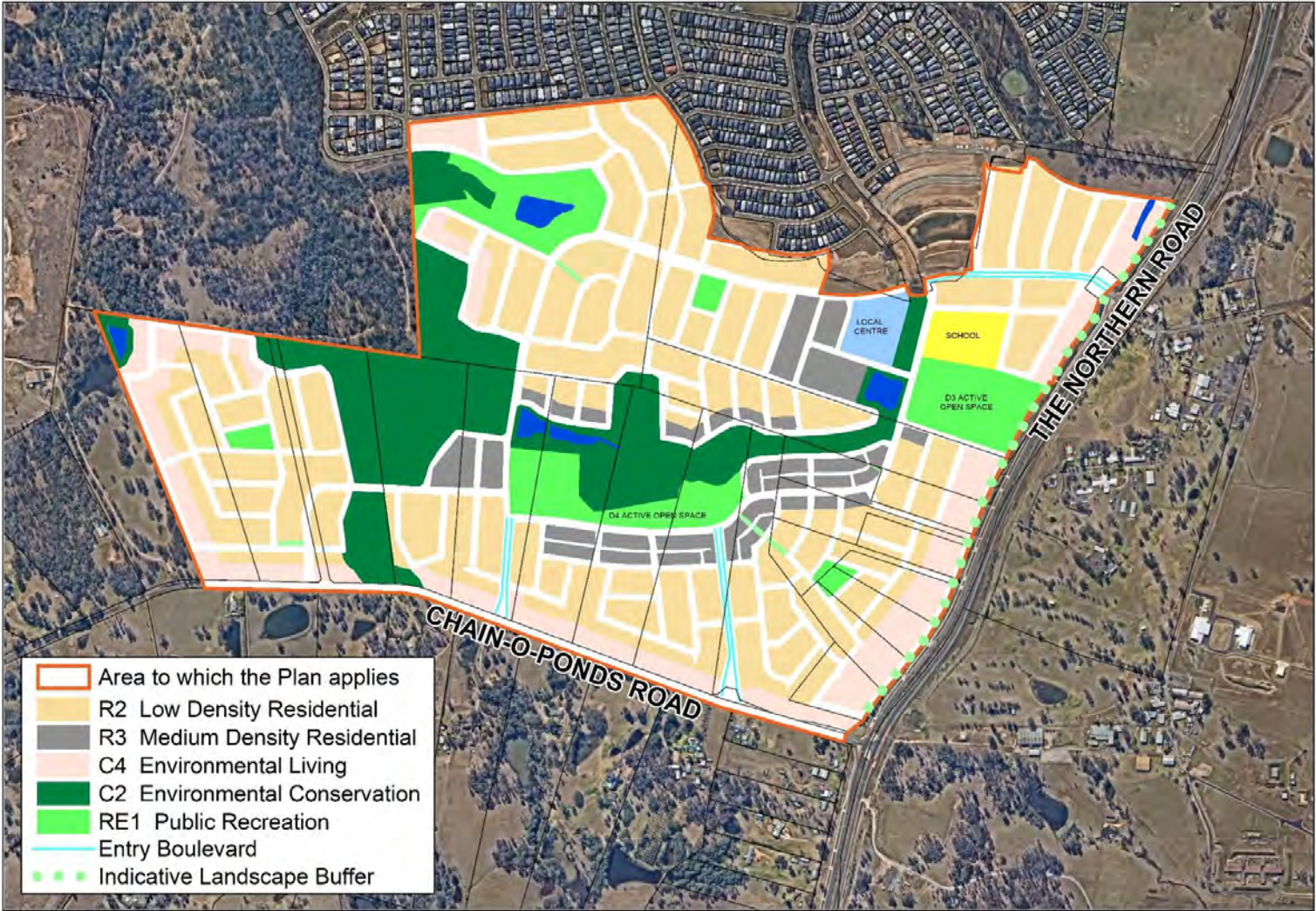
- a) To provide a clear planning framework for development of the subject lands.
- b) To ensure that the most efficient use of urban zoned land is achieved.
- c) To ensure development meets sound environmental planning practices and standards.
- d) To encourage development that satisfies ecologically sustainable design principles.
- e) To utilise and enhance the area's natural character of the lands to provide opportunities for a unique community identity.
- f) To promote sustainable building forms.
- g) To facilitate the provision of diverse housing forms reflecting the increasingly diverse profile of Penrith's communities.
- h) To integrate all modes of transport to ensure there are efficient links within and between open spaces, neighbourhood centre and adjacent residential areas and services.
- i) To protect and enhance watercourses as natural systems, riparian corridors and biological linkages.

## **2.2 Urban Structure**

The rationale and elements of the urban structure for Glenmore Park Stage 3 is provided below:

- a) The principal land use within Glenmore Park Stage 3 will be residential. The residential areas will straddle either side of a lineal open space network represented as a riparian Corridor.
- b) A neighbourhood centre, active open space and primary school are centrally located to provide a focal point for the new community.
- c) Vehicle access will be provided via Chain O Ponds Rd and The Northern Road, and a loop collector road will represent the primary organising element of the road network.
- d) The loop collector road enables a legible road hierarchy to permeate throughout the subject lands.
- e) Additional road connections through to the existing Glenmore Park suburb will also be provided at the northern edge of the release area.
- f) Active and passive open spaces will be distributed throughout the urban area, building on existing natural assets and providing a coordinated and integrated network throughout the release area.
- g) Higher density forms of housing will be provided along corridor edges, around the Neighbourhood Centre, in good proximity to public transport routes and adjacent to active and passive open spaces.
- h) Residential areas on the boundary of the release area facing The Northern Road, Chain O Ponds Road or the Mulgoa Nature Reserve will provide larger lots that provide a transition between urban areas and the surrounding rural landscape.
- i) Glenmore Park Stage 3 Structure Plan (the Plan) establishes the structure and form for the planning and future development of the area according to the vision. This Plan is illustrated at Figure 2 with the main elements being described and expanded upon in more detail in Section 3 Public Domain. Section 7 Development Staging provides an indicative plan of how the release area will be developed.

**Figure 2: Glenmore Park Stage 3 Structure Plan**



## 2.3 Dwelling yield

### Objectives

- a) To ensure the efficient use of zoned land and required infrastructure is achieved.
- b) To ensure the sustainable provision of services and facilities required for diverse urban communities, including public transport.
- c) To promote diverse residential housing forms that will accommodate a wide demographic profile.
- d) To promote affordable housing opportunities in residential areas.
- e) To ensure that lots in Environmental Living zones address interfaces and maintain a rural appearance.
- f) To ensure appropriate restrictions to address acoustic requirements for construction of certain dwellings in proximity to The Northern Road.
- g) To provide block sizes that maximise solar access.
- h) To provide lot sizes and shape that reflect the broader urban structure.
- i) To ensure development responds to site topography and natural assets.

### Residential areas

Development Applications on land zoned R2 Low Density Residential and R3 Medium Density Residential should be read in conjunction with the Clause for Glenmore Park Stage 3 and the relevant maps within the Penrith Local Environmental Plan 2010.

### Performance measures

- a) In residential areas, incorporate a range of lot sizes within each Precinct.
- b) Larger lots should be provided on street corners to allow development to address both street frontages.
- c) Lot sizes should respond to site topography to reduce the need / size of retaining walls between lots.
- d) Lots front streets and overlook open spaces to provide passive

surveillance of those areas.

## Controls

1. Dwelling yields must comply with the dwelling caps in Penrith LEP 2010.
2. The R2 zone will deliver up to 1,641 dwellings across different precincts within the development. The dwelling caps are based on an indicative average lot size above the minimum lot size of 300m<sup>2</sup>. Diversity of housing can be achieved by introducing smaller lots of down to a minimum 300m<sup>2</sup> which in turn must be offset by larger lots within the same Precinct. In the R2 zone dual occupancies will count toward the total maximum dwellings.
3. The R3 zone will deliver up to 512 dwellings including 16 studios (ie Fonzie flat style dwellings above garages across Area 11 only). The dwelling caps are based on an average lot size above the minimum lot size of 180m<sup>2</sup>. Diversity of housing can be achieved by introducing smaller lots down to a minimum of 180m<sup>2</sup> which in turn must be offset by larger lots within the same Area. In the R3 zone dwellings above rear garages will count toward the total maximum dwellings.
4. Development consent can only be granted to a single development application for development on land zoned R3 Medium Density Residential that is both the subdivision of land into residential lots, and the erection of a building on each lot resulting from the subdivision, but only if the size of each lot is equal to or greater than 180m<sup>2</sup>.
5. Single residential dwelling lots within residential zones will be a minimum of 25m deep. Variations to this may occur on corner or less regular lot shapes.

## 3. Public domain

### 3.1 Responding to the site's natural features

#### 3.1.1 Corridors

##### Objectives

- a) To conserve biodiversity by providing vegetated environmental corridor linkages between significant natural vegetation units within the City.
- b) To ensure that important natural features inform the urban structure of the place.
- c) To provide high amenity areas for residents.
- d) To retain, rehabilitate and restore native vegetation within environmental corridors.
- e) Provide new works that enhance the amenity and enable the enjoyment of these spaces for passive recreation.
- f) To ensure the quality and quantity of stormwater leaving the developed area does not adversely impact upon the health of downstream environmental areas and watercourses.
- g) To provide terrestrial connectivity for fauna movement along the environmental corridors and provide appropriate fauna crossing measures.
- h) To ensure uses not compatible with protecting and enhancing areas of high biodiversity value (Cumberland Plain Conservation Plan identified avoided lands) do not encroach into these areas.

##### Controls

These objectives may be achieved in open spaces and environmental corridors where:

1. Existing native vegetation is retained within environmental corridors and further enhanced and managed through the development of these areas as usable passive open space areas.
2. A Vegetation Management Plan that identifies how the corridor will be

established is prepared, developed and implemented on site as part of its development.

3. Environmental corridors are to be fully vegetated with appropriate local native vegetation (ie. fully structured trees, shrubs and groundcovers) and provided in accordance with a Vegetation Management Plan.
4. Where native vegetation is retained in riparian areas of environmental corridors, it is to be rehabilitated and managed consistent with the Vegetation Management Plan and the *Guidelines for riparian corridors on waterfront land*. Pedestrian paths/cycleways, water management basins and drainage infrastructure (which includes pathways for vehicular access to basins) should avoid native vegetation.
5. Works in corridors such as cycleway/pedestrian paths are generally located outside core riparian zones. Paths should be kept to the edge of these areas and aim to avoid existing vegetation retained and provide a managed edge.
6. The corridors and other topographical features are represented as special places within the urban form.
7. Significant revegetation of the environmental corridors occurs as part of development.
8. Corridors serving riparian functions can incorporate shared pathways and water quality treatment devices. Provision of water infrastructure should align with the SEPP (Biodiversity & Conservation) 2021 and Cumberland Plain Conservation Plan Guidelines for Infrastructure Development.
9. The design of the bridging structures over the corridor ensure the following:
  - i. 1% AEP flood conveyance.
  - ii. Flora and fauna connectivity.
  - iii. Scour protection.
10. Fauna crossings should be designed in consultation with experts on the target fauna species that may potentially use the crossings and experts in fauna crossings so that structures are effective.

11. An effective barrier should be provided along the entire perimeter of environmental corridors to prevent unauthorised vehicular access and prevent inadvertent damage. The barrier to be provided should be an open and low perimeter fence or low bollard type barrier.
12. Design of stormwater detention basins within the east west corridor must allow sufficient areas north and south of the basin to facilitate terrestrial fauna movement.

**Figure 3: Master Plan showing indicative environmental corridors adjacent to open space area**



### 3.1.2 Bushfire hazard management

#### Objective

- a) To manage the risk to life and property assets from bushfire events while ensuring that the natural environment including riparian corridors are protected and enhanced.

#### Controls

1. The objectives may be achieved where:

2. Asset Protection Zones (APZs) of a scale and type suitable to the NSW Rural Fire Service are provided between all built forms and adjacent bushland units.
3. APZ's must be provided and maintained in accordance with the *Planning for Bushfire Protection 2019* and *State Environmental Planning Policy (Biodiversity & Conservation) 2021* Chapter 13.
4. No burdens are to be placed upon Council to maintain an APZ.
5. All development within bushfire prone lands is to reference and be consistent with *Planning for Bushfire Protection 2019*.
6. Parking provision on perimeter and non-perimeter roads is to be provided in accordance with Section 5.3.2 of *Planning for Bush Fire Protection 2019* as follows:
  - i. Outside the minimum carriageway width of 8m for perimeter roads, and
  - ii. Outside the minimum carriageway width of 5.5m for non-perimeter roads.
6. Fire hydrant flows, pressures and installations (spacing, design and sizing) comply with the relevant clauses of Australian Standard As 2419.1:2005 and not be located on any road carriageway.

### **3.1.3 Water management**

#### **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 downstream environmental areas and watercourses.
- c) To reduce the volume of stormwater run-off from the site.
- d) To ensure stormwater runoff is adequately treated before it enters the riparian corridors.

## Performance Measures

- a) Trunk drainage works are provided as an initial stage of development of the release area.
- b) Stability within the watercourses prevents bank erosion.
- c) The stormwater management regime provides treatment trains including bio- retention swales and rain-gardens/basins to improve the quality of urban runoff and achieve a minimum percentage reduction of stormwater pollutants before it enters the creek channels. These are to be delivered at the timing necessitated by the adjoining development works.
- d) The active playing fields, school site and neighbourhood centre incorporate on-site water quality treatment devices as part of their development.

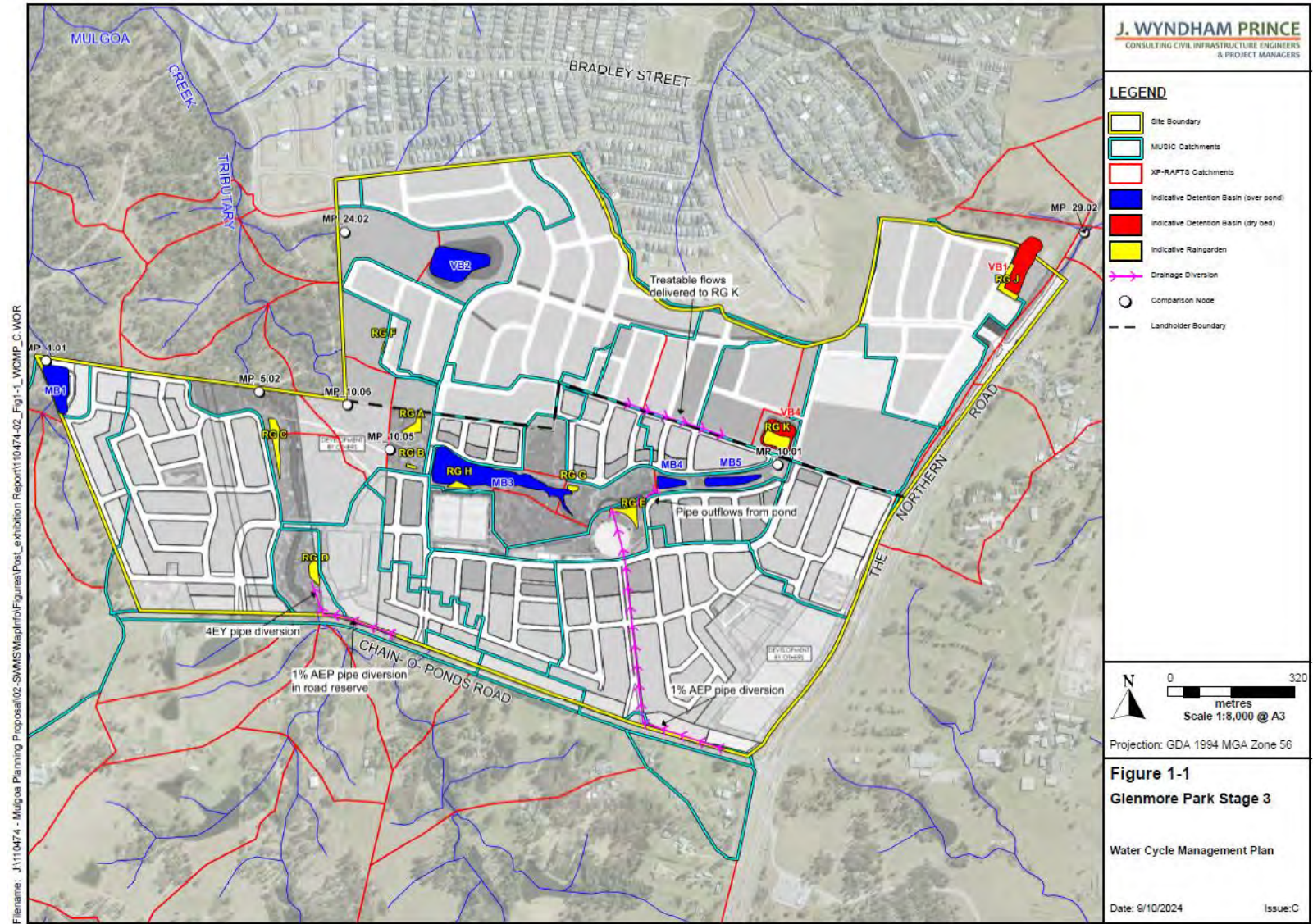
## Controls

1. Achieve Council's downstream stormwater quality objectives and performance measures in accordance with the Water Management section within the Environmental Management Chapter of Penrith DCP.
2. The locations of the corridors and water quality treatment devices are to be generally consistent with that represented as shown in the Water Cycle Management Strategy See Figure 4.
3. The existing dam labelled VB2 (See Figure 4) located in District Park 1 is to be reconstructed generally within the same location and function as a water quality treatment and detention facility. The reconstruction works will be required to achieve safe grades at the edges and meet water quality performance measures.
4. Design of stormwater detention basin labelled MB3 within the east west corridor must allow sufficient areas north and south of the basin to facilitate terrestrial fauna movement.
5. Dam reconstruction works should include, relocation of any important native aquatic fauna that currently use the dams, to restock the new waterbody after construction and/or their relocation to appropriate nearby habitat.
6. The stormwater treatment regime includes a treatment train to achieve

the reduction of stormwater discharge and pollutants by including the following elements:

- i. Rainwater tanks.
  - ii. Gross pollutant traps at discharge point to basins.
  - iii. Bio-retention raingardens.
  - iv. Feature water bodies (ponds), with wetlands.
7. Detention basins are to be located throughout the development to attenuate stormwater runoff as follows:
- i. Three (3) of these detention basins (MB1, MB3, VB2) are proposed to be constructed as wet bed basins, over the top of permanent waterbodies.
  - ii. Two (2) detention basins (VB1 and VB4) are proposed as “dry bed” detention basins.

**Figure 4: Indicative water cycle management**



### **3.1.4 Flood management**

#### **Objectives**

- a) To manage the risk to life and property assets from flooding events.
- b) To allow the riparian corridor to function as a naturally occurring waterway.
- c) To manage most flood waters within the site.

#### **Controls**

1. The detention and storage of flood waters are to be in accordance with NRAR guidelines and designed in consideration of Council's ongoing maintenance obligations.
2. Flood waters are managed within the C2 zoned lands and not to encroach onto active open space areas.
3. Stormwater Management Plan identifying how flood waters will be managed is prepared and implemented on site as part of this development.
4. Refer to the flood liable provisions of the Water Management section within the Environmental Management Chapter of Penrith DCP and the Water Cycle Management Strategy for further details.
5. Stormwater detention is provided to reduce the 1-year ARI post development flows to pre development flows.

### **3.1.5 Trees**

#### **Objectives**

- a) To protect and embellish local vegetation and habitat.
- b) To integrate significant trees within the landscape of the new urban area.
- c) To create a new urban area that provides extensive tree canopy in open space areas, the private domain and through street tree planting to mitigate impacts from the urban heat island effect.

- d) Aim to maximise tree canopy within the public and private domain and open space areas to address the urban heat island effect in Penrith consistent with the Public Domain and Open Space Strategy.

## Controls

These objectives may be achieved where:

1. In developable areas (certified urban capable land):
  - i. Retention and conservation of existing trees must consider the requirements of the Cumberland Plain Conservation Plan Mitigation Measures Guideline.
  - ii. Where practical, existing mature trees and significant trees are conserved for their natural functions and aesthetic value, as part of the landscaped area of future development.
2. Open spaces are co-located with existing stands of significant trees.
3. No disturbance to existing ground levels occurs within the drip line of existing significant trees.
4. Existing native vegetation in riparian corridors will be protected and corridors revegetated to fully structured native vegetation communities to provide habitat and movement for flora and fauna species in line with the Vegetation Management Plan.
5. The delivery of tree canopy within open space areas, street planting and the public and private domain is to align with the tree canopy targets provided in the Public Domain and Open Space Strategy. See section 3.4. Open Spaces for three canopy targets.
6. Applicants should refer to the Urban Heat Management section within the Environmental Management Chapter of Penrith DCP.
7. Species selection and planting along The Northern Road and within the landscape buffer must consider existing overhead electricity infrastructure.

## 3.2 Access and Movement

### 3.2.1 Urban Structure

#### 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 promote a safe and efficient movement network for all users.
- d) To promote public and active transport options.

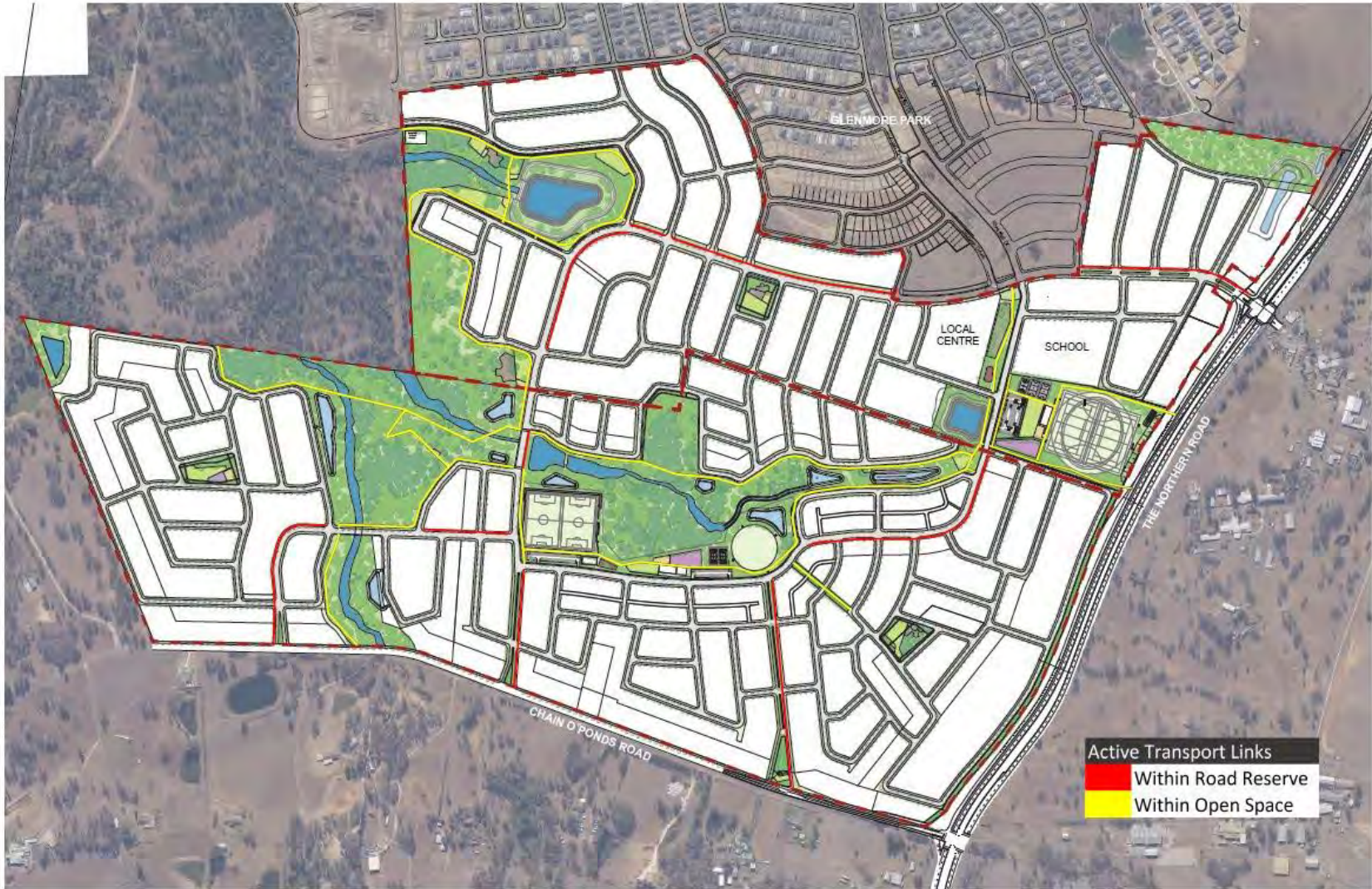
#### Performance Measures

These objectives may be achieved where:

- a) The street network is generally consistent with the hierarchy as shown in the Road Hierarchy Plan (Figure 7) and outlined in the Section 3.3.3 Road Sections and 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 of mixed use and open space areas at focal points within convenient walking distance for residents.
- d) The vehicle, cyclists and pedestrian networks, land-use mix, 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.
- e) Active transport links, pedestrian paths and cycleways to be included generally in accordance with the Indicative active transport plan Figure 5.

**Figure 5: Indicative active transport plan**

GLENMORE PARK STAGE 3 MASTERPLAN



## 3.2.2 Vehicular Movement

### 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 and 'rat running'.

### Performance measures

These objectives may be achieved where:

- 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) A loop type internal collector road is provided that can accommodate bus movements and passes the key community and open space assets, with links to appropriate roads in GP2. See Figure 6.
- c) The street network connects with adjacent collector routes and neighbouring streets to maximise movement efficiency and social connection.
- d) Two vehicular access points to adjoining areas will be provided to the north at locations shown at Figure 7.
- e) The predominant local street pattern is an east-west axial grid that maximises quantity of lots with a north-south axis.
- f) The street network takes account of the topography and vegetation and respects any existing or potential site assets.
- g) The street network allows all development to address the street.
- h) Rear lanes may be provided in medium density areas to assist in reducing potential pedestrian and vehicle conflicts within the broader road network.

### Controls

1. For street blocks located on residential zoned land have a maximum

length of 300m and a maximum depth of 90m.

2. Cul-de-sacs are discouraged, however where their use is justified, will have a maximum length of 60m and only be used to improve the lot efficiency of deep or odd shaped street blocks and will always have their head located away from dominant movement direction.

### **3.2.3 Public Transport**

#### **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.

#### **Performance measures**

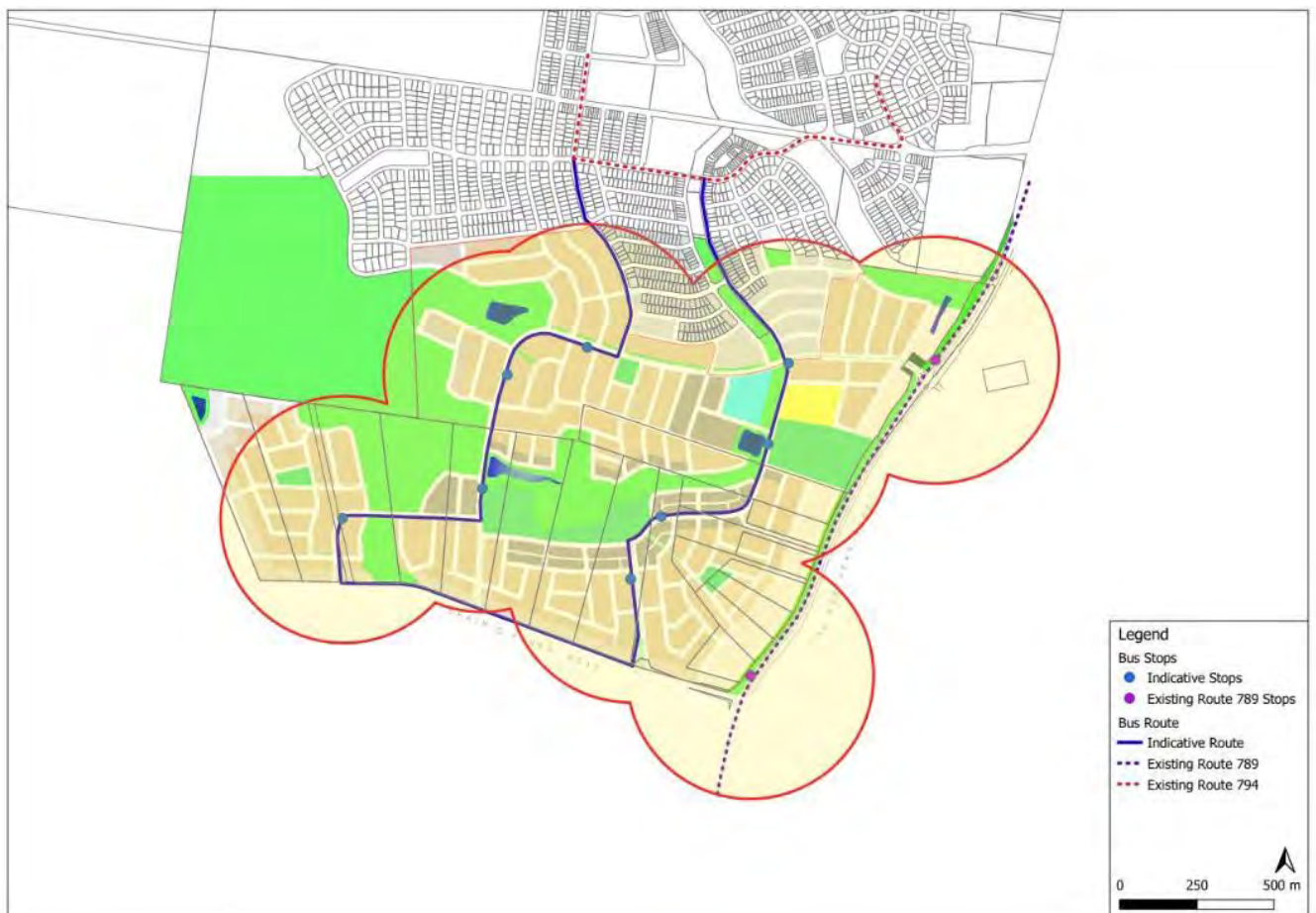
These objectives may be achieved where:

- a) The bus route facilitates connections between Precincts, the existing Glenmore Park estate and key facilities within the subject lands, local facilities and the Penrith CBD.
- b) A 10% modal shift from private vehicle to active and public transport modes is reached or exceeded.
- c) Bus routes and sheltered bus stops are designed, constructed and clearly marked.
- d) The planning principles for public transport are shown at Figure 6 are delivered as part of the development.
- e) The early delivery of bus services as the community grows.

#### **Controls**

1. Dwellings are predominately within 400m distance from the designated bus route.
2. The bus route will be designed and constructed generally in accordance with the road profiles identified at Section 3.3.3 Road Sections.

**Figure 6: Indicative bus route**



### 3.2.4 Pedestrians and cyclists

#### Objectives

- a) To promote active transport options by providing safe and convenient routes to and from key facilities and open space areas within the community and the existing Glenmore Park suburb.
- 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.
- e) To provide combined cycleways and pedestrian paths that connect key destinations within the development:
  - i. At the edge of corridors and district open spaces and

- ii. Along Collector Roads where there is development on both sides.

## Performance Measures

These objectives may be achieved where:

- a) Footpaths are an integrated element of the normal street network and align with the road profiles in Section 3.3.3 Road Sections part of this chapter.
- b) The cycle network is a combination of on street shared pathways and shared pathways through open space that link the main points of attraction and significant natural features.
- c) Combined pedestrian and cycle pathways in open spaces are provided they should generally be aligned parallel with its interface to the street to take advantage of street lighting and allow for casual surveillance by residents and drivers. Where streets are adjacent to environmental corridors or open space areas these paths will be provided within the corridor or open space.
- d) Pathways are designed and constructed wherever possible and practical to be of appropriate width, longitudinal gradient and sight distance.
- e) 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.
- f) Street landscaping is provided to enhance the appearance of the street and pedestrian environment, including providing protection from the sun.
- g) A pathway network is designed, constructed and clearly marked generally in accordance with Figure 5 with appropriate connections to existing Glenmore Park, linking the main points of attraction and significant natural features.
- h) Bicycle racks are provided as part of all developments that attract significant public patronage.
- i) Pedestrian paths and cycleways that are located within the riparian corridor must be in accordance with the Department of Water and Energy's 'Design and Construction of Paths, Cycleways and Accessways

along Watercourses and Riparian Area Guideline 2007'.

## **Development Controls**

1. Pathways are to be in accordance with dimension requirements under Section 3.3.3 Road Sections.
2. Footpaths are to be provided on both sides of the road in accordance with Section 3.3.3 Road Sections.

## **3.3 Streetscapes**

### **3.3.1 Landscape Character**

#### **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 is appropriate to the character and constraints of each locality.
- h) To contribute to the reduction of urban heat island effect as per the Urban Heat Management section within the Environmental Management Chapter of Penrith DCP and aim for a continuous canopy cover to reduce urban heat and improve connectivity across the site.

#### **Performance measures**

These objectives may be achieved where:

- a) The release area landscape includes streets lined with tall tree species.
- b) Landscaping is provided to create a character that is distinct to each

street category and as relevant to interface with surrounding street network and public domain.

- c) Streets are designed to establish or enhance the unique character of the area by responding to its topography, desirable views or local features
- 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 within the carriageway and/or verge.
- 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.
- 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.

## **Controls**

1. Street trees are provided at a rate of one tree for every 10m of site frontage.
2. Street trees are provided at minimum size of 75 litres and fitted with tree guards.
3. Species selection is appropriate to the character and constraints of the locality.

### **3.3.2 Street furniture and public art**

#### **Objectives**

- a) To visually define and promote attractive public spaces.
- b) To enhance public spaces so that they are vibrant, safe and welcoming.
- c) To create a sense of identity for the area by building distinctive places which reflect cultural diversity and local heritage and illuminate contemporary significance and meaning.
- d) To facilitate cultural identity through art and design in public places, with the engagement of the local community.
- e) To enhance creative cultural life of the community and place, liveability and amenity through the provision of public art and interpretive elements.

#### **Performance measures**

- a) Public art is used to define entry ways to the new release area.
- b) Public art is provided throughout key public domain areas.
- c) Public art may be freestanding art objects or works integrated into building facades, other built edges, and landscaping adjoining public spaces.
- d) Public art should contribute to a sense of Place, pride and local identity, with themes that reflect Aboriginal significance of the local area, local heritage, local stories, local environment or community.
- e) Street furniture maximises pedestrian comfort, convenience and amenity.
- f) Street furniture forms an integrated element of the streetscape.

#### **Controls**

- I. Street furniture is integrated into the design of all public spaces and includes:
  - i. Seats.
  - ii. Litter bins.
  - iii. Drinking fountains.

- iv. Lighting.
  - v. Street and information signs.
  - vi. Bicycle racks.
  - vii. Planter boxes.
  - viii. Other items suitable to the function of each public space.
2. Street furniture throughout precincts should be consistent in design and style.
  3. Street furniture is to be located so as not to impede mobility, in accordance with AS1428:1-4.
  4. Location and detailing of all proposed street furniture and public art is indicated on Landscape Plans submitted with Development Applications.
  5. Public art in the public domain will be provided consistent with a cohesive public art strategy developed for the whole development to define the general placement and 'story' of the artworks. Development of the Public Art Strategy will require the engagement and commissioning of professionals in the area of public art and placemaking. Public art is to be designed and implemented in accordance with Council's Place Making and Public Art Strategy.

### **3.3.3 Road sections**

#### **Objectives**

- a) To provide a safe and effective movement network for all users.
- b) To encourage responsible driving behaviour, particularly low travel speeds on residential streets.
- c) To cater for the efficient provision of public utilities.
- d) To incorporate the natural features of the site including movement of stormwater, existing and new trees.
- e) Streets provide appropriate environments for vehicles, bicycles and pedestrian usage.
- f) The upgrading for Chain O Ponds Road will include elements to preserve the rural character.

- g) To promote landscape treatments that are appropriate to the character and constraints of each locality.
- h) Streets provide footpaths with extensive canopy cover to shade both paths and road pavements.
- i) Streets encourage cycling, with a network of shared paths provided connecting to key open spaces and facilities.
- j) Water sensitive urban design is considered holistically across the site and integrated into the street network.
- k) Street design and planting to contribute to the reduction of urban heat island effect as per Section C14 Urban Heat Management section of this DCP.

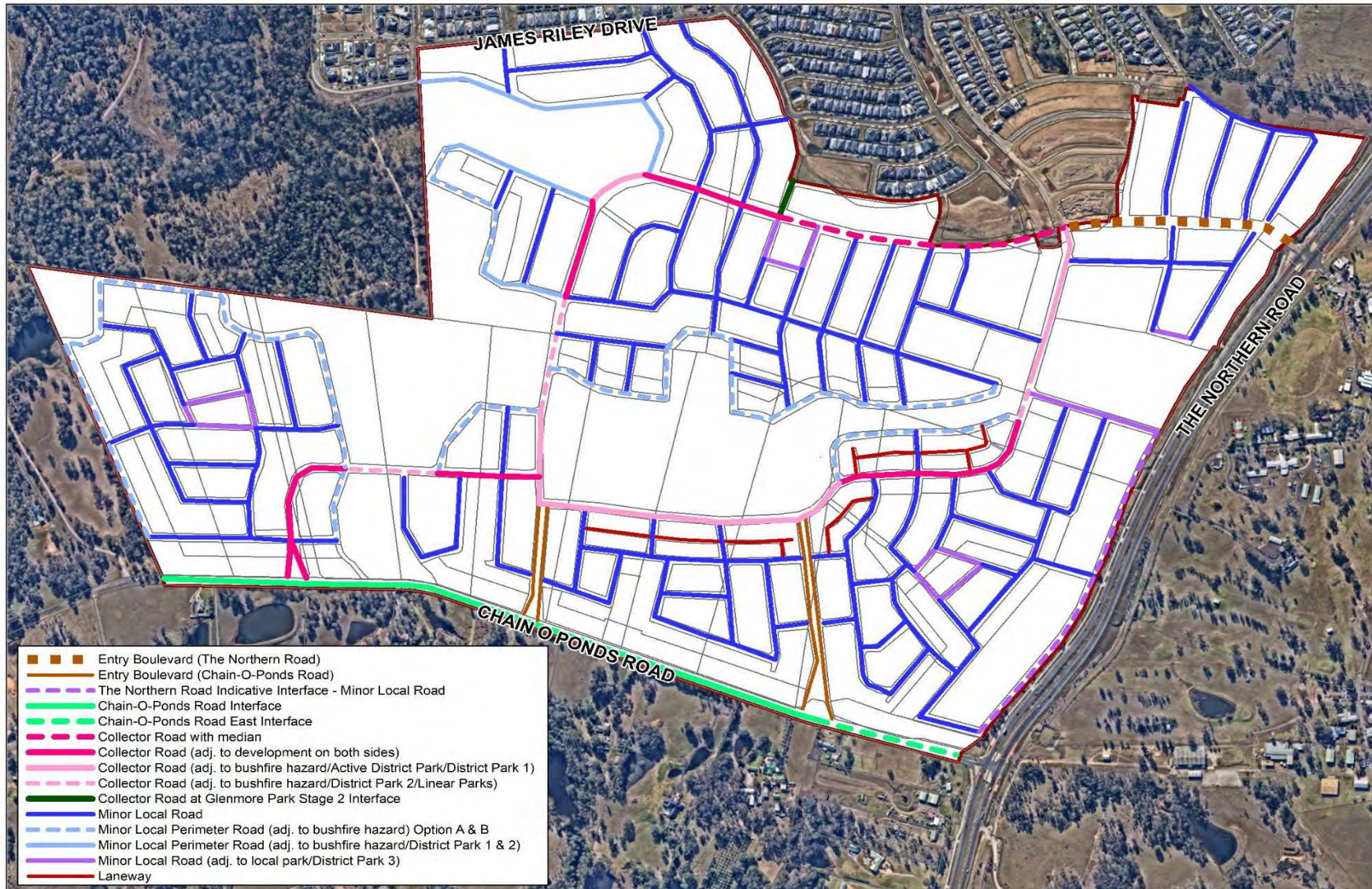
### **Performance measures**

These objectives may be achieved where:

- a) Streets are designed to ensure vehicle speeds are naturally controlled and it is clear where vehicles can park, 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 parking "lanes".
- d) Where the provision of parking "lanes" is included in the road reserve, they are clearly defined as parking bays defined by means of line marking and/or landscape/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 including the use of thresholds within pavements to reinforce continuity of shared paths.
- g) Kerb radii at intersections and junctions are kept to a minimum, subject to satisfying required turning templates, to keep pedestrian crossing distances to a minimum, to control the speed of turning vehicles and to reduce the visual impact of large junctions.

- h) Speed control devices are provided to achieve target speeds where required.
- i) Any speed control devices, inclusive of road narrowing, are to be designed to take into account the needs of cyclists.
- j) Varying degrees, relative to road hierarchy, of delays or the need for driver co- operation due to vehicles parking on local roads is an acceptable, traffic calming outcome.
- k) Upright kerbs are to be used for collector roads and adjacent to open spaces, except as otherwise stipulated.
- l) Development occurs generally in accordance with the road hierarchy demonstrated at Figure 7 and Table 1.
- m) Minimise pavement areas to combat the heat island effect, reduce lifecycle costs and increase opportunities to plant trees with larger canopies within wider verges
- n) Streets provide a logical hierarchy to maximise accessibility to all parts of the community and provide an appropriate response to address key interfaces.

**Figure 7: Road hierarchy plan**



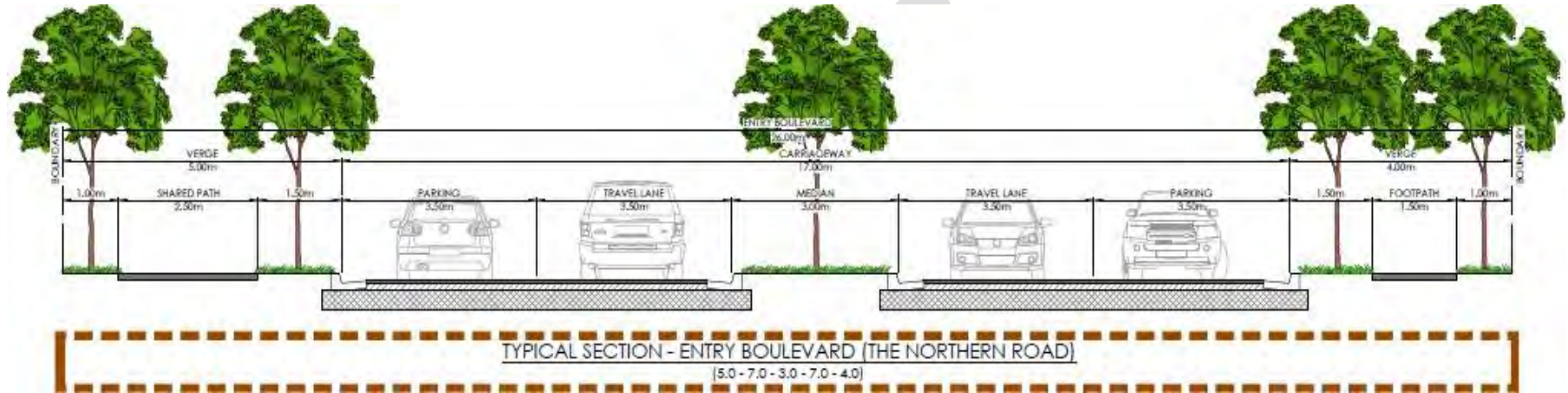
**Table 1 - Summary Road Typologies**

Figure	Road Type / Figure Reference (m) metres	Verge	KSL **	Road	Median	Road	KSL **	Verge	Road Reserve	Path	
<b>Special Purpose Roads</b>											
E7.64	Entry Boulevard (The Northern Road)	5	3.5	3.5	3	3.5	3.5	4	26	2.5	1.5
E7.65	Entry Boulevard (Chain O Ponds)	5	2.5	3.5	3	3.5	2.5	4	24	2.5	1.5
E7.66	The Northern Road indicative interface - Minor Local Road	3.5	0	4	0	4	0	1	12.5	1.5	0
E7.67	Chain O Ponds Road interface	4	2.5	3.5	0	3.5	2.5	4	20	0	2.5
E7.68	Chain O Ponds Road – East – interface	2	2.5	3.5	2	3.5	2.5	4	20	0	2.5
<b>Collector Roads</b>											
E7.69	Collector Road with median	3.8	2.5	3.5	3	3.5	2.5	5	23.8	1.5	2.5
E7.70	Collector Road (Adjacent to development on both sides)	3.8	2.5	3.5	0	3.5	2.5	5	20.8	1.5	2.5
E7.71	Collector Road (Adjacent to Bushfire hazard/ Active District Park/District Pk 1) *	3.8	2.5	4	0	4	2.5	1	17.8	1.5	0
E7.72	Collector Road (Adjacent to Bushfire hazard/ District Park 2 / Linear Parks) *	3.8	2.5	4	0	4	0	1	15.3	1.5	0
E7.73	Collector Road – at Glenmore Park Stage 2 boundary (See also Fig. E7.27)	3.8	2.5	3.5	0	3.5	2.5	3.8	19.6	1.5	1.5
<b>Minor Local Road</b>											
E7.74	Minor Local Road	3.8	0	4	0	4	0	3.8	15.6	1.5	1.5
E7.75 &	Minor Local Perimeter Road (Adjacent to	3.5	2.5	4	0	4	0	1	15	1.5	0

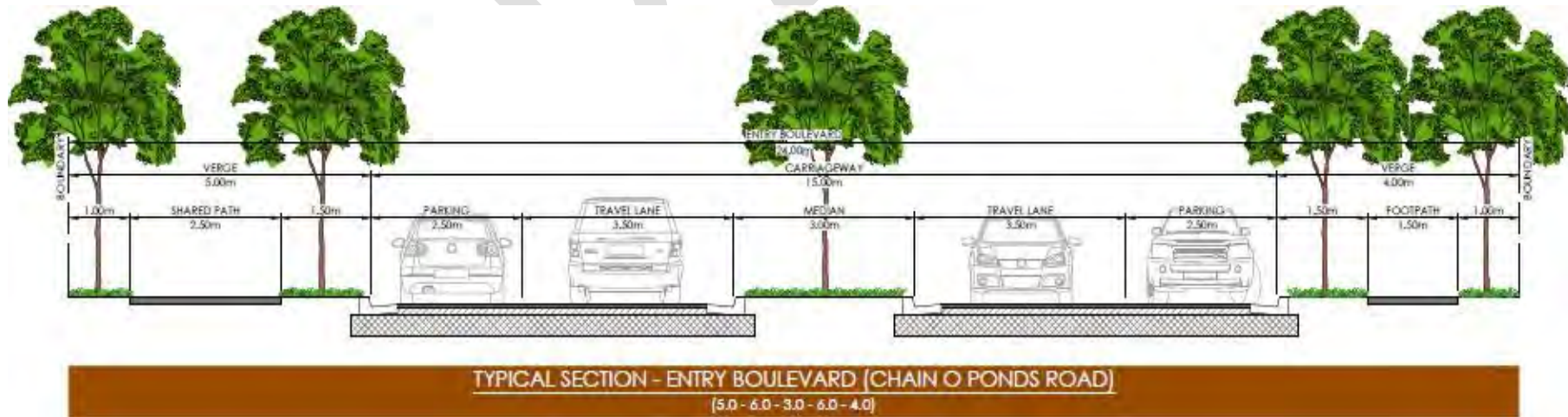
E7.76	bushfire hazard) Option A & B *										
E7.77	Minor Local Perimeter Road (Adjacent to bushfire hazard/ District Park 1 & 2) *	3.5	2.5	4	0	4	2.5	1	17.5	1.5	0
E7.78	Minor Local Road (Bushfire hazard Non-perimeter) *	3.5	2.5	2.75	0	2.75	2.5	3.5	17.5	1.5	1.5
<b>Note:</b> Local Roads identified by NSW Rural Fire Service as 'Non-Perimeter' Roads must meet RFS clear carriageway requirements. A performance solution may be considered by Council with the concurrence of NSW RFS.											
E7.79	Minor Local Road (Adjacent to local park / District Park 3)	3.8	0	4	0	4	0	1	12.8	1.5	0
E7.80	<b>Laneway</b>	0.5	0	3	0	3	0	0.5	7	0	0

\* Perimeter Roads and Non-Perimeter Roads as per NSW RFS Planning for Bushfire Protection 2019 \*\* KSL – Kerbside lane / Parking provision

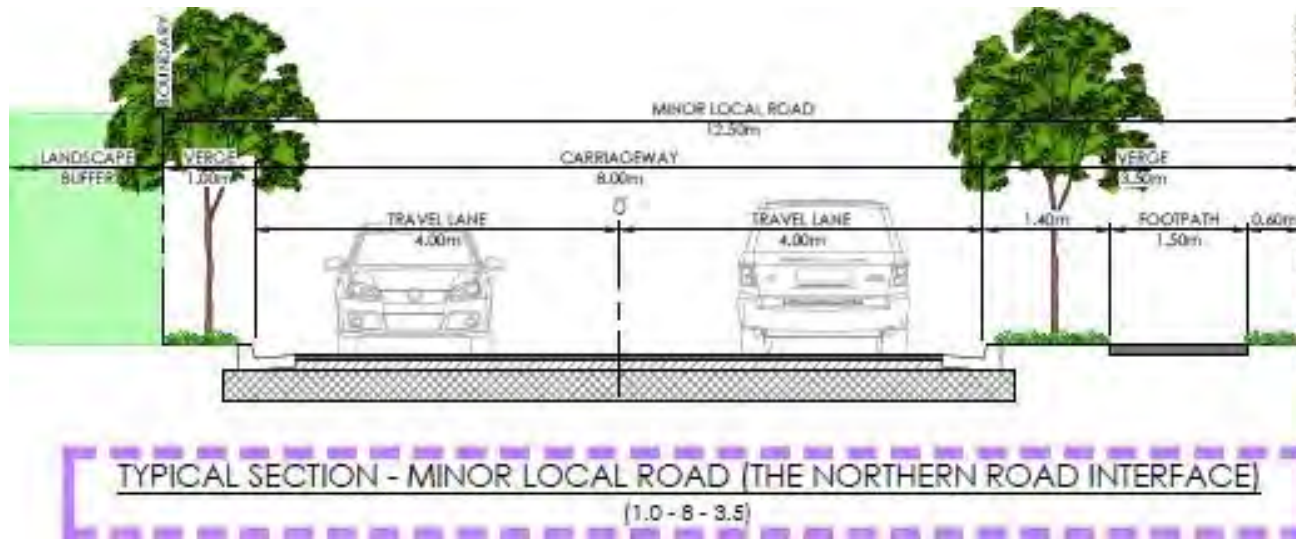
**Figure 8: Entry boulevard Road – The Northern Road**



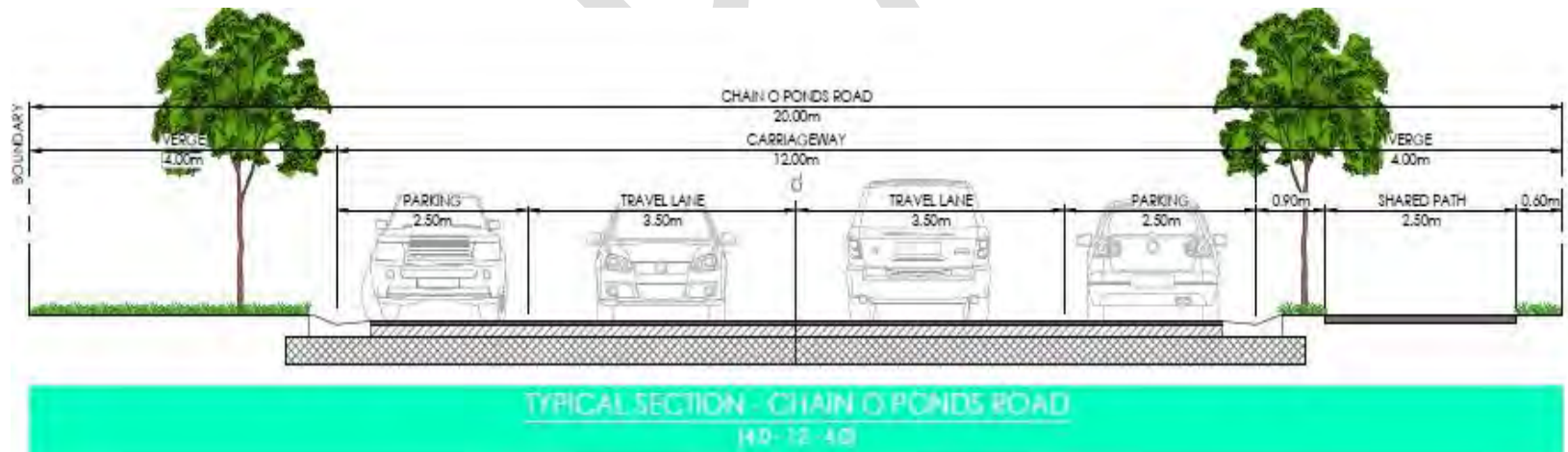
**Figure 9: Entry Boulevard Road – Chain O Ponds Road**



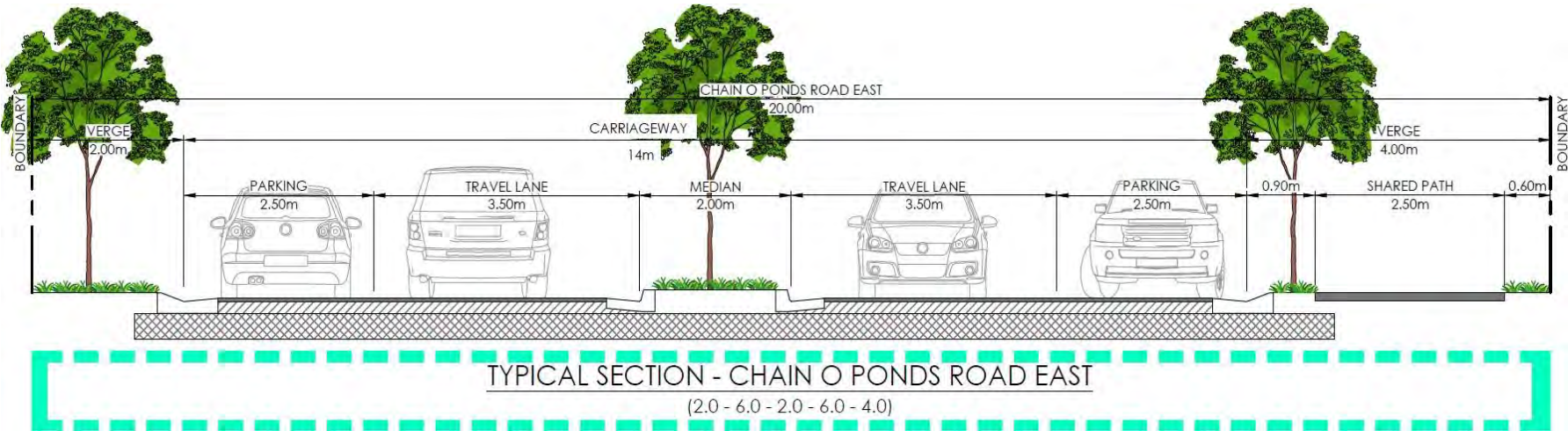
**Figure 10: The Northern Road indicative interface**



**Figure 11: Chain-O-Ponds Road Interface**



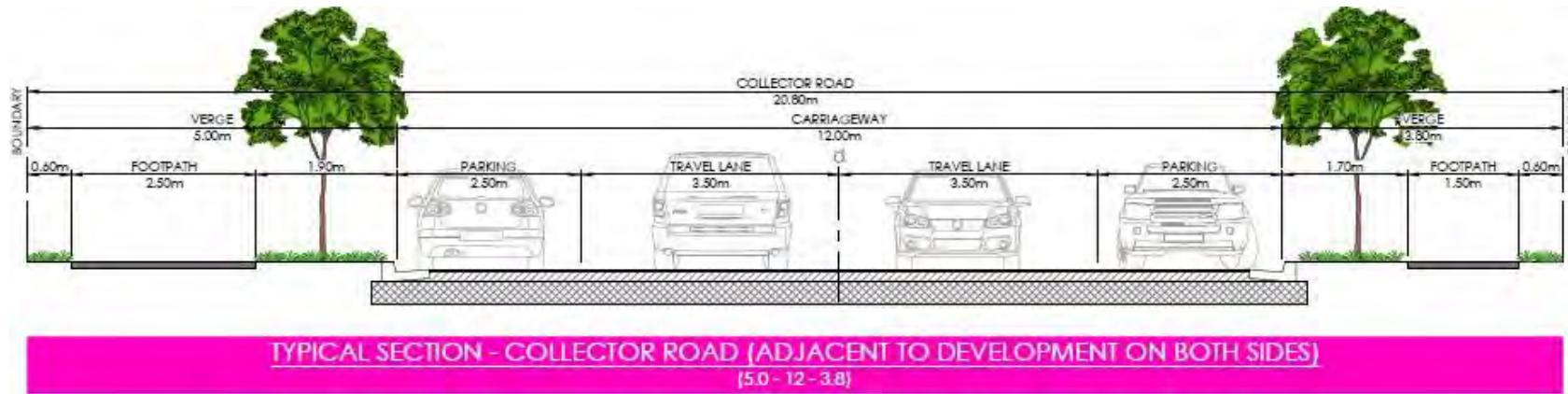
**Figure 12: Chain O Ponds Road Interface EAST**



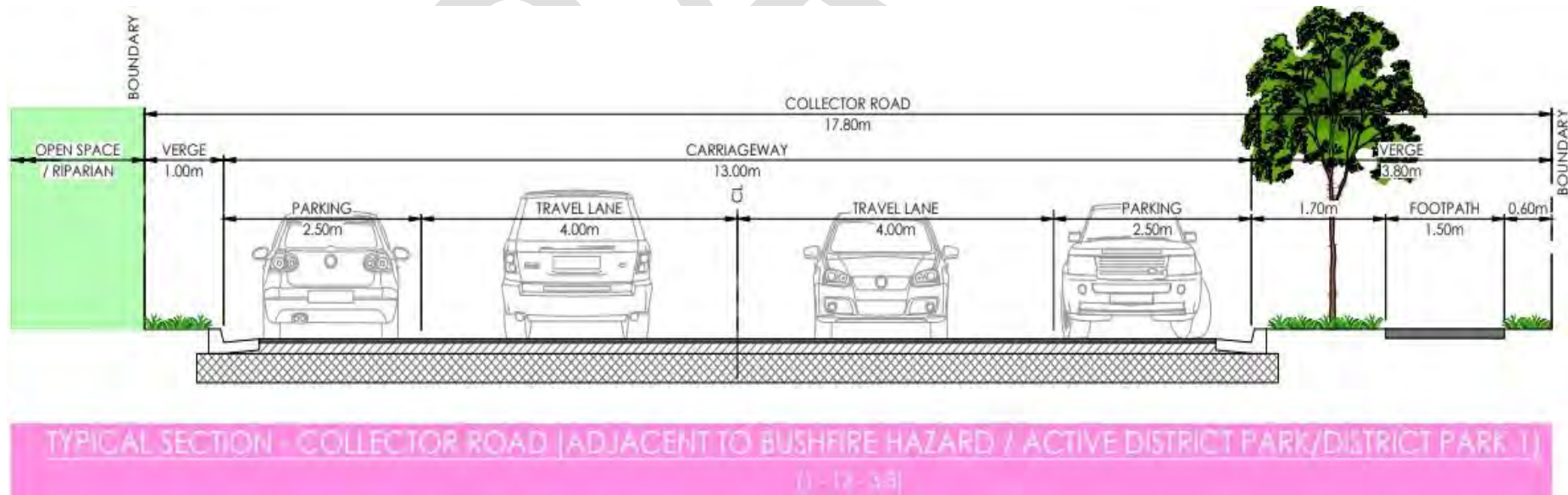
**Figure 13: Collector Road with Median**



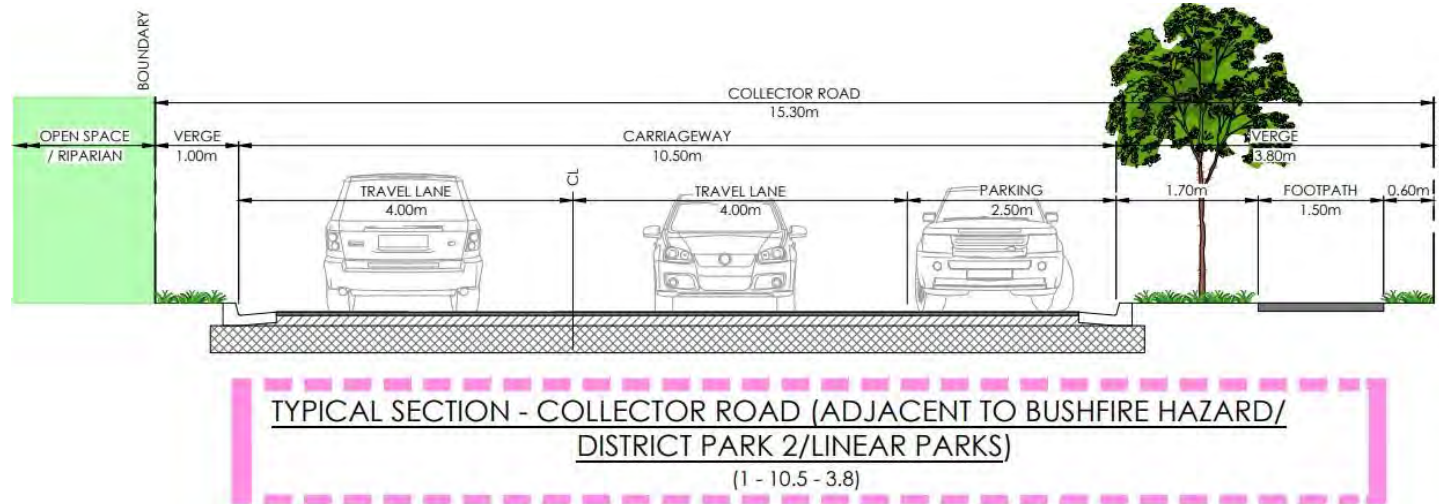
**Figure 14: Collector Road (Adjacent to development on both sides)**



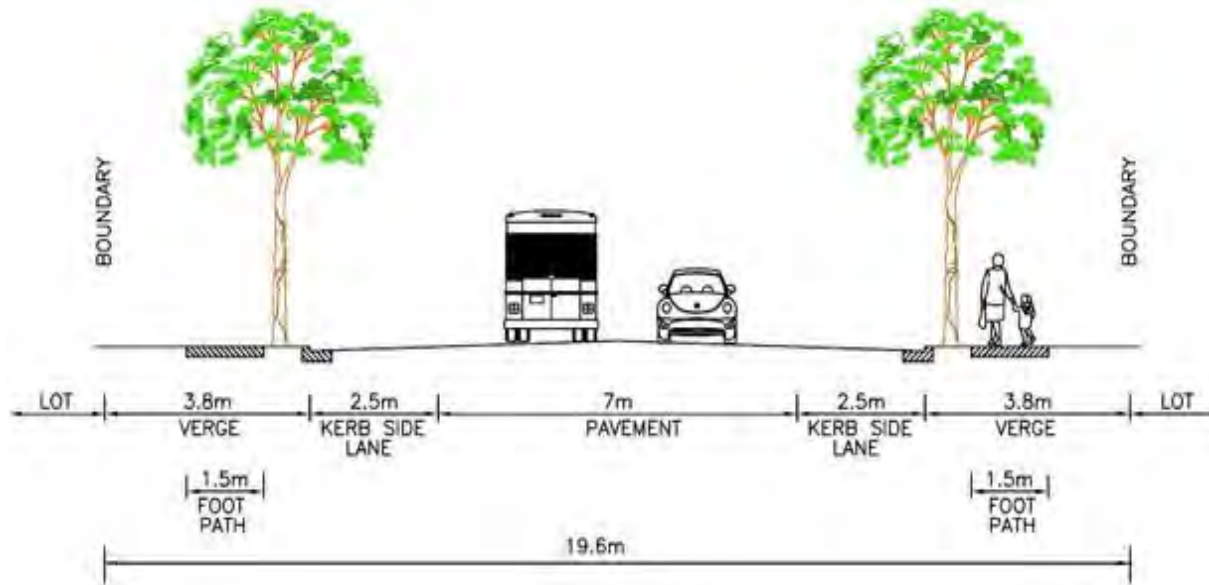
**Figure 15: Collector Road (Adjacent to bushfire hazard / Active District Park / District Park 1)**



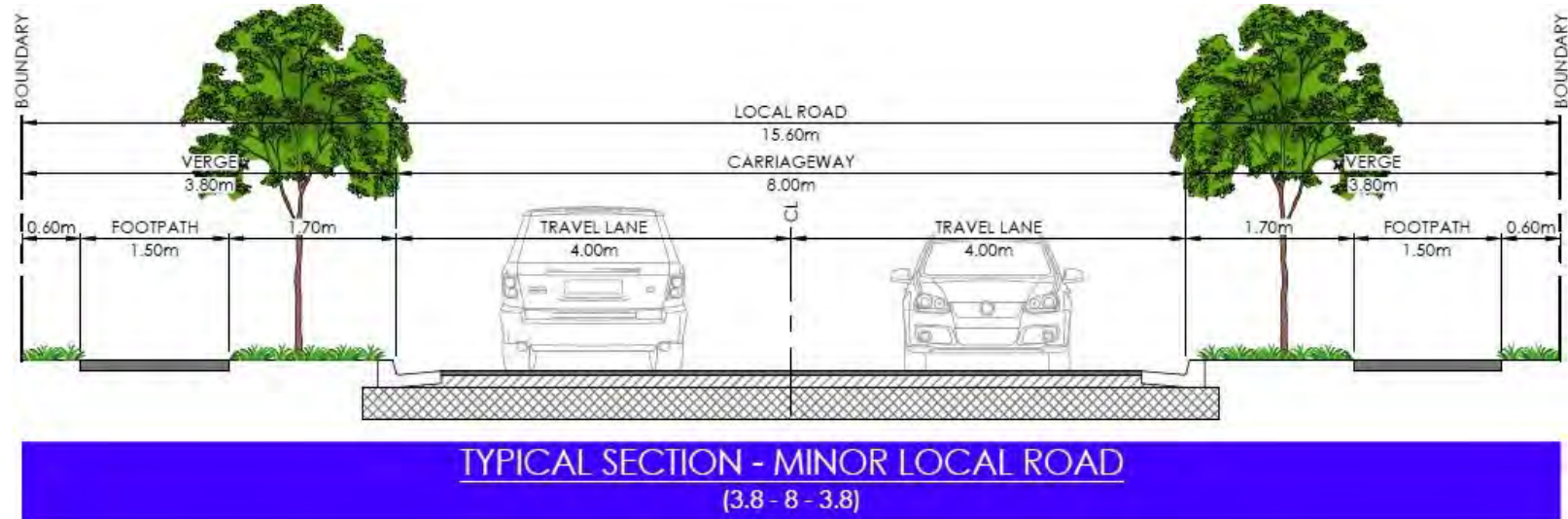
**Figure 16: Collector Road (Adjacent to Bushfire Hazard / District Park 2 / Linear Parks)**



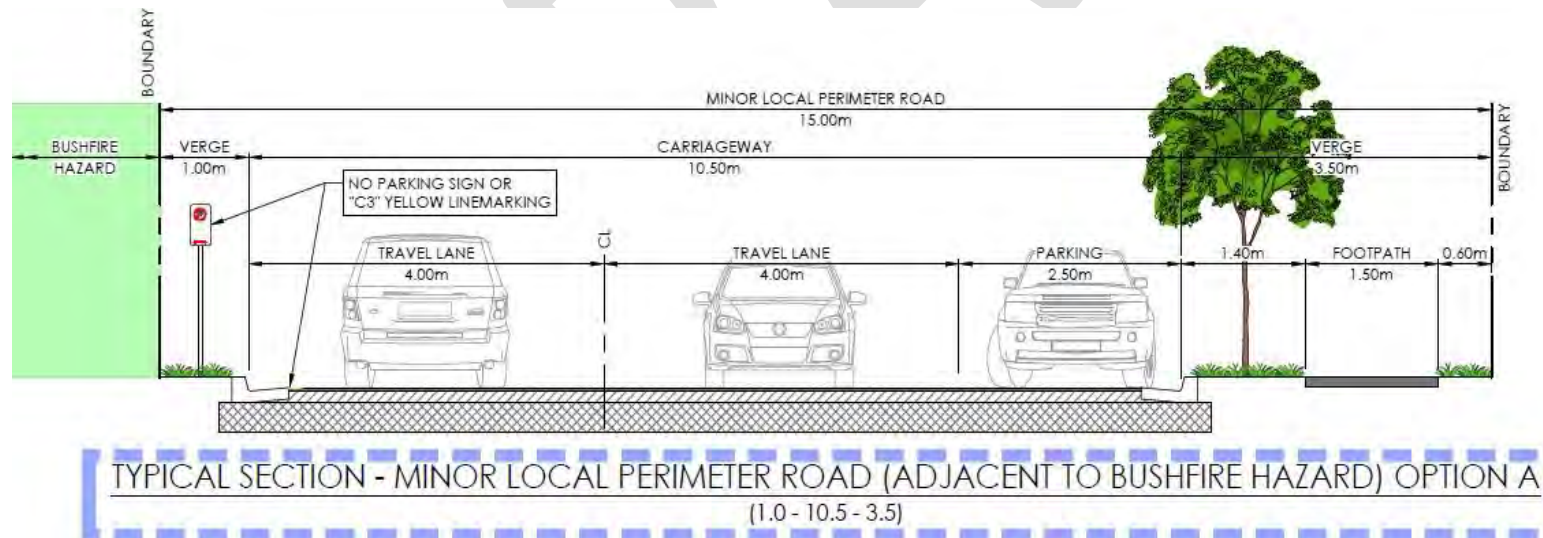
**Figure 17: Collector Road – Glenmore Park Stage 2 boundary (See also Figure 16 – Glenmore Park Stage 2 DCP Chapter)**



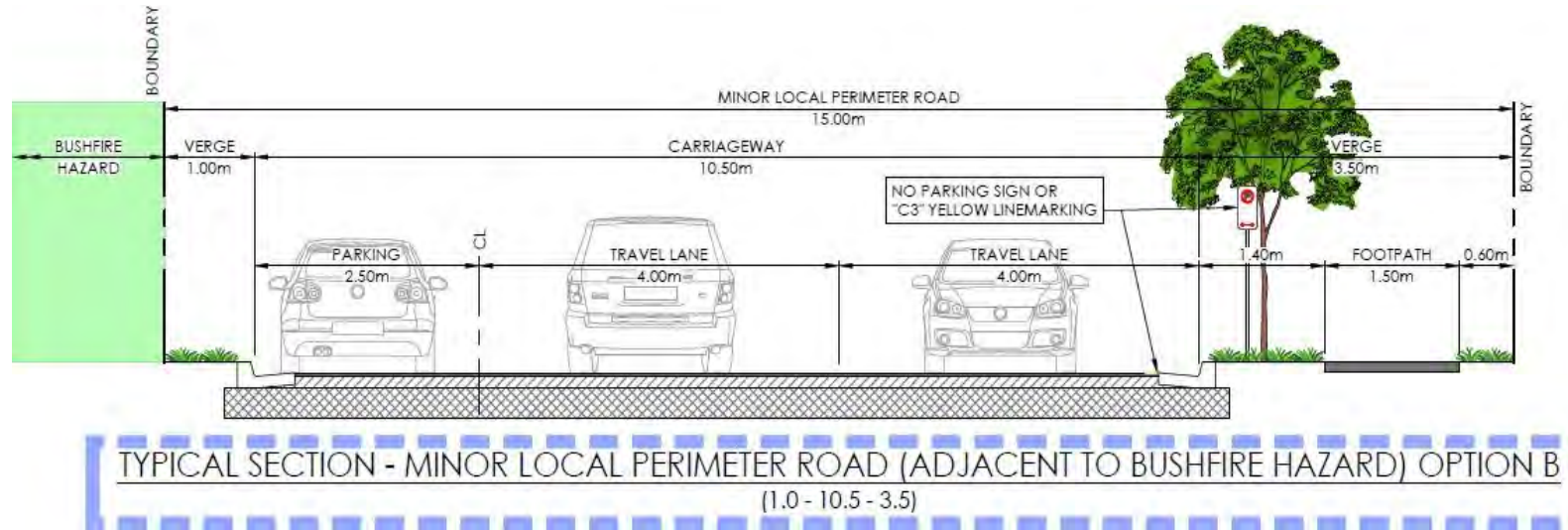
**Figure 18: Minor Local Road**



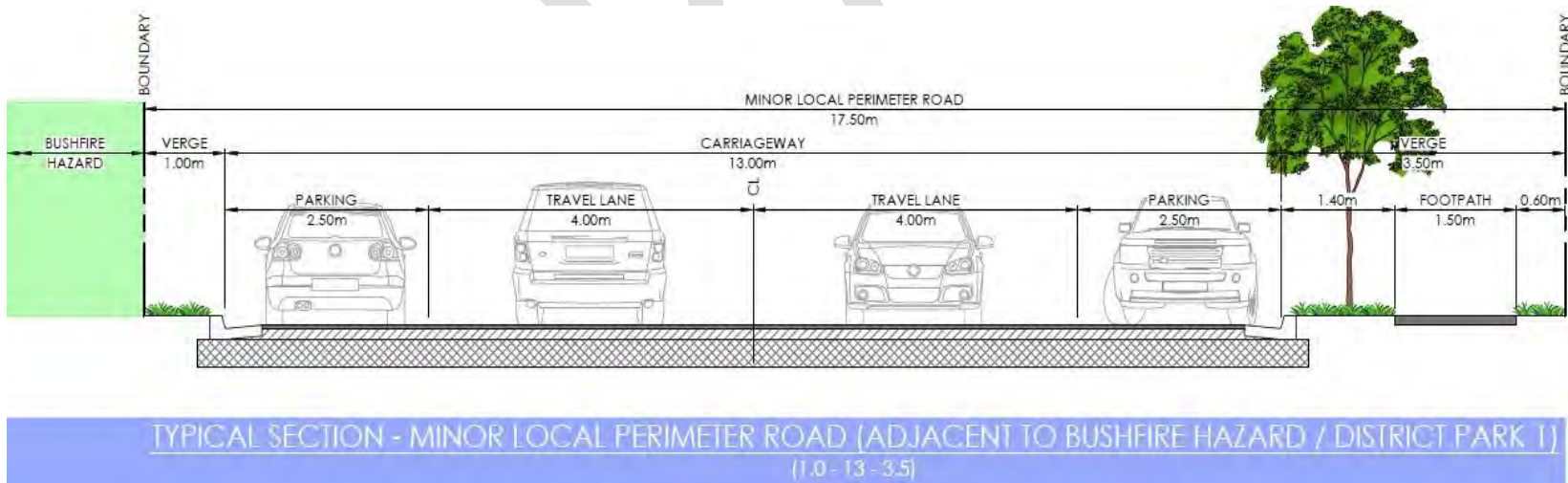
**Figure 19: Minor Local Perimeter Road (Adjacent to Bushfire Hazard) Option A**



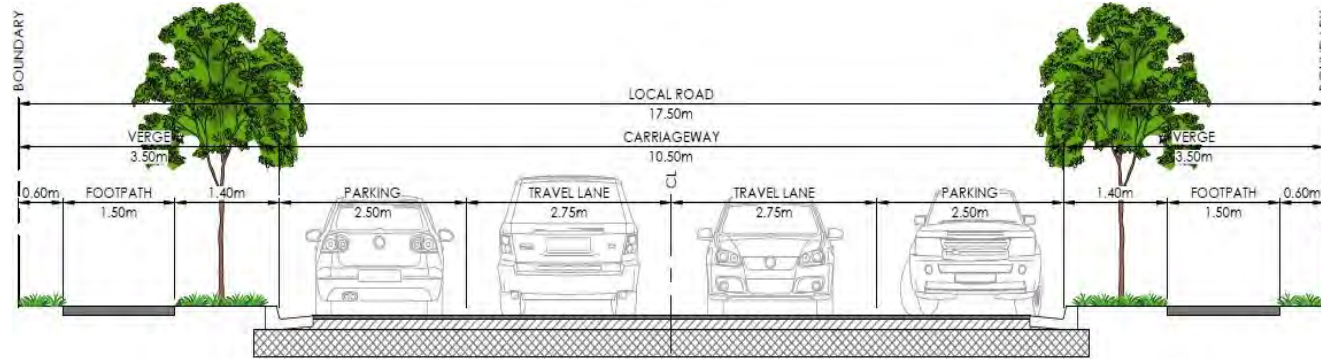
**Figure 20: Minor Local Perimeter Road (Adjacent to Bushfire Hazard) Option B**



**Figure 21: Minor Local Perimeter Road (Adjacent to Bushfire Hazard / District Park 1 & 2)**



**Figure 22: Minor Local Road (Bushfire Hazard Non-Perimeter Road)**

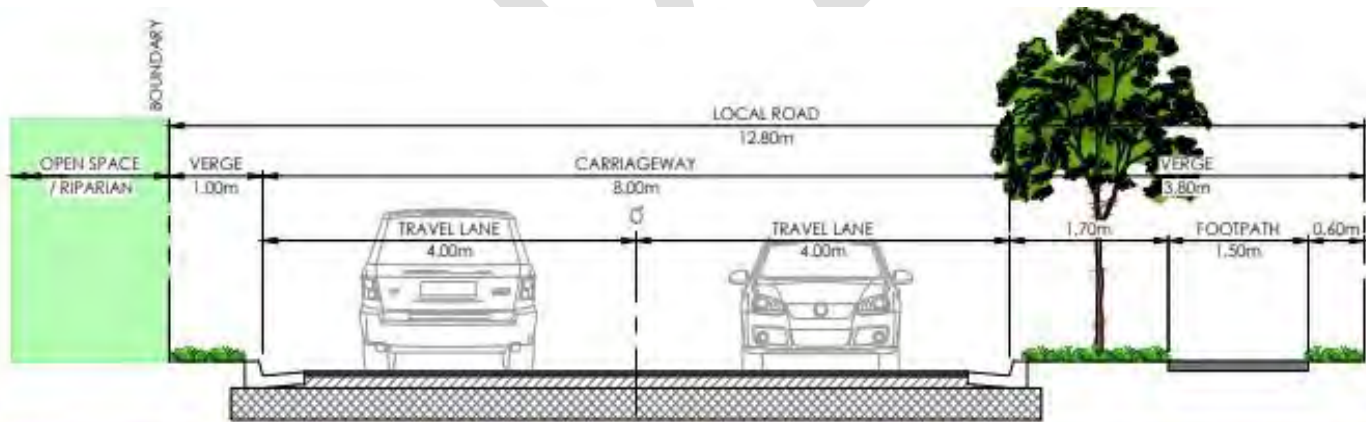


TYPICAL SECTION - MINOR LOCAL ROAD (BUSHFIRE HAZARD NON-PERIMETER ROAD)  
(3.5 - 10.5 - 3.5)

**NOTE:**

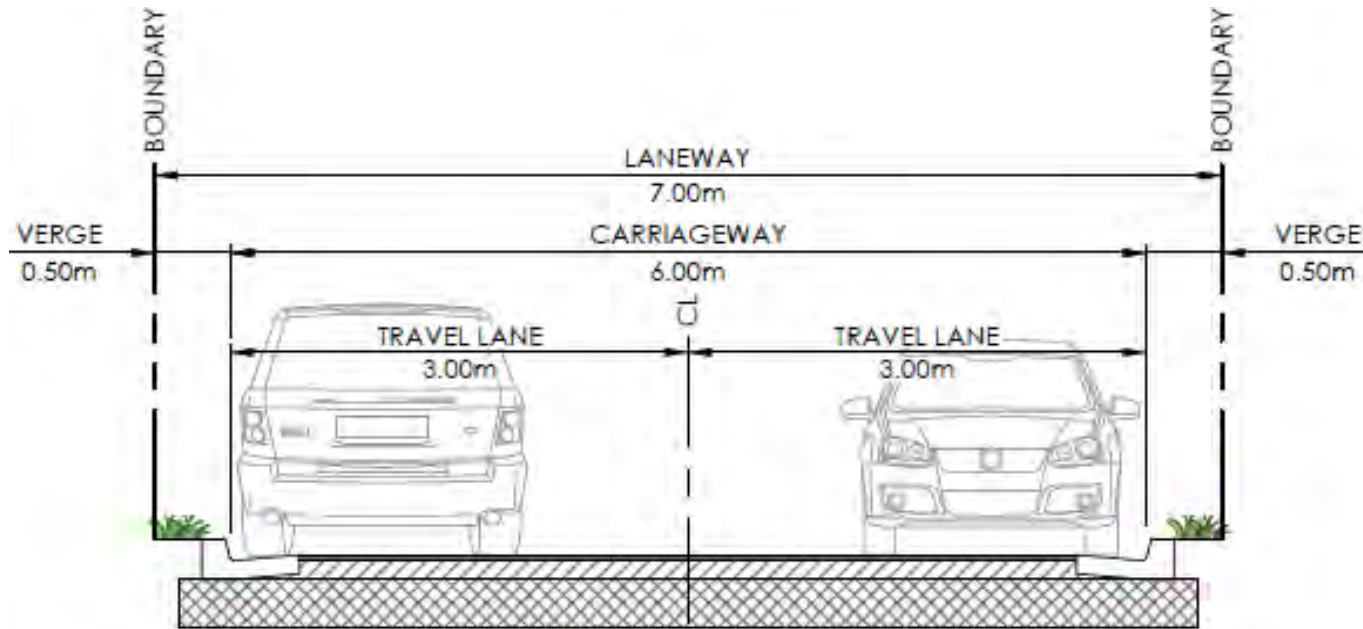
LOCAL ROADS IDENTIFIED BY NSW RFS AS 'NON PERIMETER' ROADS MUST MEET RFS CLEAR CARRIAGEWAY REQUIREMENTS. A PERFORMANCE SOLUTION MAY BE CONSIDERED BY COUNCIL WITH THE CONCURRENCE OF NSW RFS.

**Figure 23: Minor Local Road (Adjacent to Local Park/ District Park 3)**



TYPICAL SECTION - MINOR LOCAL ROAD (ADJACENT TO LOCAL PARK/DISTRICT PARK 3)  
(1.0 - 8 - 3.8)

**Figure 24: Laneways**



**TYPICAL SECTION - LANEWAY**  
**(0.5 - 6 - 0.5)**

Specific provisions and details are provided for the following roads:

### **3.3.3.1 Special purpose roads- Entry Boulevard –The Northern Road Entry Boulevard – Chain O Ponds Road**

#### **Objective**

- a) To provide a high-quality landscape, pedestrian and road connections at the entry to the release area.

#### **Performance Measure**

- a) To provide a landscaped boulevard that creates an entry statement. The Entry Boulevard connects directly to district open space areas or local centre within the development and the collector road network.

#### **Controls**

1. Boulevard Roads are constructed generally in accordance with Figures 8 and 9.
2. Widening of road may be required where topographical or road curve circumstances dictate.
3. Parking is required to be provided outside the minimum carriageway width of 8m for perimeter roads and 5.5m for non-perimeter roads in accordance with Section 5.3.2 of *Planning for Bush Fire Protection 2019*.

### **3.3.3.2 Special Purpose Roads – The Northern Road Interface**

#### **Objective**

- a) To detail a perimeter road that incorporates a dense landscape buffer to the adjoining The Northern Road.

#### **Performance measure**

- a) Streets adjacent to The Northern Road provide an interface with earthworks and landscaping to create a substantial screen to control views from and to The Northern Road.

#### **Controls**

1. The roads running adjacent to The Northern Road are to include a landscape zone parallel to the road reserve, to the boundary immediately adjacent to The Northern Road, as shown in Figure 10 and designed to suit the local interfacing level of The Northern Road.

### **3.3.3.3 Special Purpose Roads – Chain-O-Ponds Road Interface**

#### **Objectives**

- a) To provide a road that transitions to the adjoining rural area.
- b) To provide a high degree of connectivity within the development area and to adjoining areas for pedestrian, cyclist and bus users to reduce reliance on private vehicles.

#### **Performance measure**

- a) Chain-O-Ponds Road is part of the collector road system and is to be re-constructed along the site frontage to provide a rural character with appropriate carriageway, kerb profile, road verge, fencing and street tree planting.

#### **Controls**

1. Chain-O-Ponds Road from the eastern Entry Boulevard to the western extent of the development is to be constructed to provide a rural character as shown in Figure 11 and Figure 12.
2. The kerb line is to be constructed in consultation with Council's engineers.

### **3.3.3.4 Collector Roads**

#### **Performance measures**

- a) Provide a high level of accessibility for all road users throughout the development, including vehicles, bicycles and pedestrians.
- b) Exhibit an urban landscape character.
- c) Provide clear lane widths able to handle local bus services on bus routes
- d) Are of a scale consistent with the higher order role these roads will play in the overall movement network of the development.

- e) Integrate footpaths and shared ways and establish pedestrian amenity that reflects the linking role these streets will play in the urban fabric.
- f) Be designed to provide safe pedestrian crossing points and lighting in accordance with the relevant Australian Standard.
- g) Are able to comfortably accommodate the co-location of bus shelters.

## **Controls**

1. Collector roads are constructed generally in accordance with Figures 13, 14, 15, 16, 17, and 7.
2. Widening of road may be required where topographical or road curve circumstances dictate.
3. Roads adjacent to land with a bushfire hazard are designed to provide fire truck access adjacent to land that may present a bushfire hazard.
4. Roads adjacent to the Environmental Corridors and Mulgoa Nature Reserve are to have a carriageway of 8m clear travel width to meet the requirements within Planning for Bushfire Protection 2019.
5. Parking is required to be provided outside the minimum carriageway width of 8m for perimeter roads and 5.5m for non-perimeter roads in accordance with Section 5.3.2 of *Planning for Bush Fire Protection 2019*.

### **3.3.3.5 Minor Local Roads**

#### **Performance measures**

- a) Provide limited vehicle access for through traffic looking 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 are acceptable, as a traffic calming outcome.
- 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.

#### **Controls**

1. Streets are constructed generally in accordance with the dimensions identified at Figure 18, 19, 20, 21, 22, 23 and 7.
2. Widening of road may be required where topographical or road curve circumstances dictate.
3. Roads adjacent to land with a bushfire hazard are designed to provide fire truck access adjacent to land that may present a bushfire hazard.
4. Roads adjacent to the Environmental Corridors and Mulgoa Nature Reserve are to have a carriageway of 8m clear travel width to meet the requirements within Planning for Bushfire Protection 2019.
5. Parking is required to be provided outside the minimum carriageway width of 8m for perimeter roads and 5.5m for non-perimeter roads in accordance with Section 5.3.2 of *Planning for Bush Fire Protection 2019*.

### **3.3.3.6 Laneways**

#### **Performance measures**

- a) Lanes are shared zones allowing vehicular traffic for access to rear loaded garages only.
- b) Laneways will be designed to incorporate a change in materials and/or kerb cuts to provide differentiation to other vehicular streets.
- c) No parking is permitted in Lane Ways.
- d) Designed with a central invert for drainage where topography allows.
- e) Studio units built above or adjacent to garages will be encouraged to provide passive surveillance.
- f) Laneways provide distinctive plantings at lane entry areas and at regular locations, where practical, to improve amenity.

#### **Controls**

1. Streets are constructed generally in accordance with the dimensions identified at Figure 24.
2. Widening of road may be required where topographical or road curve circumstances dictate.

3. The road design seeks to provide a maximum speed of 15 km/h.

## 3.4 Open Spaces

### Objectives

- a) The open space network will contribute to the overall character of the development connecting it to place.
- b) Access and views to nature within and beyond the site will enhance the quality of the urban environment.
- c) To provide high amenity areas for adjacent residential development.
- d) To create parks that provide a wide variety of public amenities supporting passive, informal and formal active uses.
- e) To conserve natural features and vegetation on land identified for open spaces and environmental corridors.
- f) Planting within open spaces to balance open areas for recreation with significant planting and provision of extensive tree canopy.
- g) To provide high amenity areas for adjacent residential development.

### Performance measures

These objectives may be achieved where:

- a) Active transport links within environmental corridors are to link with cycleways in the street network as shown in Figure 25 and 5.
- b) Open spaces are to be bordered by streets unless adjacent to environmental corridors, the school site, or The Northern Road. Buildings on the adjoining streets provide passive surveillance of the park or sports field areas.
- c) Car parking for the sports fields can be provided both as a dedicated parking area and parking bays within the streets around the park.
- d) Existing native vegetation is to be avoided, retained, protected and enhanced within parks wherever practical.
- e) Planting within open spaces to balance open areas for recreation with

significant planting and provision of extensive tree canopy.

- f) Planting species to be appropriate for the area and include largely low mass planting and canopy trees with clear trunks to maintain passive surveillance of open space areas.
- g) The delivery of tree canopy within open space areas, and linear parks should aim to align with the tree canopy targets provided in the Public Domain and Open Space Strategy where possible. These tree canopy targets are provided in the table below.

Tree canopy targets in the table are percentages that should be considered in the design of open space areas and environmental corridors (Linear Parks).

- h) Delivery of tree canopy in active open space parks should not impede the function of these recreation areas and activities.

Open Space Network	Tree Canopy target
Linear Park 1	76%
Linear Park 2	74%
Linear Park 3	43%
District Park 1	46%
District Park 2	75%
District Park 3 – active	24%
District Park 4 – active	29%
Local Park 1	50%
Local Park 2	58%
Local Park 3	47%

- i) The open space network and reference to specific open space areas is shown in Figure 25.

**Figure 25: Indicative open space concept plan**



### 3.4.1 Open spaces – district parks

#### Objectives

- a) To provide for the active and passive recreational needs of the local community.
- b) To provide multipurpose sporting and recreational activities that reflects seasonal demands.
- c) To provide a central neighbourhood place for community activities and gatherings.
- d) To provide the focus of interconnected high amenity landscaped environment.
- e) To encourage an active lifestyle for residents.

#### Performance Measures

- a) Open space areas are provided in accordance with the Figure E7.81 and generally in accordance with the *Public Domain and Open Space Strategy*. These areas shall contain facilities and infrastructure to support various activities and sporting events, including amenities for spectators and participants.
- b) The open space provides a diverse range of active and sporting facilities.
- c) Active playing areas are provided with facilities and infrastructure to support various sporting events, including amenities for spectators.
- d) Active playing areas are differentiated as separate places by plantings, paths and other landscape elements.
- e) Pathways provide:
  - i. Connection between the site and the broader pedestrian and bicycle network.
  - ii. Spectator access to and around the playing fields.
  - iii. Connection to the Neighbourhood Centre and Primary School.
- f) Adjacent buildings provide passive surveillance of the park area.
- g) No back fences of development are to face public open space.

- h) Parking is provided as a central parking lot for District Park 3 and 4 and parking bays are provided on the streets around all parks.
- i) Large trees are provided around the perimeter of the park to enclose the space.
- j) The park is provided with an open and low fence or bollard type barrier along its perimeter.
- k) District Parks can incorporate on-site water quality treatment and storage devices as part of their development.

## Controls

Open space and embellishment of land for recreation will generally be in accordance with the

*Public Domain and Open Space Strategy* including the types of facilities outlined below:

- I. District Park D3 shown on the Open Space Concept Plan (Figure 25) should provide:
  - i. Sports field/s capable of being combined for rugby league and cricket use.
  - ii. Courts /practice net
  - iii. Sports field lighting.
  - iv. Safe and functional spectator seating and standing areas.
  - v. Irrigation system for the playing field/s.
  - vi. A centrally located amenities complex containing team and referee change rooms, public toilet facilities, canteen facilities, storage spaces and covered outdoor gathering spaces.
  - vii. Parking for up to 102 cars (including adequate accessible parking) and associated movement with additional parking provided by bays within surrounding streets. Shared parking with the school may be considered to maximise use and reduce pavement area for urban heat island effect.
  - viii. Multi-ability playground and shade structures
  - ix. Picnic facilities including shelter, tables, seating and electric BBQs.

- x. Connected pedestrian and cycle path network.
  - xi. Landscaping including lawn areas, mass planting and canopy tree species.
  - xii. Detention tanks for water irrigation.
2. **District Park D4** shown on the Open Space Concept Plan (Figure 25) will provide:
- i. A circular oval playing field for organised sport and function as a community 'Village Green'
  - ii. Two active sport fields
  - iii. Safe and functional spectator seating and standing areas.
  - iv. Purpose built amenities building that meets Council's specifications for amenities buildings, to service D4.
  - v. Sealed and line-marked parking areas to cater for a minimum of 120 spaces (including adequate accessible parking) and associated movement with additional parking provided by bays within surrounding streets.
  - vi. Multi-ability playground and shade structures
  - vii. Picnic facilities including shelter, tables, seating and electric BBQs.
  - viii. Informal kick around/recreational lawn spaces.
  - ix. A dedicated community facility.
  - x. Connected pedestrian and cycle path network.
  - xi. Landscaping including lawn areas, mass planting and canopy tree species.
  - xii. Detention tanks for water irrigation
  - xiii. Seating and shade opportunities are provided within the parks.
3. **District Park D1** shown on the Open Space Concept Plan (Figure 25) should provide:
- i. Feature water body including water quality treatment devices with wetland areas and raingardens.
  - ii. Viewing platform.

- iii. Picnic facilities including shelter, tables, seating and electric BBQs.
  - iv. Nature themed playground and shade structures.
  - v. Retained existing native vegetation where practicable and embellished with extended endemic vegetation.
  - vi. Informal recreational lawn spaces.
  - vii. Connected pedestrian and cycle path network including nature trails.
  - viii. Landscaping (rehabilitation and embellishment) including mass planting areas and significant canopy trees.
  - ix. Car parking to perimeter streets.
4. **District Park D2** shown on the Open Space Concept Plan (Figure 25) should provide:
- i. Picnic facilities including shelter, tables, seating and electric BBQs.
  - ii. Nature themed playground and shade structures
  - iii. Retained native vegetation, where practicable, and embellished with extended endemic vegetation.
  - iv. Informal kick around/recreational lawn spaces
  - v. Connected pedestrian and cycle path network including nature trails.
  - vi. Landscaping (rehabilitation and embellishment) including mass planting areas and significant canopy trees.
  - vii. Car parking bays within surrounding streets.
  - viii. Seating and shade opportunities are provided within the parks.

### **3.4.2 Open Spaces – Local (Neighbourhood) Parks**

#### **Objectives**

- a) To create a variety of public spaces that provides both passive and informal active open spaces.
- b) To conserve natural features of the site.

- c) To provide high amenity areas for adjacent residential development.
- d) To facilitate cultural identity through art and design in public places, with the engagement of the local community.

### Performance measures

These objectives may be achieved where:

- a) Each park is provided with has its own distinctive landscape character.
- b) Existing vegetation is retained and enhanced by additional complementary plantings.
- c) Parks create a precinct focus for the surrounding neighbourhood.
- d) Parks are generally bounded by streets with buildings oriented towards the open space providing outlook and passive surveillance.
- e) There are no back fences of development facing public open space.
- f) The parks provide linkages between the broader pedestrian and bicycle networks.
- g) Playground facilities are provided within the parks.
- h) Seating and shade opportunities are provided within the parks.
- i) The indicative location of neighbourhood parks is shown on Figure 25.
- j) Public art is provided throughout key public domain areas.

### Controls

1. **Local Parks L1, L2, & L3** shown on the Open Space Concept Plan (Figure 25) should provide amenities generally in accordance with the following table:

	L1	L2	L3
Playground and shade structure	Yes		
Picnic Facilities (shelter, tables, seating)	Yes		
Landscaping (rehabilitation & complementary embellishment)	Yes		
Kick around / recreational lawn space	Yes		

Shared and connected paths as part of the overall network.	Yes
Parking (on street on surrounding roads)	Yes

### 3.4.3 Linear (Riparian Corridor Edge) parks

#### Objectives

- a) To provide an integrated network of open spaces.
- b) To enhance the character of major drainage routes through revegetation of those corridors.
- c) To provide high amenity areas for adjacent residential development.
- d) To link and extend the access and movement network for bicycles and pedestrians.
- e) To encourage an active lifestyle for residents by providing recreational and educational opportunities.

#### Performance measures

These objectives may be achieved where:

- a) Recreational and educational opportunities dominate over the stormwater function of this location.
- b) A perimeter pathway is provided along the edges of the corridors.
- c) The pathway meanders through a diversity of landscaping settings that provide shade opportunities for users.
- d) The park is generally bounded by streets with buildings oriented towards the open space providing outlook and passive surveillance.
- e) There are no back fences of development facing the public open space.
- f) The park is provided with an open and low perimeter fence or bollard type barrier along the entire edge.
- g) Facilities including seating, outdoor fitness equipment and interpretive signage are provided along the edge.
- h) Parking opportunities are provided within the road reserve and co-

located with recreational facilities.

- i) Riparian corridor parks can be co-located with active open spaces and neighbourhood parks.

### **Controls**

1. The minimum width for shared and dedicated paths in open space network is 2.5m.

## **3.5 Neighbourhood Precinct**

### **Vision**

The proposed Neighbourhood Centre will provide a well-connected heart to the development which will foster a strong sense of community with this role being strengthened by its co-location with the school and active open space facilities forming a wider community hub including day care, retail, community facilities, and playground.

As a key community focal point the Neighbourhood Centre is linked into the network of active green corridors along which residents will be able to connect between the community hub, the Mulgoa Nature Reserve and their homes. Reinforcing the character of the place with the of integration with the natural environment, the Centre will create an active frontage to the adjacent green spine. Along this frontage the green will be brought into the Centre through a permeable public domain interface offering additional amenity through passive recreational uses within the spine to further enhance public amenity.

### **Objectives**

- a) To create a memorable experience for the local community.
- b) To provide a highly accessible community focal and gathering point
- c) To ensure that a safe public domain represents a defining element of the centre.
- d) To accommodate a diverse mix of land uses including residential.
- e) To ensure that adequate land is reserved for the provision of a future School.

- f) To ensure the scale of retail facilities sits comfortably within the local and regional retail hierarchy.
- g) To ensure the retail centre, potential school site and sports field are connected and provide a cohesive destination for the local community.
- h) To avoid duplication of parking provision by co-locating key public land uses.
- i) To facilitate and encourage walking, cycling and public transport access as well as car access to public facilities.
- j) To create a local retail which offers local amenity, contributes positively to the surrounding public domain and provides the opportunity for shop top housing to enhance housing diversity.
- k) A highly permeable precinct that is easily accessible by pedestrian cyclists and motor vehicles but promote pedestrian activity.
- l) Locate the precinct adjacent to the environmental corridor to maximise amenity and pedestrian accessibility.
- m) The Precinct creates a sense of arrival and community identity.
- n) The Precinct includes public meeting and gathering spaces, squares or promenades that allow for community events such as markets and festivals.
- o) Provides mixed use activity that activates that precinct during day and evening periods.
- p) The layout facilitates shared use of all spaces including parking by various users.

### **3.5.1 Urban Structure**

#### **Performance measures**

- a) The Neighbourhood Precinct is located at the heart of the community within a 10- minute walk for most of that community.
- b) A high-quality public domain area is provided as part of a central organising element of the centre.
- c) The centre is co-located with other high use public places including

active open space and the primary school.

- d) The retail area is located on the loop collector road.
- e) Accessible and legible linkages are provided between other key community components such as recreation areas and schools.
- f) The Precinct accommodates multi-mode transport ensuring excellent pedestrian and cycle links.
- g) Public transport is accommodated within the centre of the retailing precinct.
- h) The precinct shall provide both open-lot car parking and street based parking for convenience.
- i) Various land uses co-located in the Neighbourhood Precinct make efficient use of the total car parking spaces available.
- j) People are able to park their car in one location and engage in a variety of activities in close proximity to that space and within a safe pedestrian environment.
- k) Retail facilities are delivered as required by demand analysis.
- l) Figure 26 provides an indicative structure and layout Image for the Neighbourhood Precinct.

**Figure 26: Neighbourhood Precinct Structure**



### 3.5.2 Urban Character

#### Performance measures

- a) The Precinct creates a sense of arrival and community identity.
- b) The Precinct is integrated into the overall release area landscape structure, emphasizing the hierarchy of the precinct in the overall urban structure.
- c) A walkable pedestrian friendly environment is to be established with leafy active wide footpaths and pedestrian links that connect activities and gathering spaces.
- d) The precinct includes public meeting places, squares or promenades to create varied, comfortable, and accessible environments that provide a focus and destination for community activity.

- e) Car parks are to be leafy plazas that provide opportunities for other uses (i.e. markets or public gathering) with clear defined pedestrian links.
- f) Where medium to large scale uses are planned, finer grained uses should be incorporated to minimise the impact of bulk and scale to the main thoroughfares of pedestrian movement.
- g) Opportunities for residential development are carefully planned within and adjacent to the Precinct Centre providing for passive security and surveillance.
- h) Appropriate dwelling forms encourage growth of the Precinct in time, both in terms of extended active hours and adaptive uses that allow for home based incubator businesses to emerge
- i) The building form creates a series of spaces that provide shade in summer, sun in winter and are sheltered from unpleasant prevailing winds.
- j) Buildings define the street and provide a relatively continuous street frontage.
- k) Public art is incorporated at key focal points to promote community identity.
- l) Key street intersections and transport interchanges are provided with distinctive paving and threshold type landscape treatment.

### **3.5.3 Retail built forms**

#### **Performance measures**

- a) Maximise the percentage of active shopfront to public streets.
- b) Buildings are built primarily to the street edge.
- c) Glazed shop fronts are provided at the interface with the street.
- d) Wide awnings or verandahs are provided to the main street to provide pedestrian amenity.
- e) Shop fronts and awnings return around corners.
- f) Building design reflects a human and village scale.

- g) Buildings provide an appropriate environmental response to encourage pedestrian activity, seating and gathering spaces and contributing to safety and security.
- h) Two storey scale forms are provided at key road intersections within the centre.
- i) Entry areas to internalised retail areas are well defined and highly legible.
- j) The impact of deliveries should be minimised through location and separation of those activities.
- k) Predominantly light reflective roofs to be used.

## **Controls**

1. Any supermarket facility has an 'open' exterior.
2. Incorporate the principles of Crime Prevention Through Environmental Design (CPTED) in the design of the Local Centre.
3. Incorporate landscape into all external areas and minimize hard surfaces.
4. Provide sufficient canopy cover and shade to external areas including tree planting at one tree per 6 bays within car parking areas.

### **3.5.4 Primary School**

#### **Performance measures**

- a) The school is located adjacent to public playing fields and closely linked by a pedestrian safe route to this and the local shops.
- b) The school is located adjacent to the public playing fields to facilitate shared use of these facilities including parking areas.
- c) The school is located in close proximity to a public bus route.
- d) The built form of the school engages and activates the street edge to contribute to the pedestrian character and mutually benefit from passive surveillance.

- e) Suitable space should be provided for the short-term pick-up and drop-off of students that avoid the need for continuous circulating traffic.
- f) Suitable space for bus parking shall be provided.
- g) Use of predominantly light reflective roofs
- h) Provide landscaping and tree canopy cover to enhance amenity, including in car parking areas.
- i) School to be designed to maximise passive design principles to reduce energy use.

### **Controls**

1. Detailed design and planning of the school shall be subject to a separate development application process through Schools Infrastructure NSW with the design to comply with all relevant guidelines and policies.

## **4. Private Domain**

### **4.1 Subdivision**

#### **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 reflect the broader urban structure.
- d) To ensure development responds to site topography and natural assets.
- e) To provide a range of densities, lot sizes and house types to foster a diverse community and interesting streetscapes.

#### **Performance measures**

- a) Blocks and lots are generally rectilinear.
- 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) Larger lot frontages provided on street corners to allow development to address both street frontages.
- d) Subdivision design will respond to site topography by providing larger lots on sloping lands.
- e) Lot sizes and dimensions take into account site topography and consider the need for earthworks and potential retaining wall construction.
- f) Lots front streets and overlook open spaces to provide passive surveillance of those areas.
- g) Benching of sites should preferably be undertaken at subdivision stage and earthworks plans should indicate positions of necessary retaining structures and associated drainage.

## **Controls**

1. Single dwelling lots are generally a minimum of 25m deep.
2. Minimum lot widths for the R2 zone will be 10m. Minimum lot widths for the R3 zone will be 6m.
3. Retaining walls are to be constructed with appropriate materials. Use of timber is not permitted.

## **4.2 Dwelling diversity**

### **Objectives**

- a) To promote diverse housing forms that meet the increasingly diverse demands of the local community.
- b) To ensure affordable and diverse housing strategies for the release area are achieved.
- c) To enable diverse housing by varying lot sizes (and lot frontages) to facilitate different affordability price points and a varied streetscape.

## **R2 Low Density Residential**

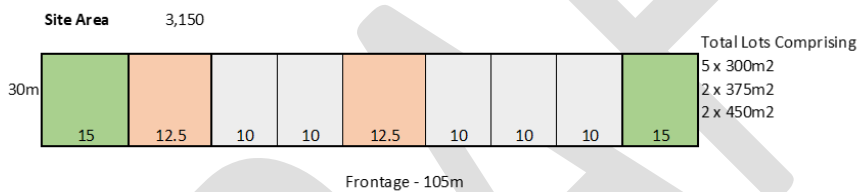
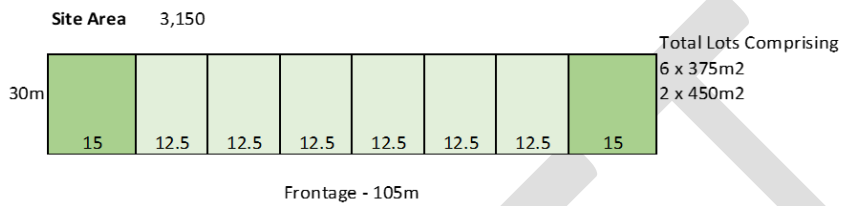
### Performance Measures

- a) Subdivisions in the R2 Zone are to incorporate housing diversity by

varying lot frontages where appropriate to do so. Figure 27 provides an example of how varying lot sizes can introduce different housing forms, diversity and streetscape interest and should be used to guide subdivisions in the R2 zone.

**Figure 27: Examples of variations to lot size in a street block – R2 zone**

Approach for traditional subdivision (lack of lot diversity)



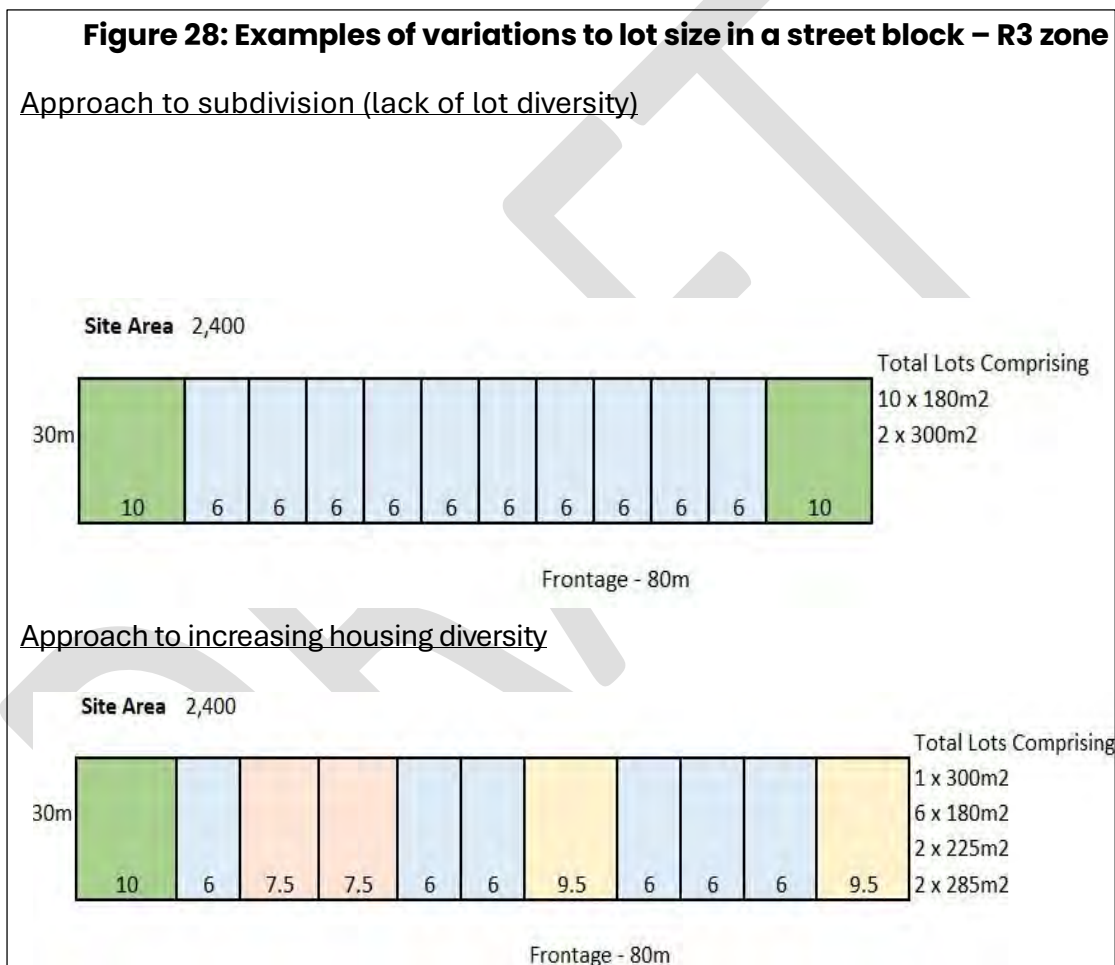
Approach to increase housing diversity:



## R3 Medium Density Residential

### Performance Measures

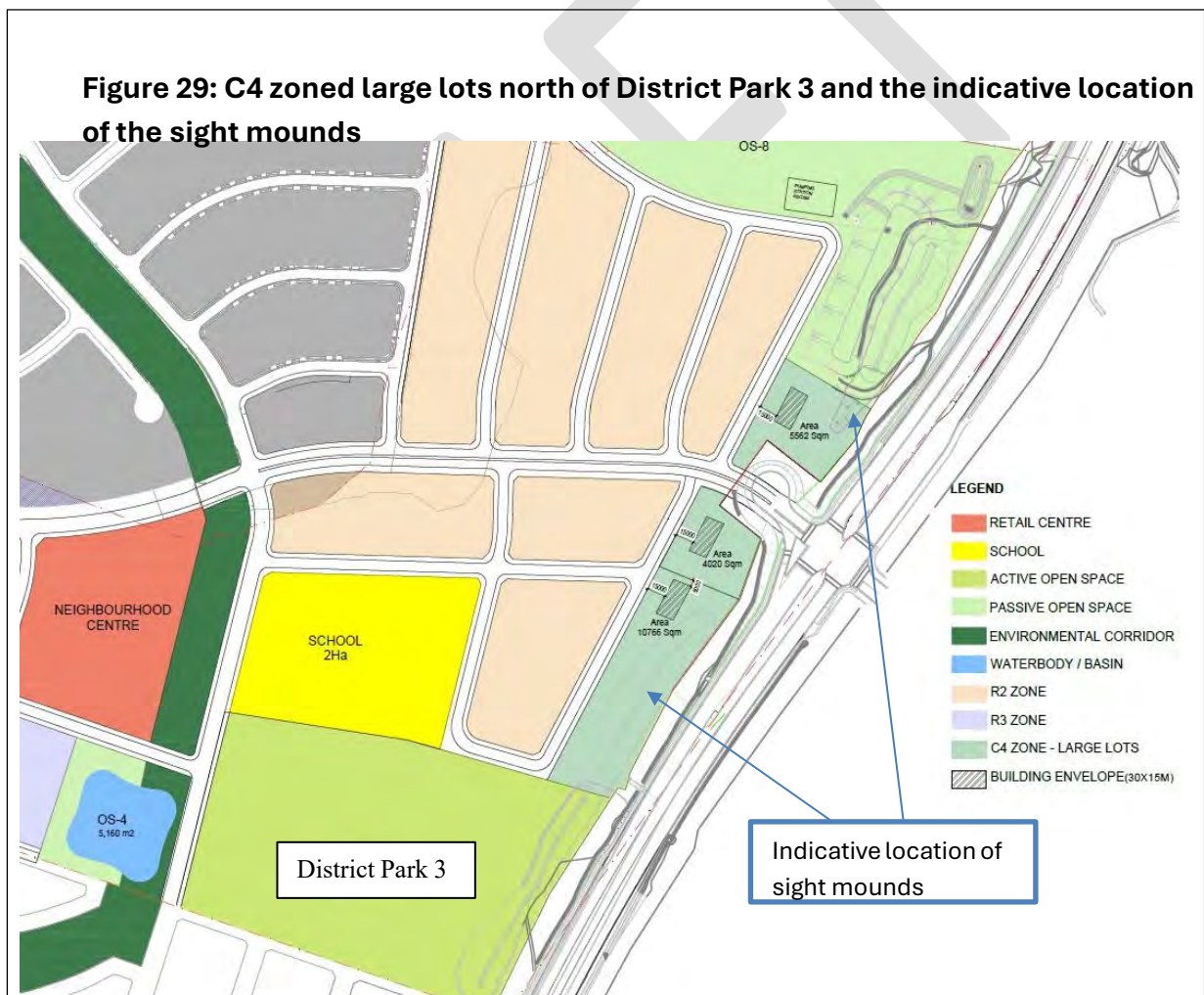
- a) Subdivisions in the R3 Zone are to incorporate housing diversity by varying lot frontages where appropriate to do so. Figure 28 provides an example of how varying lot sizes can introduce different housing forms, diversity and streetscape interest and should be used to guide subdivisions in the R3 zone.



## C4 Environmental Living

### Performance Measures

- a) As part of any subdivision of lots along The Northern Road which have a sight mound as identified in Figure 29 the 88B instrument for these lots is to include an easement that:
  - i. Prevents the sight mound from being developed or altered in any form without development consent approval from Council, and
  - ii. Requires the landowner to be responsible for the maintenance and ongoing management of the sight mound.



## 4.3 Shared driveways

### Objectives

- a) To make efficient use of urban land.
- b) To create high quality streetscapes.
- c) To minimise conflict between pedestrians and vehicles.

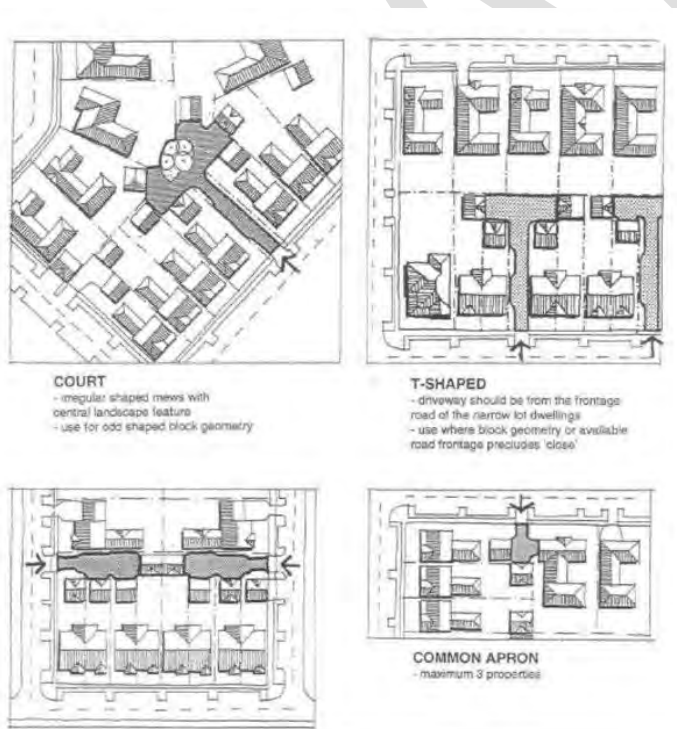
### Performance measures

- a) Shared driveways are formalised through the creation of right of carriageways as part of the subdivision.
- b) Provide safe and convenient access to rear garages.
- c) Shared driveways are a low maintenance environment.
- d) Shared driveways are used solely by residents with garages accessed by the private driveways.
- e) Shared driveways are the smallest configuration possible to serve the required rear garages.
- f) At the street entry, the driveway is narrow and landscaped to have low visual impact at the street entry and be clearly distinguishable as private access only.
- g) A studio may be provided at the end of the longest driveway axis and provides windows that overlook the shared driveway.
- h) Adjacent dwellings provide additional passive surveillance opportunities over the driveway.
- i) Pedestrian gates are provided from the driveway to adjoining rear yard areas.
- j) Subdivision provides an appropriate arrangement for the long-term maintenance and management for the driveway.

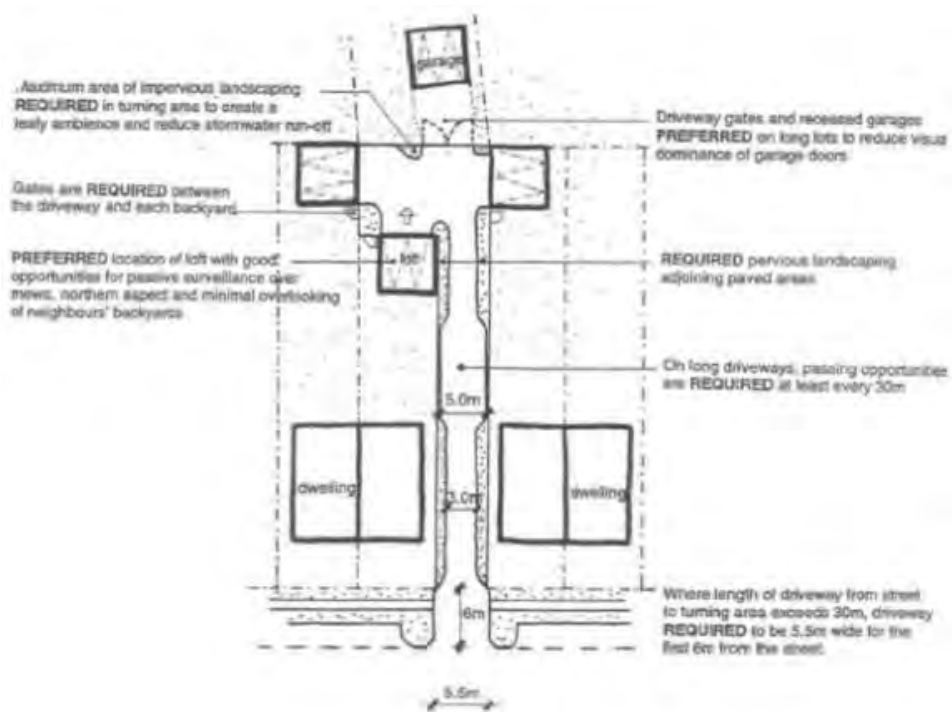
## Controls

1. Will serve a maximum of 6 dwellings.
2. Are generally configured as one of four general types depending on block geometry and garages to be accessed as per Figure 30.
3. Are generally 3m wide and allow for exiting in a forward direction.
4. If connected to a street that will carry more than 300 vehicles per day, the shared driveway shall have a width of 5.5m for a distance of 6m from the kerb line.
5. All private driveways shall achieve the design standards as identified per Figure 31.
6. A minimum of one garage fronting the Shared Driveway provides a studio above the garage.

**Figure 30: Shared driveways access options**



**Figure 31: Shared driveway - design principles**



## 4.4 Site planning

### 4.4.1 Principal private open space

#### 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.

#### Performance measures

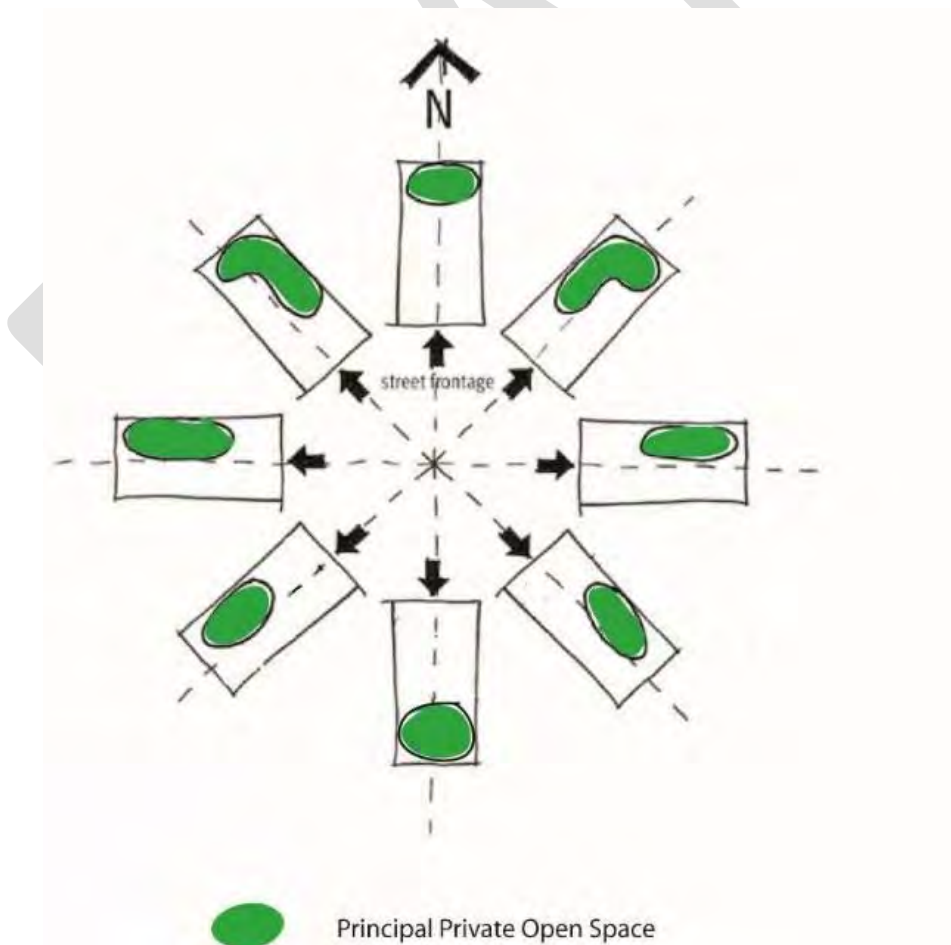
- a) Principal private open spaces are the primary organising element of site planning and dwelling design.

- 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 have the opportunity to provide 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 aim to achieve the preferred location for open space location as demonstrated at Figure 32.

**Control**

- 1. Dwellings will achieve the minimum standards for Principal Private Open Space as identified at Section 5.5 of this section.

**Figure 32: Private Open Space Siting**



## 4.4.2 Garages and parking

### 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.

### Performance measures

- a) The width of the lot will determine the maximum size of garage provided in either street frontage or rear lane locations as demonstrated at Figure 32.
- b) Front garages are to be setback behind the front most element of the house and integrated as part of the dwelling façade.
- c) Garages are constructed in materials and colours, which blend the garage doors into the main building.
- d) Garages provide flexible accommodation for vehicles, storage, and covered areas for outdoor recreation.
- e) Stacked parking is an acceptable outcome provided it is accommodated entirely within the property.
- f) Studios can be provided over garages to rear lanes to provide surveillance, work from home or residential accommodation opportunities.
- g) Vehicle crossings between the street and front boundary shall be constructed in plain concrete only.

### Controls

1. Double garages are the maximum garage size allowed for single dwelling houses on R2 and R3 zoned land.
2. Where a dwelling provides vehicular access to the street the garage will be setback a minimum of 5.5m from the front boundary.
3. Garages are to be provided per the Australian Standard, including:

- i. Minimum width of 3.0 for single garages.
- ii. Minimum width of 5.5m for double garages.

4. Garages are to be provided in accordance with the below:

	Lot Frontage
Rear Loaded (including double and single garage)	Lot width must be a minimum of 6m
Front Loaded Single Garage	Lot width must be a minimum of 6m (R3) and 10m (R2)
Front Loaded Double Garage	Lot width must be a minimum of 10m

#### 4.4.3 Building Footprints

##### Objectives

- a) To provide a variety of streetscapes that reflect 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.
- i) To ensure the provision and location of zero lot line lots and small lots respond to topography.

## Performance measures

### Front Setbacks

1. 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

2. Landscaping provision to allow tall trees in the rear yard area to provide a vegetated backdrop to the development.

## Controls

### Front Setbacks

1. Front setbacks are identified in Section 5 – Typical Development Forms, for each dwelling type.

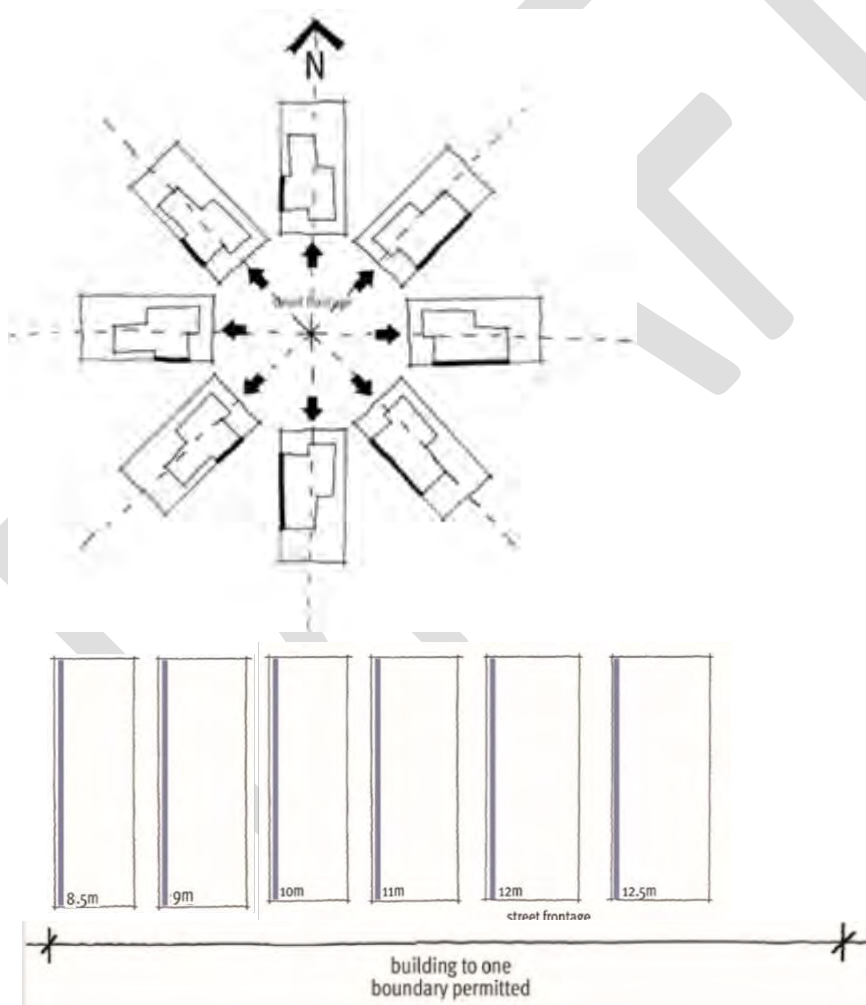
### Side Setbacks

2. The width of the lot will determine the ability of the site to provide zero lot lines as demonstrated at Figure 33.
3. Where only one side of a lot can provide a zero lot line, then Figure 32 will be used to determine which of those boundaries accommodates that zero lot line.
4. The location of a zero lot line is to be determined primarily by topography and should be on the low side of the lot to minimise water

penetration and termite issues. Other factors to consider include dwelling design, adjoining dwellings, landscape features, street trees, vehicle crossovers and the lot orientation.

5. A maintenance easement of at least 900mm is to be provided on the boundary adjacent to the zero lot line.
6. Fascias, gutters, downpipes, eaves (up to 450mm wide) and chimneys flues may encroach into the side setback.
7. No windows are provided in zero lot line walls.

**Figure 33: Zero lot lines and zero lot lines location**



## 4.5 Solar Planning

### Objectives

- a) To achieve a high standard of residential amenity; and
- b) To protect reasonable amenity expectations of neighbouring sites.

### Controls

1. Areas of Principal Private Open Space should achieve at least 3 hours of sunlight to 50% of area of Principal Private Open Space between 9am and 3pm on 21 June.
2. Buildings should be designed to ensure that 40% of the Principal Private Open Space areas of adjoining dwelling sites receive a minimum of 3 hours of sunlight between 9.00am and 3.00pm on 21 June each year.

## 4.6 Dwelling design

The development will comprise of various built form structures ranging from housing at different densities as well as local shops, community building and a school. Development Applications for built form will address the controls for the siting and design of dwellings.

### 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 complementary to its context 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 through facade treatment.
- g) To identify appropriate design responses for corner lots.
- h) To provide variety in the streetscape presentation of dwellings that

generate a range of characters in different precincts.

## **Performance measures**

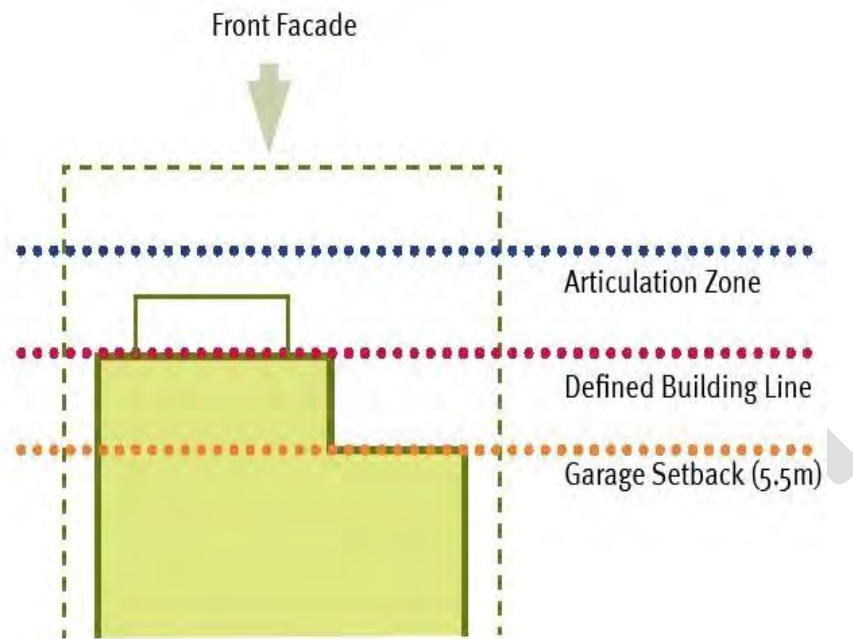
- a) All development addresses the street and is provided with a clear, legible and well lit pedestrian entry.
- b) The street elevation is well articulated by the use of awnings, verandahs, balconies and feature elements on the front facades of dwellings.
- c) Development will achieve the principle of three layers of front setbacks as illustrated at Figure 34.
- d) Garages will be recessed or capped by overhanging elements that provide shading over the garage opening.
- e) Dwellings provide shading of north, east and west facing windows with pergolas and awnings.
- f) Buildings are to be designed to allow cross ventilation by positioning windows and doors opposite each other within rooms.
- g) Material and external finishes of buildings in bushfire hazard areas comprise appropriate construction standards for those areas.
- h) Built forms on corners provide important place making and way finding elements in the streetscape.
- i) Corner sites provide a frontage to both streets and articulate their corner location with an architectural feature such as a wraparound verandah, bay window, corner entry or roof feature.
- j) Corner lots with a width less than 12 metres require garages to be accessed from the secondary street.
- k) Dwellings provide adaptable house floor plans for the inclusion of a home office/business activity area.

## **Controls**

1. Verandahs, awnings, etc. may project forward of the front building setback line by a maximum of 1.5m.
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.

**Figure 34: Setbacks and Articulation**



## 4.7 Visual and Acoustic Privacy

### 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 certain lots located in proximity to The Northern Road incorporate acoustic attenuation by including the requirement on title if required.

### Performance measures

- a) Windows to upper storeys to be 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 not permitted to directly overlook private open space of adjoining dwellings unless suitable screening is provided.
- d) 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.
- e) Living areas and service equipment are located away from bedrooms of neighbouring dwellings.
- f) 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.
- g) Noise sensitive areas are to be located away from the noise emitting sources.

## **Controls**

1. Habitable room windows with a direct sight line to habitable room windows in adjacent dwellings are to be avoided, however within 9m 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. Applications for subdivision within 150m of The Northern Road will include an acoustic report to identify the land and appropriate noise attenuation measures to be incorporated in each building (any dwellings and school) to satisfy the requirements in *State Environmental Planning Policy (Transport and Infrastructure) 2021*.
4. Land fronting The Northern Road north of the sports fields (District Park 3) is level or elevated above The Northern Road and hence proposals should include acoustic mounding. For this area it is proposed that a landscape buffer be planted along The Northern Road frontage. An acoustic report is to accompany any Development Application to address acoustic

upgrades to the facades of dwellings houses in this area having regard to the height of mounding proposed.

5. Land fronting The Northern Road south of the sports fields (District Park 3) is level or below the level of The Northern Road and hence mounding is impractical. For this area it is proposed that a landscape buffer be planted along The Northern Road frontage. An acoustic report is to accompany any Development Application to address acoustic upgrades to the facades of dwellings houses in this area.

## 4.8 Defining Boundaries

### 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.

### Performance measures

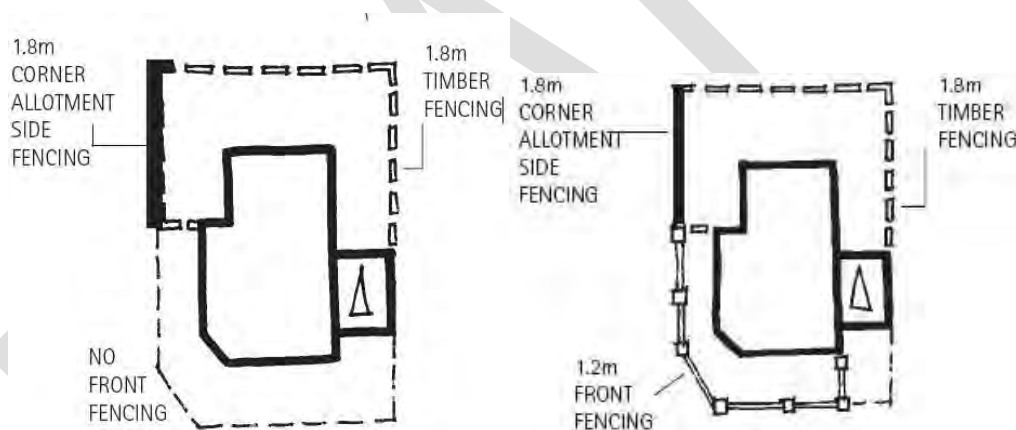
- e) Delineation of front property boundaries is achieved through use of landscaping, low fences or changes of site level.
- f) Side property fences in front of the building line shall be treated as the front fence.
- g) Side property fences terminated at the front building line and returned to finish against the building.
- h) All retaining walls are to be of appropriate materials and where located on a boundary, traditional fencing material to be positioned on top of the retaining wall. Use of timber is not permitted.

### Controls

1. Fences to the street frontage:
  - i. are to be a maximum of 900mm in height.
  - ii. 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 (not including any retaining wall element).
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 consistent with the front building line of the dwelling where it may then increase to 1.8m in height.
4. Fences to corner lots that accommodate multi-unit housing forms are to be a maximum of 900 mm on the primary street frontage and 900 mm 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.
5. Where solid fences are required to satisfy acoustic abatement, these fences shall not exceed 8m in length without some articulation or detailing to and must be softened on the street side with a landscaping strip of 700mm minimum.

**Figure 35: Examples of Corner Lot Principles**



## 4.9 Site Facilities

### 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.

### Performance measures

- a) Development demonstrates that the design has considered garbage bin storage and collection without reducing the amenity of the dwelling or neighbouring lots.
- b) Garbage bin storage and mailbox 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.

## 5. Typical Development Forms

The development will comprise of various built form structures ranging from housing at different densities as well as local shops and a school. Development Applications for built form will address the controls for the siting and design of dwellings.

### 5.1 Dwellings on R2 Low Density Residential Lots

#### Performance measures

- a) Dwellings are sited on lots to enhance the detached housing form and contribute to the well landscaped streetscape character.
- b) Dwellings should be sited and designed to maximise the ability to utilise passive solar principles to reduce energy use.
- c) Front setbacks provide articulation to add architectural interest. All

development addresses the primary street and secondary street where relevant.

- d) Front setbacks are increased to satisfy asset protection zone requirements when lots are located opposite a bushfire hazard including Mulgoa Nature Reserve and environmental corridors.

## Controls

Allotment Requirements	
Minimum Lot Size	300m <sup>2</sup>
Minimum Lot Frontage	10m
Principal Private Open Space	
Minimum Area	40m <sup>2</sup>
Minimum Dimension	4
Minimum Dwelling Setbacks	
Front*	4.5m
Secondary (corner lots)	2m
Side: Zero-lot (benefited)	0m at ground floor 1.2m at second storey
Zero-lot (burdened) Detached	0.9m at ground floor 0.9m at second storey 0.9m
Rear: Ground Upper Upper	4m 6m
Other Requirements	
Height	Maximum 2 storeys

1. For R2 zoned lots wider than 12.5m, side setbacks of 900mm are proposed. This would result in a separation of at least 1.8m between external walls of dwellings on adjoining lots of the same width.
2. For R2 zoned lots with a width of 12.5m or less, a zero-lot line model is permitted. Easements for access and maintenance (900mm wide) will be created on the adjoining lot to allow dwellings to be constructed on the zero-lot line boundary to provide separation for future dwellings.
3. A second storey dwelling setback of 1.2m is also proposed. This will further reduce the bulk and scale of any dwelling and provide increased building separation.
4. Garages will be setback 5.5m to allow a car to park in the driveway.
5. Verandahs and awnings can project 1.5m forward of the front setback for

a maximum 60% of the dwelling width, ensuring they can enable sufficient space to accommodate at least one tree.

6. On zero lot line lots, a dwelling can be located on the side boundary provided no openings are in that wall and the opposite side boundary shall have a 0.9m setback for the ground floor protected with a maintenance easement. Eaves are not required over those walls located on a zero lot line. Facias, gutters, downpipes, and chimney flues may encroach into this side setback. See Figure 36.
7. Front setbacks above the minimum may be required to be increased where opposite a bushfire hazard and in accordance with Asset Protection Zones (APZ) of a scale and type suitable to the NSW Rural Fire Service as outlined in Planning for Bush Fire Protection 2019.
8. Development demonstrates that the design takes into account garbage bin storage and collection without reducing the amenity of the dwelling or neighbouring lots.
9. Mailbox structures are to be integrated with the overall design of buildings and/or landscaping.

**Figure 36: Zero lot line dwelling configurations**



## 5.2 Dwellings on R3 Medium Density Residential Lots

### Performance measures

- a) Dwellings are sited and designed to provide a cohesive streetscape character
- b) Medium Density developments may:
  - i. Provide parking with a rear loaded garage accessed from a rear lane or shared driveway.
  - ii. Provide dwellings located above a ground level garage that fronts a rear lane and on a lot that is a corner parcel. Studios will count toward the maximum dwellings in a Precinct.

- c) Protect visual privacy by minimising direct overlooking of habitable rooms and private open space.

## Controls

Allotment Requirements	
Minimum Lot Size	180m <sup>2</sup>
Minimum Lot Frontage	6m
Principal Private Open Space	
Minimum Area	25m <sup>2</sup>
Minimum Dimension	2.5m
Minimum Dwelling Setbacks	
Front	3m
Secondary (corner lots)	2m
Side:	
Zero-lot (benefited)	0m at ground floor 1.2m at second storey
Zero-lot (burdened)	0.9m at ground floor 0.9m at second storey
Detached Dwellings	0.9m at ground floor 0.9m at second storey
Attached Dwellings	0m
<b>Rear</b>	
Adjoining residential development	5m
Adjoining a rear lane or shared driveway	0m
Other Requirements	
Height	Maximum 2 storeys

1. Garages will be setback 5.5m to allow a car to park in the driveway.
2. On zero lot line lots, a dwelling can be located on the side boundary provided no openings are in that wall and the opposite side boundary shall have a 0.9m setback for the ground floor and 1.2m for the first floor protected with a 0.9m maintenance easement. Eaves are not required over those walls located on a zero lot line. Fascias, gutters, downpipes, and chimney flues may encroach into this side setback. See Figure E7.91.
3. Where an attached dwelling is located adjacent to a detached dwelling there shall be no openings in the wall and the detached dwelling shall have a 0.9m maintenance easement. Eaves are not required over those walls located on a zero lot line. Fascias, gutters, downpipes, and chimney flues may encroach into this side setback.
4. Front setbacks above the minimum may be required to be increased

where opposite a bushfire hazard and in accordance with Asset Protection Zones (APZs) of a scale and type suitable to the NSW Rural Fire Service as outlined in Planning for Bush Fire Protection 2019.

5. Part of the private open space can be provided as a balcony with a minimum dimension of 2.0m.
6. Each medium density lot is to make provision for the planting of one tree.
7. Development demonstrates that the design considers garbage bin storage and collection without reducing the amenity of the dwelling or neighbouring lots.
8. Garbage bin storage is to be integrated with the overall design of buildings or otherwise screened.
9. Mailbox structures are to be integrated with the overall design of buildings/fencing.
10. External clothes drying areas are to be provided for all residential development.

### **5.3 Studios**

#### **Performance Measures**

Development is designed to:

- 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) Provide windows and private open spaces that 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.

#### **Controls**

1. Studio units are delivered as developments of up to 3 dwellings on a

corner lot with an area of at least 360m<sup>2</sup> where one of the dwellings is located above a garage or garages that fronts a rear lane. They comprise their own sleeping, living, kitchen and bathroom areas located above garages and are accessed from rear lanes or shared driveways. Balconies serve as private open space for studios. Balconies are to be 6m<sup>2</sup>.

2. Studio units are designed so that windows and balconies do not overlook the private space of any adjacent dwellings but provide casual surveillance over rear lanes or shared driveways. Studio units should seek to minimise overshadowing the private open space or living space of any adjacent dwelling.
3. There is no requirement to provide parking for studio units.
4. Studio units and other dwellings forming part of the development can be strata subdivided.

## 5.4 Dwellings on C4 Environmental Living Lots

### Performance measures

- a) Dwellings are sited to retain the existing rural character and/or respond to bushfire hazard including retaining existing trees as far as practicable.
- b) Only one driveway is permitted per lot frontage and shall be designed to Council's rural standard.
- c) All front, secondary and side boundary fencing in front of the dwelling will be a hardwood timber, post and rail construction.

### 1. The Northern Road Interface Frontage Lots

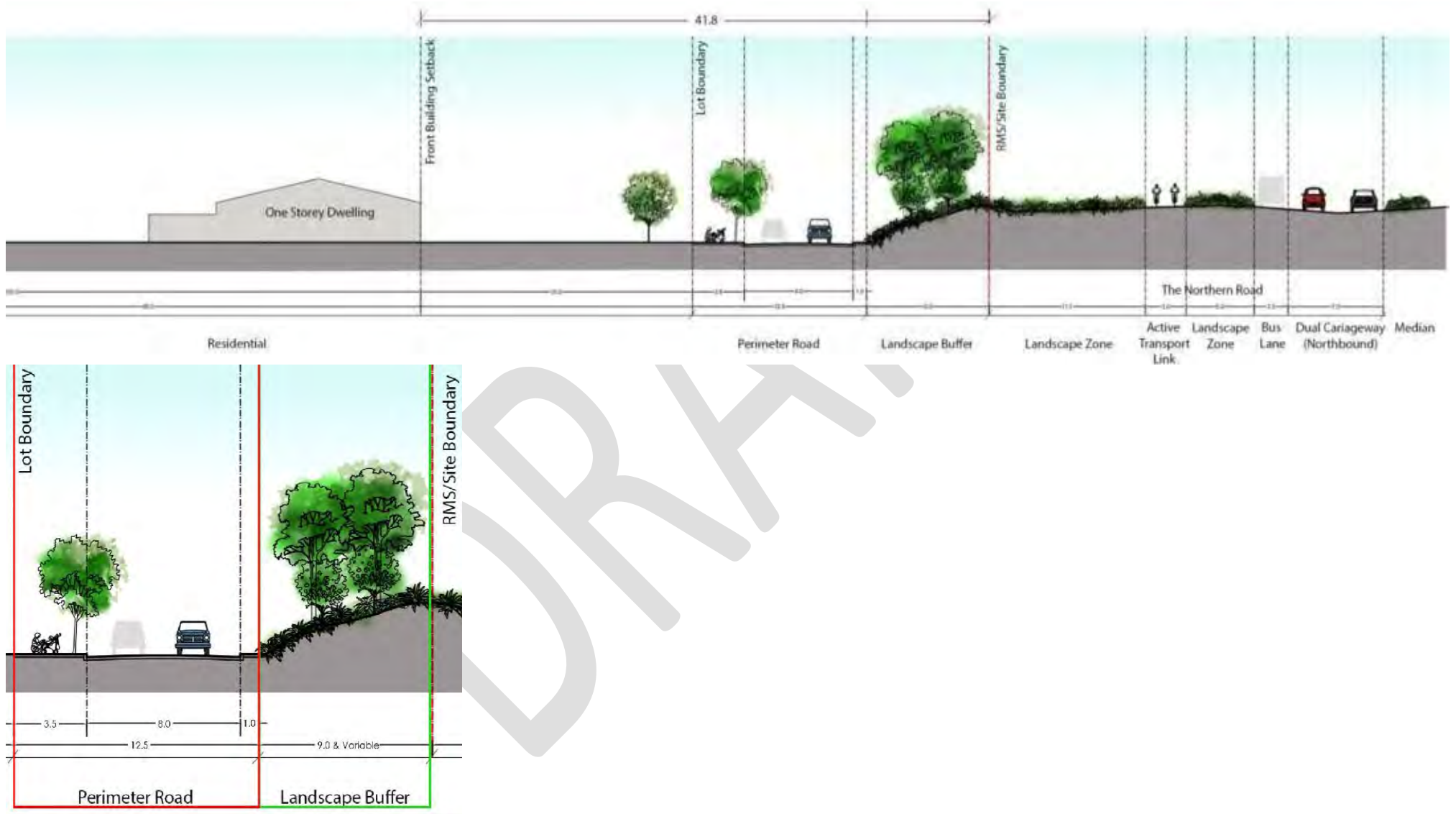
#### Controls

Allotment Requirements	
Minimum Lot Size	4000m <sup>2</sup>
Lot Frontage	50m
Minimum Dwelling Setbacks	
Front	20m
Secondary frontage	5m

Side:	5m
Rear	15m

1. Direct vehicular access to The Northern Road is not permitted.
2. Lots that front The Northern Road and are south of District Park 3 are to face an internal perimeter road. The perimeter road is separated from The Northern Road / Transport for NSW boundary by a landscape buffer of around 10m wide as shown in Figure 37.
3. Lots adjacent to The Northern Road and north of District Park 3 provide an interface with earthworks, mounds and a landscape buffer of around 10m wide to create a substantial screen to control views from and to The Northern Road. Access to these lots will be via the internal road network.
4. Species selection and planting along The Northern Road and within the landscape buffer must consider existing overhead electricity infrastructure.

**Figure 37: Cross Section of Lots fronting The Northern Road, Internal Perimeter Road and The Northern Road reserve.**



## 2. Chain-O-Ponds Road Interface Frontage Lots

Allotment Requirements	
Minimum Lot Size	2000m <sup>2</sup>
Lot Frontage	50m
Minimum Dwelling Setbacks	
Front	10m
Secondary frontage	5m
Side:	5m
Rear	10m

## 3. Lots Adjacent to: Mulgoa Nature Reserve, C2 Environmental Conservation Zoned Land or C3 Environmental Management Zoned Land

Allotment Requirements	
Minimum Lot Size under PLEP	1000m <sup>2</sup> or 2000m <sup>2</sup>
<b>Minimum Lot Frontage:</b>	
Minimum lot size 1000m <sup>2</sup>	20m
Minimum lot size 2000m <sup>2</sup>	30m
Minimum Dwelling Setbacks	
Front	6.5m or as required by the APZ
Side	
Lots under 20m	1m
Lot frontage 20m and over	3m
Rear	10m or as required by the APZ

## 5.5 Non-Residential Development

### Performance measures

- a) Non-residential development should be planned and designed according to principles of traditional suburban design, and to preserve the amenity of residential neighbourhoods.
- b) Principles of urban form and urban design that apply to permissible multi-unit housing are applied to non-residential development.
- c) Particular attention is paid to:
  - i. The development site including front setbacks, rear setbacks, dual frontage situations.
  - ii. Urban form including:
    - Traditional building design features.
    - Traditional garden frontages.
    - Orientation of building entrances.
    - Continuously occupied rooms facing the street.
    - Detailed consideration of significant townscapes or landscapes.
    - Signs.
  - i. Driveways and parking including:
    - Provision of on-site parking appropriate to the proposed use, and in accordance with Penrith Council's parking codes, the RTA 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.
  - ii. Building envelope and side setbacks:
    - To achieve a single storey appearance.

- To provide for effective landscaped separation from adjacent developments.
- iii. Minimise overshadowing of adjacent properties and minimise requirements for mechanical heating and cooling of interiors.
- iv. Protect the privacy of adjacent properties.
- v. 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.

## **6. Lot development, grading and earthworks**

### **Objectives**

- a) Development should respond to the site's natural topography and general landform, minimizing excavation and potential visual impacts.
- b) To create an appropriate landform across the development area that takes into account and responds to site natural features such as riparian corridors and remnant bushland.
- c) Encourage appropriate dwelling design to suit the topography of lots.
- d) Minimise the incidence of cut and fill and alterations in finished ground levels after subdivision site grading works.

### **Controls**

1. Earthworks allow for the preservation of existing mature trees, particularly in open space, environmental living zones and environmental conservation zones.
2. All retaining walls shall be of masonry construction and must be wholly located within the lot boundary in the locations shown on the approved Engineering Drawings.
3. The maximum height of any retaining wall structure shall be 1.5m. All retaining walls must be constructed in future private lands. Retaining walls constructed on land to be dedicated to Council will not be accepted without separate written approval by Councils Engineers. A

compliance certificate by a qualified registered structural engineer will be required to confirm the construction is in accordance with the design.

4. Retaining wall heights are measured from the top of the footing to the top of the wall.
5. Rear boundary retaining walls for development on slopes should not exceed 1.5m in height.
6. Side boundary retaining walls for development on cross slopes should not exceed 1.5m in height.
7. Applicants to refer to the Environmental Management Chapter of Penrith DCP.
8. Applicants to refer to the Development on Sloping Land section within the Residential Development Chapter of Penrith DCP.
9. Any development outside these controls to be considered on its merits.

## **7. Development staging**

It is intended that the development of Glenmore Park Stage 3 will be staged generally in accordance with Figure 38. The objective of staging is to facilitate the timely and efficient release of urban land, subject to infrastructure availability/provision, and sequencing.

Development of the site will likely be progressed where more than one stage will be under construction at any particular time. For example, development will continue southwards from the existing Glenmore Park Stage 2 boundary, and development will also commence northwards from Chain O Ponds Road.

The delivery of individual developments must be considered in the context of:

- Available and future infrastructure
- Site access
- Public domain delivery
- Traffic and parking limits, and
- As each development is delivered, the supporting infrastructure must be

provided. All relevant supporting studies must be completed with each major development application.

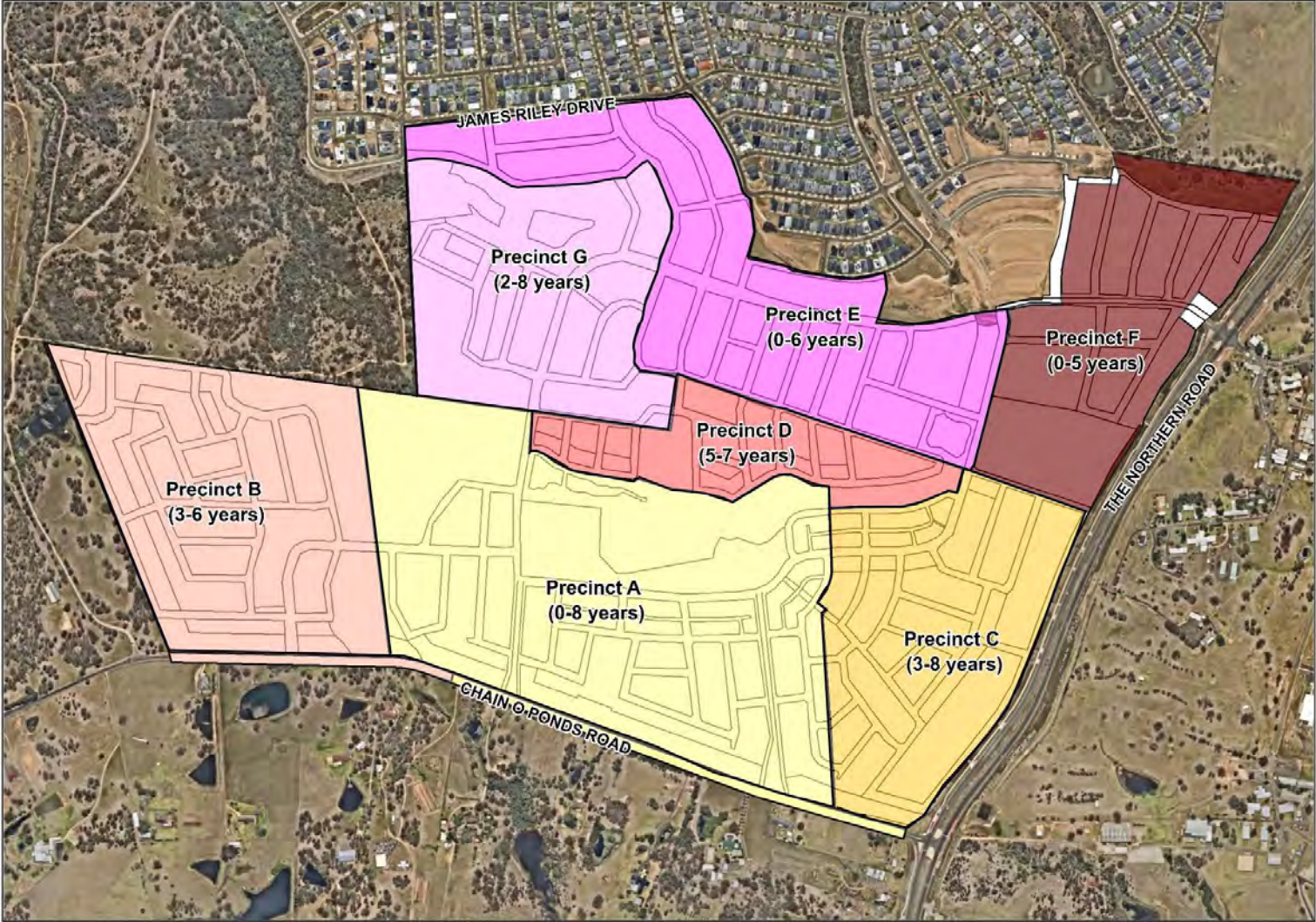
## Objectives

- a) To facilitate the orderly delivery of the site.
- b) To ensure that adequate services are provided at each stage of development.
- c) To ensure that infrastructure anticipates future development.
- d) To manage and minimise potential adverse impacts of each major development application, including on adjoining land.
- e) To ensure that development does not exceed floor space or parking limits identified for the area.

## Controls

1. A concept plan is required to accompany the development application for each stage of development, demonstrating no adverse impacts on the proposed subdivision or adjoining land.
2. Each development application for each stage of development is to identify the infrastructure provision necessary to service the development. This includes, but is not limited to:
  - i. Power,
  - ii. Water and gas supply,
  - iii. Drainage works,
  - iv. Roadworks.
3. Infrastructure provision is to anticipate future development adjacent and linked to the site. The provision is to ensure that any disruption to new roads and services is minimized as future projects are brought online.
4. Major new development will require evaluation of parking and traffic generation.
5. Staging is indicative only and subject to provision of servicing infrastructure, earthworks strategy and drainage catchments.

**Figure 38: Indicative Development Staging Plan**



# D8 Kingswood

## Contents

D8 Kingswood .....	3
Part A – Design and siting of non-residential development on land fronting Morley Avenue and the Great Western Highway, Kingswood .....	3
1.1 Land to which this section applies .....	3
1.2 Aims and objectives .....	4
2. Development Controls .....	4
Part B – The Knoll .....	7
3. Preliminary .....	7
3.1. Land to which this part applies .....	7
3.2 Structure Plan .....	9
3.3 The Public Domain .....	10
3.3.1 Street Network .....	10
3.3.2 Pedestrian and cycle network .....	13
3.3.3 Open space network .....	13
3.4 Residential development .....	15
3.4.1 Subdivision design .....	15
3.4.2 Streetscape, feature elements and roof design .....	16
3.4.3 Dwelling height, massing and siting .....	17
3.4.4 Building setbacks .....	19
3.4.5 Development on Sloping Land .....	20

3.4.6 Studio or secondary dwellings.....	21
3.4.7 Private open space.....	21
3.4.8 Site coverage and landscaped area.....	22
3.4.9 Fencing.....	23
3.4.10 Garages and Access .....	24
<b>3.5 Environmental and residential amenity.....</b>	<b>25</b>
3.5.1 Visual and acoustic privacy .....	25
3.5.2 Safety and surveillance.....	26
3.5.3 Sustainable building design.....	27

DRAFT

## D8 Kingswood

### Part A – Design and siting of non-residential development on land fronting Morley Avenue and the Great Western Highway, Kingswood

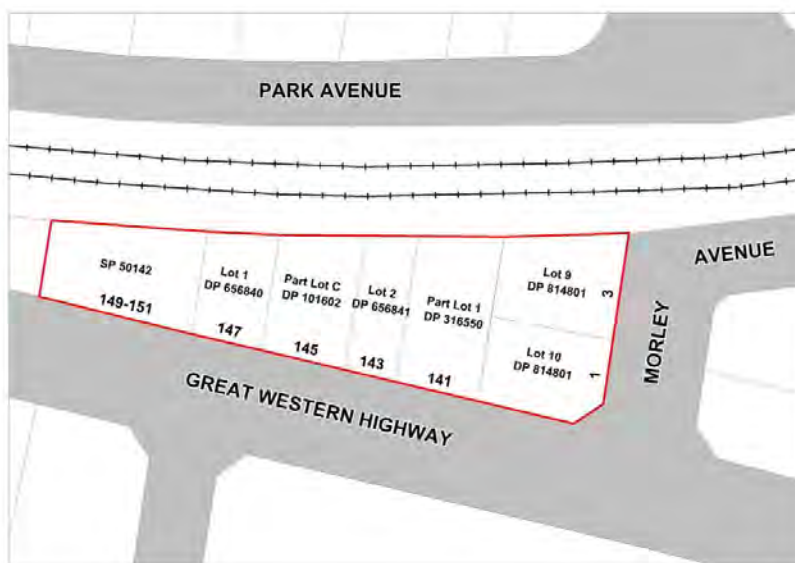
#### 1. Preliminary

##### 1.1 Land to which this section applies

This section applies to following land within Kingswood, as shown in Figure 1:

- Lots 9 and 10 DP 814801, 1 – 3 Morley Avenue, Kingswood,
- Part Lot C, DP 101602, 145 Great Western Highway, Kingswood,
- Lot 1, DP 656840, 147 Great Western Highway, Kingswood,
- Part Lot 1, DP 316550, 141 Great Western Highway, Kingswood,
- Lot 2, DP 656841, 143 Great Western Highway, Kingswood,
- SP 50142, 149 – 151 Great Western Highway, Kingswood.

**Figure 1: Land to which this section applies**



## 1.2 Aims and objectives

- a) To encourage low traffic generating developments with sufficient onsite parking which satisfies Council's Car parking Code and adequate on site loading / off loading facilities.
- b) To encourage a proper design and landscape address to both the Great Western Highway and Western rail line consistent with the high visual exposure of the land.
- c) To ensure that developments will not detrimentally affect the existing environments and are compatible with adjoining land uses, particularly whilst any residential properties remain.
- d) To encourage amalgamation of allotments to allow orderly redevelopment to occur; and
- e) To ensure that development in layout, landscaping and signage is in keeping with the residential character of the land and in turn discourage the visual appearance of commercial ribbon development.

## 2. Development Controls

In considering an application for the development of land subject to this Section, Council shall take into consideration the following matters:

### Building setbacks

1. The following front building setbacks apply to development along the Great Western Highway:
  - i. 7m: 1 – 3 Morley Avenue and 141 – 147 Great Western Highway, Kingswood.
  - ii. 5m: SP 50142, 149 – 151 Great Western Highway, Kingswood.
2. All building setbacks are to be appropriately landscaped.
3. On-site car parking will be considered within the front setback where it can be demonstrated that it will be suitably screened by landscaping.

## Signage

4. All signage is to comply with the requirements of the Advertising and Signage chapter of this DCP.
5. Signs identifying the location and activities of business will be permitted only along the Great Western Highway frontage.
6. No signage is to be erected along the frontage to the railway.

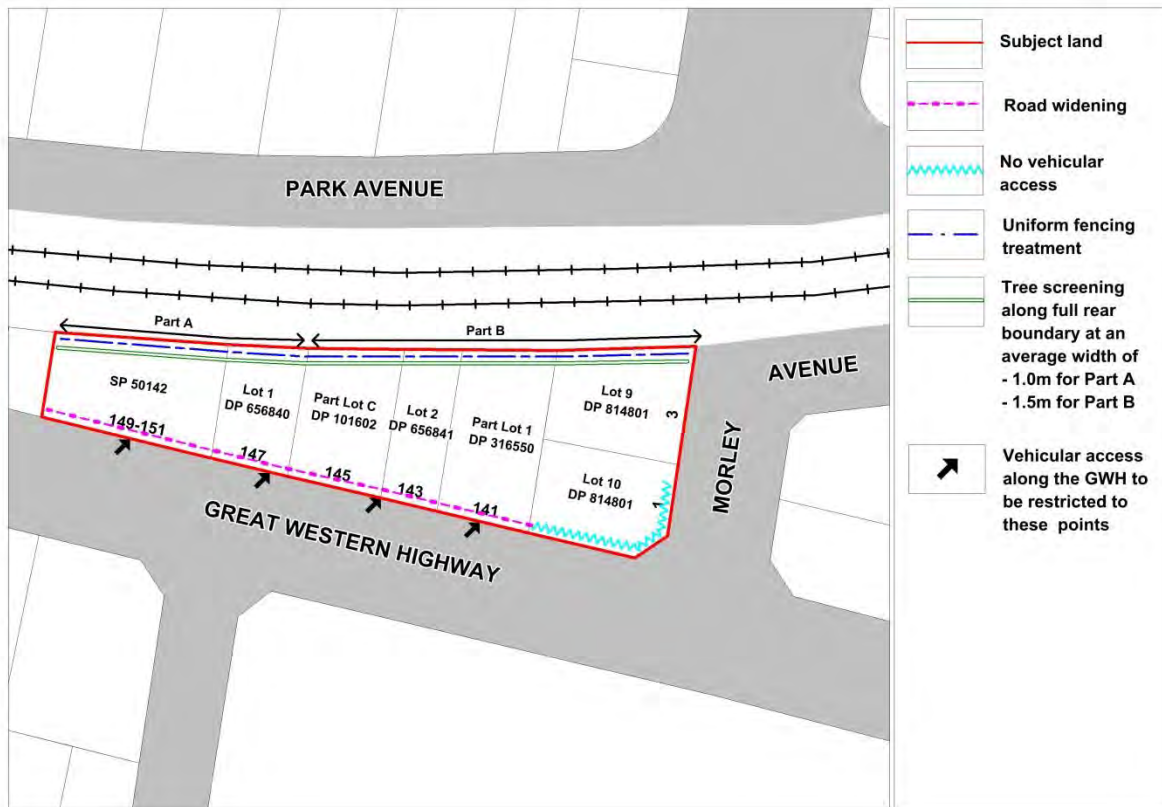
## Car parking

7. Car parking is to be provided in accordance with the Transport, Access and Parking chapter of this DCP.
8. Car parking areas are to be suitably located so as to serve all sections of the development.
9. Car parking shall be provided with landscaping strips, particularly if adjacent to any existing dwelling being used for residential purposes and along the Great Western Highway and railway line boundaries of the allotments.

## Vehicular access

10. Vehicular access to 1 – 3 Morley Avenue, Kingswood will be provided off Morley Avenue only.
11. Vehicular access to other properties will be limited to existing vehicular access points, and in accordance with Figure 2: Vehicular access. No new vehicular access points will be permitted off the Great Western Highway except for one access point to service SP 50142, 149 – 151 Great Western Highway, Kingswood.

**Figure 2: Vehicular access**



### Loading areas

12. Sufficient loading areas shall be provided on site in accordance with the requirements of the Transport, Access and Parking chapter of this DCP.

### Storage area

13. Storage areas will not be permitted along the Great Western Highway frontage. All goods and materials shall be stored within buildings.

### Building design and layout

14. The design of buildings and layout of uses on site shall:

- i. Ensure a proper design and landscape address to both the Great Western Highway and Western Rail Line having regard to the high visual exposure of the land.
- ii. Ensure that any impact on the amenity of adjoining residential dwellings is minimised.

## Western Rail Line

15. To achieve a high standard and uniform address to the Western Rail Line, the following shall be undertaken:

- i. The lot boundary to the Western Rail Line is to be screened with trees comprising of species consistent with the existing landscape setting of the area. This tree screen shall vary in width as per the plan attached to this section.
- ii. Any fencing treatment of the boundary to the Western Rail Line shall be uniform for all lots and comprise of wire mesh fencing to a height of 1.8m.

## Landscaping along the Great Western Highway

16. Landscaping shall form an integral part of the use of the setback area from The Great Western Highway.

17. It shall at maturity effectively screen any car parks and visually 'soften' the built form nature of the development in order to emphasise the 'low key' commercial character of development and to be compatible with existing residences.

## **Part B – The Knoll**

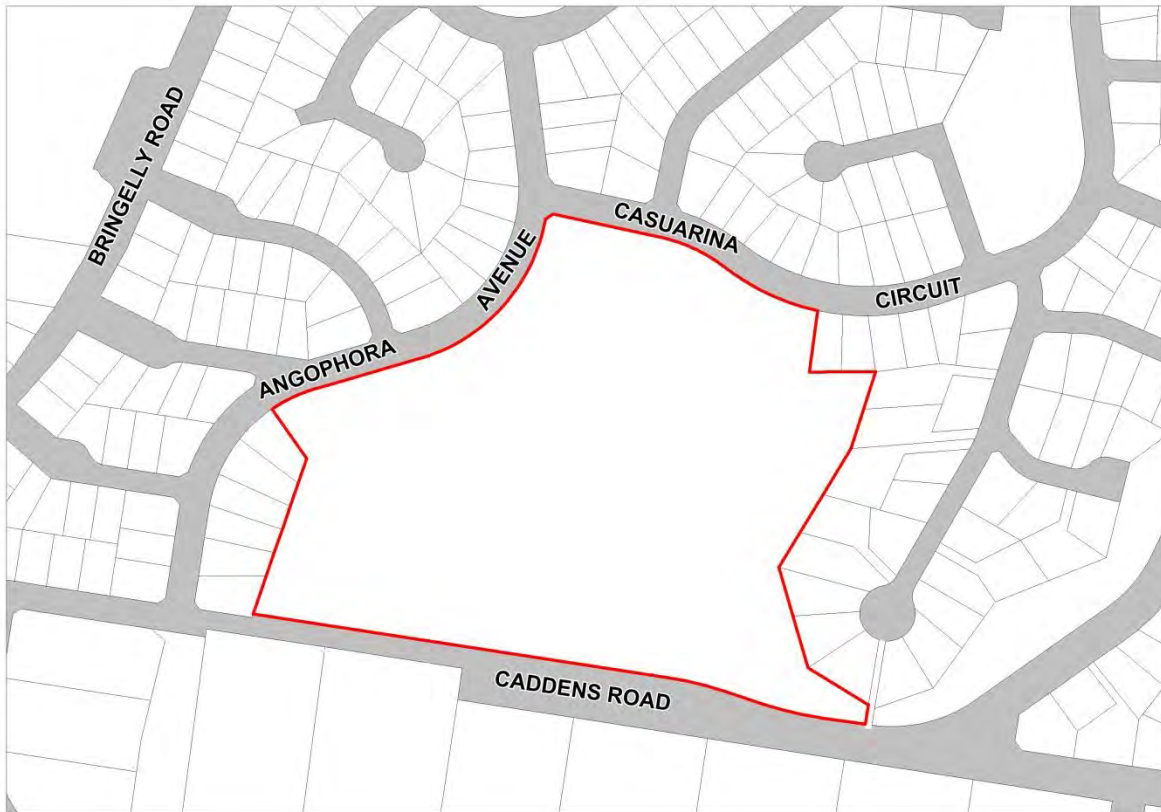
### **3. Preliminary**

#### **3.1. Land to which this part applies**

This section applies to the land located at 17-53 Caddens Road, Orchard Hills (Lot 21 DP 1151724) within the Penrith Local Government Area.

The land, known as 'The Knoll' is identified in Figure 3.

**Figure 3: Land to which The Knoll applies**



#### Relationship to other Plans and Documents

This section must be read in conjunction with any environmental planning instrument applying to the land, as well as any Planning Agreement for The Knoll.

In the event of any inconsistency between this chapter and the rest of this DCP, the requirements of this chapter prevail.

Where a specific issue is not addressed in this chapter, reference should be made to relevant sections of the Penrith DCP.

#### Supporting studies

The following supporting studies and documents have been used in the preparation of this section and are available for reference from Council:

- Aboriginal Heritage Assessment by Godden Mackay Logan and Jo McDonald (March 2012).
- Ecological and Bushfire Report by EcoLogical Australia (March 2012).
- Infrastructure and Services Report by J. Wyndham Prince (March 2012).

- Phase 1 Environmental Site Assessment by WSP (March 2012).
- Traffic Report by Halcrow (May 2012).
- Stage 1 Road Safety Audit by GTA Consultants (November 2012)
- Community Consultation Report by Manidis Roberts (May 2012).
- Stormwater Management Report by J. Wyndham Prince (February 2013).
- JBS Environmental Phase 2 Investigation (Feb 2012).

### **3.2 Structure Plan**

#### Vision for The Knoll

The Knoll comprises accessible grassland with an area of approximately 7.33 hectares. The Knoll is surrounded by existing residential development.

The development of the Knoll is to:

- a) Provide an appropriate balance between low-density residential development and public open space.
- b) Create a 'Hill Top Park' for community use.
- c) Demonstrate a high standard of residential amenity and a high standard of urban and architectural design quality.
- d) Maintain the existing established character of the areas adjoining the Knoll.
- e) Facilitate connections with land and development adjoining the Knoll.
- f) Maintain district views and vistas attained from the Hill Top Park.
- g) Provide an integrated, convenient and sustainable road, footpath and cycle network.

In order to achieve the vision for the Precinct, a Structure Plan was prepared as part of the planning proposal. This Structure Plan demonstrated the opportunity to subdivide land into a minimum of 45 individual residential lots and establish an area of informal public open space, to be known as Hill Top Park, at the central portion of the precinct.

The Knoll Structure Plan establishes the urban structure and form for the planning and future development of the Knoll. The Structure Plan (Figure 4) demonstrates the subdivision of the Knoll to provide 45 individual residential lots and an area of public open space in the form of a hill top park.

**Figure 4 – Structure Plan for The Knoll**



### 3.3 The Public Domain

#### 3.3.1 Street Network

##### Objectives

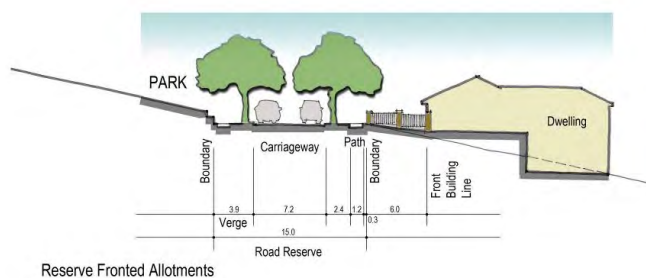
- a) To deliver a safe and convenient vehicular, pedestrian and cycleway network.
- b) To provide visual interest within streetscapes.

##### Controls

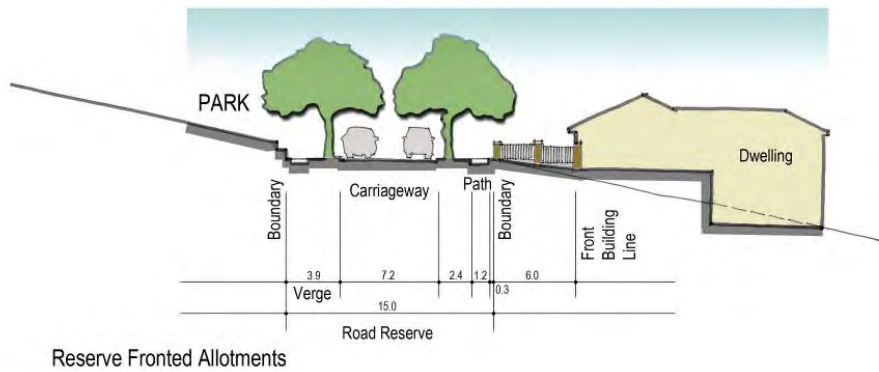
1. The street network is to be set out in accordance with the Structure Plan.
2. The cycleway network is to be built in accordance with the Structure Plan. The indicative route of the cycleway mostly crosses through the precinct and connects to the new Caddens residential development to the east of the precinct.

3. Street trees are required on all street verges/nature strips (between footpath and kerbs). Street planting will be located to:
  - i. Minimise risk to utilities and services.
  - ii. Maintain adequate sight lines for vehicles and pedestrians particularly in locations of driveways and corners.
  - iii. Provide adequate shading for pedestrians.
  - iv. Provide attractive and interesting streetscape.
  - v. Minimise interference with street lighting.
4. The provision of street trees should be of a uniform species and preferably native.

**Figure 5: Indicative cross-sections and plans of desired streetscapes for allotments with precinct**



**Figure 6: Indicative cross-sections and plans of desired streetscapes for reserve fronted allotments within precinct**



### **3.3.2 Pedestrian and cycle network**

#### **Objectives**

- a) To provide a clear, convenient, efficient and safe network of pedestrian and cycleway paths for the use of the community, within and beyond the precinct.
- b) To encourage residents to walk or cycle, in preference to using motor vehicles, as a way of gaining access to schools, shops, and local community and recreation facilities outside of the precinct.

#### **Controls**

- 1. Pedestrian routes and cycleways are indicated on the Structure Plan.
- 2. Pedestrian footpaths are to have a minimum width of 1.5m.
- 3. All pedestrian and cycleway routes and facilities are to be consistent with the Planning Guidelines for Walking and Cycling (Department of Infrastructure, Planning and Natural Resources and the Roads and Traffic Authority, 2004).
- 4. Pedestrian and cycle routes and facilities in public spaces are to be safe, well lit, clearly defined, and be functional and accessible to people with a disability.
- 5. Clearly and frequently signpost shared pedestrian/cycle links.
- 6. Pedestrian and cycle pathways, and pedestrian refuge islands are to be designed to be fully accessible by all in terms of access points and gradients, generally in accordance with Australian Standard 1428:1-4.
- 7. Pedestrian and cycle pathways are to be constructed as part of road infrastructure works with detailed designs to be submitted with the development applications for subdivision.

### **3.3.3 Open space network**

#### **Objectives**

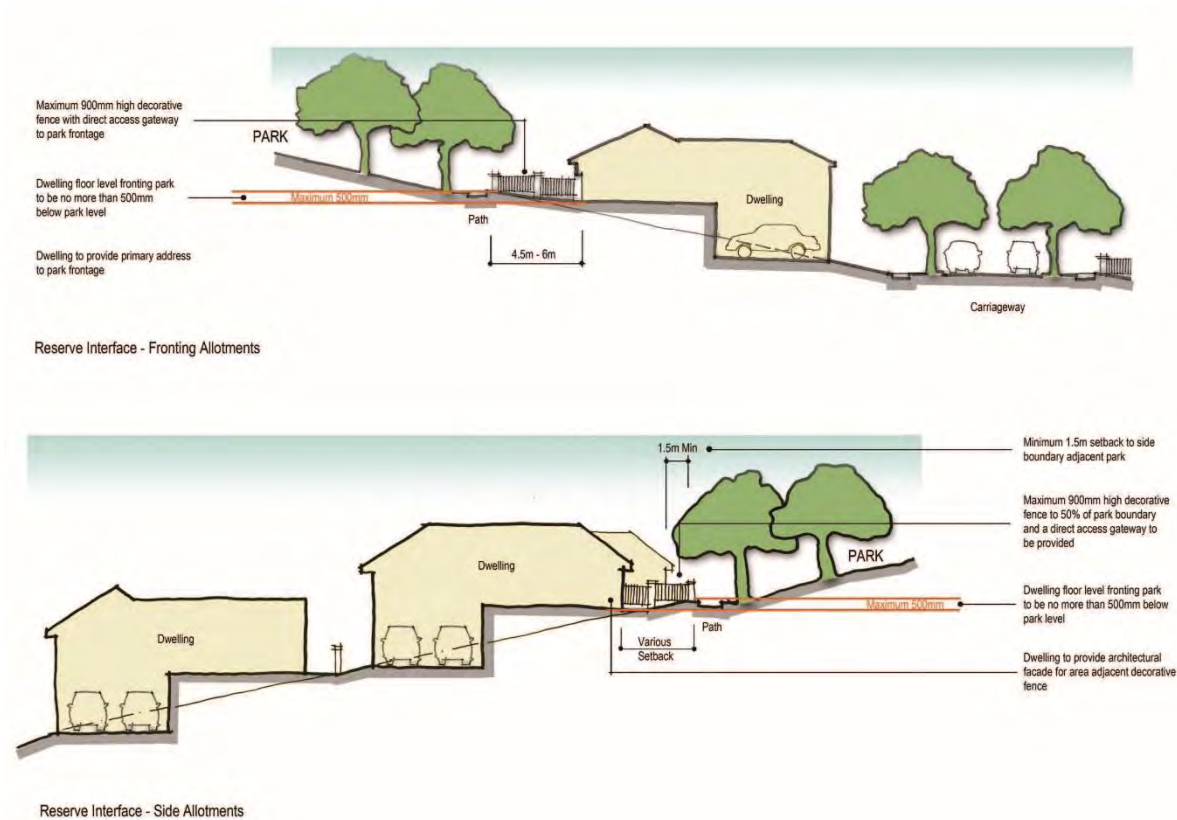
- a) To create a sense of identity for the precinct while maintaining the existing character of surrounding development.

- b) To respect the amenity and privacy of existing residential properties adjacent to the precinct.
- c) To create passive recreational open space for the precinct for both future residents of the precinct and existing residents of surrounding properties.
- d) To provide a visual focal point of the precinct.
- e) To maintain district views and vistas of Orchard Hills and beyond from the hilltop at the precinct.

## **Controls**

1. Retain and embellish the land nominated as Hill Top Park on the Structure Plan.
2. Dwellings that border the Hill Top Park should generally be orientated towards the open space for passive surveillance and deliver an attractive surround to the Hill Top Park (refer to Figure 7)
3. Provide cycle ways and footpaths to form key open space linkages throughout the precinct.
4. Identify areas for passive recreational space within the proposed Hill Top Park.
5. Provide a three metre wide landscaped easement between existing residential properties and new lots abutting the precinct's western and eastern boundaries to respect privacy and amenity between the precincts.
6. Provide appropriate street furniture within the Hill Top Park which should be consistent in terms of appearance and design. A public domain plan should be prepared with the subdivision development application showing street furniture, including as appropriate:
  - i. Seats.
  - ii. Litter bins.
  - iii. Drinking fountains.
  - iv. Lighting.
  - v. Information signs.

**Figure 7 – Indicative interface with Hill Top Park on front and side allotments**



## 3.4 Residential development

### 3.4.1 Subdivision design

#### Objectives

- To establish a consistent urban form and structure that encourages a low density residential character with desirable streetscapes.
- To design lots that respond to the natural topography and street pattern of the precinct.
- To provide a desirable level of amenity for individual lots in terms of solar access, views and outlook, and proximity to public open space.

#### Controls

- The subdivision layout of the precinct should be subject to survey generally in accordance with the Structure Plan at Figure 4.

2. Provide a balanced range of north-south and east-west orientated sites.

### **3.4.2 Streetscape, feature elements and roof design**

#### **Objectives**

- a) To encourage dwelling designs which create a harmonious streetscape and responds to the predominate character of the surrounds of the precinct.
- b) To provide a clear distinction between public and private space and to encourage casual surveillance of the street and Hill Top Park.
- c) To identify elements of roof design that respond appropriately to the streetscape character while providing weather protection to windows.
- d) To create an attractive and cohesive streetscape through the provision of simple and articulated building and roof forms in a contemporary style.
- e) To reduce the dominance of garages on the streetscape.
- f) To encourage eaves, verandahs, balconies and other feature elements on the front facades of dwellings.

#### **Controls**

1. Primary street façade of a dwelling to incorporate at least one of the following building elements to articulate its presentation to the street:
  - i. An entry feature.
  - ii. Awnings or louvres or other sunshade devices over windows.
  - iii. Open verandah.
  - iv. Bay windows.
  - v. Balcony at first floor.
  - vi. Other decorative architectural features.
2. Secondary street façade on corner lots include at least a window off a habitable room and particular design features (e.g. verandah, balcony or landscaping).

3. Eaves to be provided to all roofs with a minimum overhang of 400mm.
4. Roof pitch is to be a maximum of 25 degrees.
5. Garages and parking spaces are to be sited behind the front building line of dwelling or integrated into the façade of the dwelling for garages that are situated at basement or sub-ground floor level.

**Figure 8 – Primary street façade design principles**



### 3.4.3 Dwelling height, massing and siting

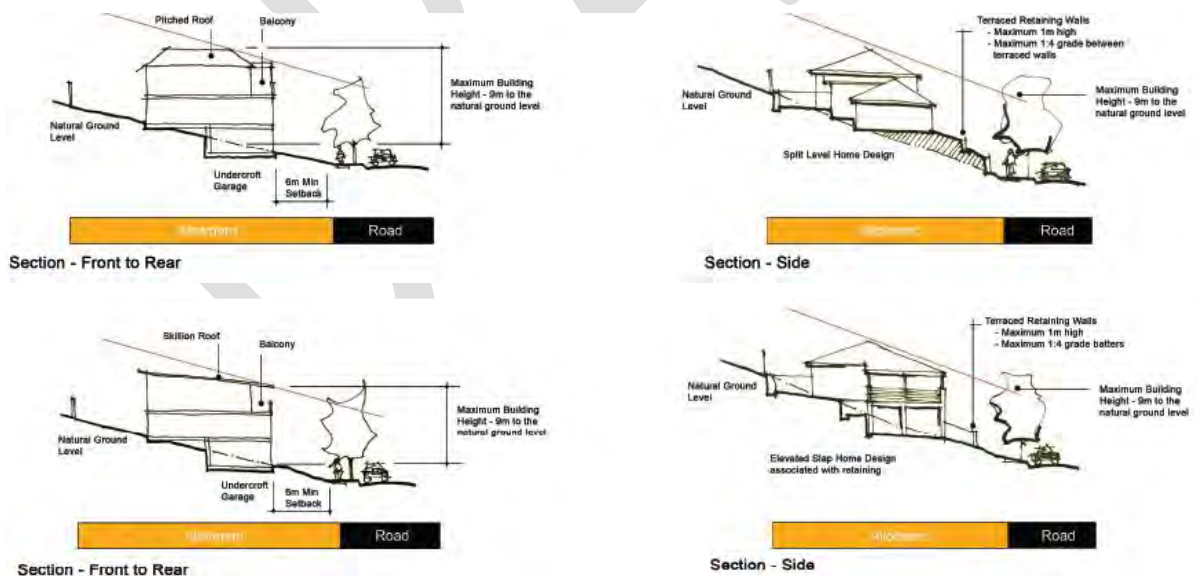
#### Objectives

- a) To achieve consistency in design of dwellings and create an appropriate scale for dwellings to respond to the natural landscape and street pattern of the precinct.
- b) To nominate building heights to create a desirable streetscape and respect solar access and privacy aspects of individual lots.
- c) To avoid significant cut and fill of land to accommodate dwellings on steeply sloping site.

## Controls

1. Dwellings are to be a maximum of two storeys in height with the exception of dwellings that incorporate basement/undercroft garages or split level solutions for steeply sloping sites as illustrated in Figure 9.
2. Maximum external wall height for all dwellings is 7m from the natural ground level.
3. At least 3 hours of direct sun between 9am and 3pm onto 50% of principal private open space should be achieved for new dwellings and their adjoining properties.
4. Satisfy cut and fill and excavation numeric controls set out in Section D8 3.4.5 Development on Sloping Land of this Part.
5. Housing interface to the Hill Top Park to be a maximum of 500mm below park level at the boundary.

**Figure 9 – Building Height and Development Control solutions for sloping sites**



### 3.4.4 Building setbacks

#### Objectives

- a) To minimise the impacts of development on neighbouring properties in relation to views, privacy and overshadowing.
- b) To provide space between buildings.
- c) To reinforce the visual prominence of corner lots to promote a strong and legible character.
- d) To reduce the visual impact of front garaging on street frontages.

#### Controls

1. Dwellings are to be sited in conformity with the numeric controls specified in Table 1 and the landscape easement requirement specified in Section D8 3.3 Open Space Network, in order to establish a consistent front building line in response to the curve pattern of the road reserve as well as respecting solar access, privacy and amenity aspects of individual lots (refer to Figure 10).

**Table 1: Building Setbacks**

Allotment Type	Front	Side	Rear
Frontage with 18 and greater	6m	1.5m	6m
Frontage between 15m and 18m	6m	0.9m	6m
Frontage with 15m and lesser	4.5m	0.9m	4m

2. Secondary frontages for all corner sites are to be provided in accordance as follows:
  - i. 2m on lots less than 18m wide
  - ii. 3m for dwellings on lots 18m and wider
3. Secondary frontages should be staggered to minimise the incidence of blank frontages.

4. Freestanding garages that are independent of a dwelling (i.e. not sited within the building envelope of a dwelling at basement/undercroft level) are to be sited at least 1m behind the front building line of dwellings to reduce its visual prominence within the street frontage of sites.

**Figure 10 – Setback principles**



### 3.4.5 Development on Sloping Land

#### Objectives

- a) To minimise incidence of cut and fill and alterations in natural ground levels.
- b) To encourage appropriate dwelling design which suits the topography of lots.
- c) To protect adjoining properties from potential structural instability by proposed excavation.
- d) To lessen the visual impact of retaining walls on allotment boundaries.

#### Controls

1. Cut and fill of land is to be minimised under the following numeric controls:
  - i. Maximum depth of any cut in the slope is 1m.
  - ii. Maximum height of any fill of the slope is 1m.
2. Side boundary retaining walls for development on cross slopes should retain a cut no higher than 1m.

3. Excavation works should be at least 1.5m from side and rear boundaries to respect the structural stability of adjoining sites.
4. Retaining walls should be setback at least 1m from any boundary and if possible screened by suitable landscaping.
5. Where the retaining of land is greater than 1m in height, retaining walls should be tiered with a minimum distance of 600mm between walls and suitably landscaped.
6. Embankments should have a maximum grade of 1:4 and be suitably landscaped to prevent erosion.

### **3.4.6 Studio or secondary dwellings**

#### **Objectives**

- a) To provide a diversity of housing and accommodation options to satisfy various family types and age groups.
- b) To provide innovative housing solutions compatible with the surrounding residential development.

#### **Controls**

1. The design of the studio or secondary dwelling should be compatible with the design scheme of the principal dwelling.
2. Windows and private open spaces should not overlook the private space of any adjacent dwellings.
3. Where practical private open space in the form of a balcony should be provided to the secondary dwelling in addition to private open space area requirements.

### **3.4.7 Private open space**

#### **Objectives**

- a) To allocate sufficient space within an allotment for recreational purposes.
- b) To provide a desirable level of residential amenity.
- c) To optimise solar access on recreational areas.

## **Controls**

1. Each dwelling must be provided with an area of private open space.
2. Minimum of 20% of site area is to be reserved for private open space capable for recreational uses.
3. 50% of the private open space should be exposed to direct sunlight for at least 3 hours between 9am and 3pm.

### **3.4.8 Site coverage and landscaped area**

#### **Objectives**

- a) To provide sufficient landscaped area to each allotment.
- b) To encourage an appropriate level of amenity.
- c) To enhance streetscapes.
- d) To reduce impervious areas/or maximise pervious areas/or maximise stormwater infiltration/absorption to lessen site stormwater runoff.

#### **Controls**

1. A 3m landscaped setback will be provided at the rear of properties which are adjacent to existing residents (as illustrated in Figure 4). This will be provided in addition to standard building setbacks detailed in section D8 3.4.4 Building Setbacks.
2. Landscaped area in any part of a site, at ground level, that is permeable and consists of soft landscaping, turf or planted areas and the like. On lots 450m<sup>2</sup> and greater, 35% of the lot area must be landscaped.
3. A landscape plan is to be submitted with all development applications for residential development. The development application must indicate the location and other requirements for landscaping contained in this DCP.
4. The front setback area of a dwelling is to be landscaped with the treatment to clearly delineate between the private and public domain. The front setback is to incorporate two trees. The rear garden must include at least one tree that will achieve a height of 6m at maturity. These may include existing trees that are to be retained.

5. To prevent accumulation of water and concentration of salts, subsoil drains are to be installed around the perimeter of residences and connected to the stormwater system.
6. Low water demand drought resistant vegetation is to be used in common landscaped areas, including native salt tolerant trees.
7. Garbage bin storage and clothes drying areas are to be concealed from view and shown on site plans.

### **3.4.9 Fencing**

#### **Objectives:**

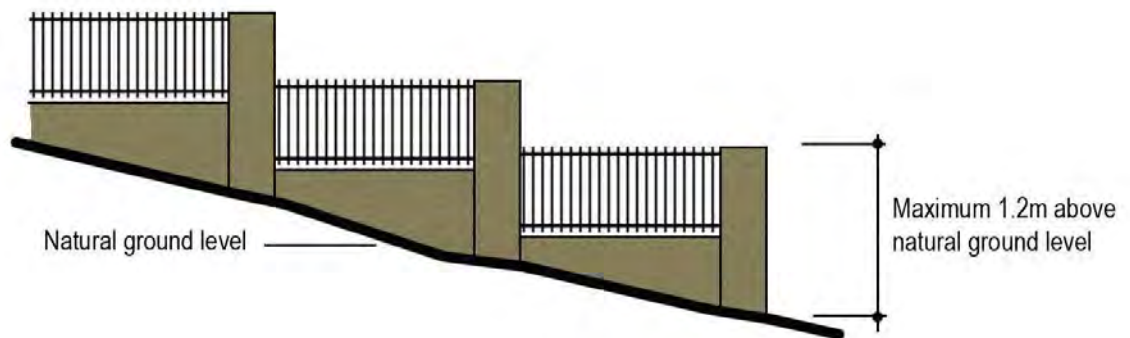
- a) To provide privacy to both residents and neighbours.
- b) To ensure boundary fencing is of a high quality and does not detract from the streetscape.
- c) To ensure that fencing is consistent with the street and the design and style with its dwelling.
- d) To permit causal surveillance of open space.

#### **Controls:**

1. The design of front fences is to take reference from, and complement, the architectural style of the dwelling on the site and dwellings on adjacent sites in terms of style, height and materials.
2. Maximum height of 1.2m for front fences.
3. On sloping sites, the height of the fence is to be averaged so that the fence steps down the slope (refer to Figure 11).
4. Any solid up-stand section should be limited to 600mm in height. The top half of the fence should be of an open design with a minimum open area of 50%, for visibility to and from the site. Components such as arched gates, piers and the like may exceed the maximum 1.2m height limit.
5. Maximum height of 1.8m for side and rear boundary fences.
6. Where a dwelling is located adjacent to open space, boundary fencing is to be of a high quality material and finish and the design is to permit causal surveillance of the open space.

7. The fencing on the secondary street of a lot with a frontage 17.5m or greater must be set back 0.9m from the secondary street boundary and must incorporate landscaped vegetation between the fence and the boundary.
8. Metal sheet fencing is not permitted anywhere.

**Figure 11 – Front fencing**



### 3.4.10 Garages and Access

#### Objectives

- a) To provide sufficient, safe and secure parking for residents.
- b) To design and locate off-street car parking areas not to unreasonably detract from the appearance and quality of the dwelling-house or streetscape.
- c) To maximise pedestrian and vehicular safety.
- d) To minimise loss of views from the public domain.
- e) To discourage garages from dominating the frontage of a dwelling.

#### Controls

1. Off-street parking spaces should be provided in accordance with within the Transport, Access and Parking Section of this DCP.
2. All car accommodation including garages must be sympathetic in architectural character to the dwelling and not visually dominate or adversely impact on the existing built or landscape character of the street.

3. Where a carport or garage entry forms part of the front façade of a dwelling, it is to be set back a minimum of 5.5m from the front boundary and at least 1m behind the building façade.
4. The maximum dimensions for garage doors are to be less than 50% of the front façade, 6m in width and 2.4m in height. Front double garages are only permitted on lots with a frontage width equal to or greater than 12.5m. Triple width garages are discouraged.
5. Parking spaces are to comply with AS 2890.1 off street parking, including:
6. Minimum internal width between main walls of 3m for a single garage; and Minimum internal width between main walls of 5.5m for a double garage.
7. Driveway access to garages on steep land must comply with AS 2890.1. Stencil-crete on driveways is not permitted.
8. Driveways are to be no wider than 4.5m at the front boundary and should be located a minimum of 1.5m from street trees.
9. Where practical driveways and car parking facilities for corner lots are to be accessed off a secondary street.
10. The maximum number of dwellings to be serviced from a shared driveway is 4.

### **3.5 Environmental and residential amenity**

#### **3.5.1 Visual and acoustic privacy**

##### **Objectives**

- a) To maintain visual and acoustic privacy for each property.
- b) To discourage overlooking from one dwelling to another.

##### **Controls**

1. Habitable room windows should not directly face other habitable room windows or private open space of adjoining dwellings on site or on adjoining sites.

2. Balconies at first floor with side and rear aspects to have a maximum area of 15m<sup>2</sup> and a depth of 1.7m to minimise the incidence of overlooking from one dwelling to another.
3. Windows of habitable rooms above ground floor level should have sill heights of 1.7m. Windows with sill heights less than 1.7m above floor level should comprise opaque glazing below this level.
4. Use of landscaping alongside boundaries is encouraged to provide natural screening between lots.
5. The internal layout of residential buildings, window openings, the location and design of outdoor living areas and elements (i.e. courtyards, balconies and retaining walls) and building plant should be designed to minimise noise impact and transmission and enhance visual amenity.

### **3.5.2 Safety and surveillance**

#### **Objectives**

- a) To reduce opportunities for concealment.
- b) To encourage natural and passive surveillance of the street and public domain.
- c) Dwelling design should encourage overlooking of primary and secondary streets as well as other public or communal areas, including the Hill Top Park. This is to be achieved by siting at least one living room to the front of the dwelling (which has an aspect to a primary street) and at least one habitable room to the side or rear (which has an aspect to a secondary street or public open space).
- d) Front fencing to comply with design controls set out in the fencing section of this Part to enable reasonable passive and casual surveillance of the street.
- e) Developments, including open space, are to avoid creating areas for concealment and blank walls facing the street.
- f) Pedestrian and communal areas are to have sufficient lighting to ensure a high level of safety and must be designed to minimise opportunities for concealment.

- g) Development applications for subdivision, public open space and community facilities are to incorporate the principles of Crime Prevention Through Environmental Design (CPTED). Refer to the Safety and Security chapter of this DCP for the CPTED principles.

### **3.5.3 Sustainable building design**

#### **Objectives**

- a) Design and build dwellings that are environmentally sustainable in relation to energy and water use.
- b) Maximise opportunities for natural ventilation through building layout.

#### **Controls**

1. Design of dwelling to be in accordance with energy and water use targets set out under *State Environmental Planning Policy (Sustainable Buildings) 2022*. A BASIX Certificate is required for all new residential development.
2. Minimum dwelling floor to ceiling heights should be as follows:
  - i. Ground floor habitable rooms of two storey single dwellings – 2.65m.
  - ii. Upper floors and all non-habitable rooms – 2.4m.
  - iii. Single storey dwellings – 2.65m.
  - iv. Attics – 1.5m wall height at edge of room with a 30 degree minimum ceiling slope; and
  - v. All floors of multi-unit dwellings – 2.4m.
3. Door and window openings and building/dwelling layout are to encourage adequate cross ventilation and solar access.
4. North and west facing windows are to incorporate sunshade awnings/panels or appropriate weather control devices.
5. All dwellings are to incorporate an outdoor clothes line/drying area in a sunny location not visible from a street or public place.

# D9 Mulgoa Valley

## Contents

D9 Mulgoa Valley .....	2
1. Siting and built form controls.....	3
1.1 Heritage items and vistas .....	3
1.2 Siting.....	4
1.3 Building form, materials and colours.....	5
1.4 Planting .....	7
1.5 Access, parking and services .....	8
1.6 Fences and entrances .....	8
1.7 Signage .....	9
2. Other controls .....	12
2.1 Mulgoa Road .....	12
3. Other relevant information .....	12

# D9 Mulgoa Valley

## Area included within the Mulgoa Valley Precinct

The Mulgoa Valley Precinct includes land in the Mulgoa Valley and parts of Wallacia. It is bounded on the west by the Nepean River and Blue Mountains National Park, on the south by the village of Wallacia (and includes the village), on the east by Luddenham and on the north by Glenmore Park and Regentville. The extent of the land is shown on the Penrith LEP Clause Application Map with a notation 'Mulgoa Valley'.

The Precinct is characterised by its predominantly rural landscape comprising creek flats, undulating agricultural land, wooded hills and escarpment, and large estate gardens. The backdrop of the Nepean River and Blue Mountains contributes to this landscape. The Precinct includes the villages of Mulgoa and Wallacia, which also have important cultural and natural heritage qualities.

The Mulgoa Valley Precinct plays an important role in providing:

- A nature and heritage conservation area on the fringe of the Sydney metropolitan area.
- A rural, recreation and tourism centre for Penrith and suburbs in the surrounding region.
- An area of limited rural living opportunities in sympathy with its landscape and heritage values; and
- A landscape buffer between the Blue Mountains National Park and the suburbs of Western Sydney.

## Aims of the controls for the Mulgoa Valley Precinct

The controls for this Precinct seek to conserve the heritage, rural and natural landscape of the Mulgoa Valley, and encourage its development as a rural area emphasising its visual and environmental heritage values.

The controls are in addition to and support the provisions in Penrith LEP relating to Mulgoa Valley and the Villages of Mulgoa and Wallacia. In particular, applicants will need to demonstrate how any proposed development will address the development consent criteria in subclause (3) of the Mulgoa Valley clause of the Penrith LEP.

## **General objectives**

- a) To conserve the rural landscape of the Mulgoa Valley.
- b) To protect the setting of the villages of Mulgoa and Wallacia within the rural landscape.
- c) To conserve heritage items and vistas within the Valley.
- d) To protect natural ecological elements within the Valley.
- e) To protect the agricultural capability of prime agricultural land; and
- f) To ensure that development in the Valley is consistent with conserving its rural and natural landscape, heritage and agricultural qualities.

## **Other relevant sections of this DCP**

This DCP is a multi-layered document that recognises the relationship of a number of issues in achieving sustainable outcomes. Therefore, it is important to read all relevant parts of this DCP.

# **1. Siting and built form controls**

## **1.1 Heritage items and vistas**

The Mulgoa Valley Precinct has played an important role in the history of the State's development. From 1810, the Valley was a key area of European settlement and it became closely linked to the activities of the wealthy Cox family and other prominent figures of the colony. The Precinct's heritage significance lies in the surviving sites, buildings, gardens and pastoral landscapes developed by the Cox family. These features provide some of the best remaining physical evidence in NSW of the manner in which the country was settled and the impact that this had on the landscape. This section seeks to protect the Valley's heritage items and their vistas from any unsympathetic development.

## **Objectives**

- a) To protect the surviving early colonial rural landscape from any further degradation.
- b) To ensure development does not prejudice the remaining evidence of the Cox family's associations with the Valley, its houses and gardens.

- c) To preserve and enhance the visual relationship between the sites of Cox's Cottage, St Thomas's Church and Fernhill.
- d) To conserve the surviving structures, features and gardens at the major historic and archaeological sites.
- e) To protect the visual catchments of heritage items by appropriately siting development having regard to the significance of the setting.
- f) To prevent development within the historic landscapes and curtilages of heritage items which may detract from the significance of those sites; and
- g) To prevent any activity which could destroy the potential archaeological resources of any heritage items.

## **Controls**

1. No structures are to be located in the view corridors linking the heritage items of Cox's Cottage, St Thomas's Church and Fernhill.
2. Figures 1 and 2 show the extent of the historic landscapes and curtilages in the Mulgoa Valley and should be used in assessing the impact development may have on them. Buildings are to be screened from view from heritage items and their curtilages. (Figures 1 and 2 are located at the end of section 1).
3. The vistas from the major heritage items in Mulgoa Valley are shown on the LEP on the Scenic and Landscape Values Map. No development is permitted in the vistas of these heritage items unless they are for the purpose of restoring, rehabilitating or preserving elements of the heritage items, such as fences, outbuildings, gates, roadways or plantings. Such structures should be designed and sited so as not to detract from the vistas.
4. Landscaping, including trees, should be sensitively sited to complement rather than interfere with the vistas.

## **1.2 Siting**

This section seeks to ensure that buildings are sited so they are in harmony with the existing landscape.

## **Objective**

- a) To ensure that buildings are sited to protect and enhance the rural and natural landscape of the Valley, particularly when viewed from roads and other public places.

## **Controls**

1. Buildings are to be located on mid-slopes to avoid visual impact on ridges and to avoid the banks of watercourses.
2. Buildings are to be setback at least 30m from public roads and at least 100m from Mulgoa Road. This control may be varied depending on the topography of the site.
3. Buildings are to minimise excavation, filling and high foundations by avoiding slopes greater than 1 in 6.
4. The longest façade of a building is to be parallel to the contours of the land.
5. Buildings are to be grouped to minimise the visual impact of buildings in an open rural landscape.

## **1.3 Building form, materials and colours**

This section seeks to ensure that buildings adopt appropriate building forms, materials and colours that are consistent with conserving the Valley's rural and natural landscape and its heritage values.

## **Objectives**

- a) To ensure building forms are in keeping with the traditional buildings of the Mulgoa Valley.
- b) To ensure building materials match or complement those of older rural buildings and heritage items; and
- c) To ensure building colours are derived from the local natural landscape, especially the stone and soil, and from the traditional colours of the historic buildings of the Valley.

## **Controls**

1. Buildings are to be a maximum of two storeys in height.

2. Pitched roofs are preferable with a slope of between 30 and 45 degrees. Skillion roofs by themselves are to be avoided except as verandahs or for extensions.
3. Large elements, especially flat surfaces, are to be avoided. Building façades and roof lines are to be broken into small elements. Garden structures, such as trellises and pergolas, can assist in breaking up large elements.
4. Buildings are to be designed with a horizontal rather than vertical emphasis. For example, elements such as verandahs and wide eaves can add a horizontal emphasis.
5. Windows and doors, expressed as openings in solid walls, are to have a vertical rather than a horizontal emphasis, and large unbroken glazed panels are to be avoided.
6. Building materials are to match or complement those of older rural buildings and heritage items. Examples of appropriate materials are:
  - i. Walls – Dressed Hawkesbury sandstone, rendered brickwork, rendered concrete block work, pise, mud brick, earth wall construction, painted weatherboard (horizontal), corrugated iron and timber slab construction; and
  - ii. Roofs – Slate, timber shingles, clay tiles of traditional shape and colour, corrugated iron and ribbed sheet metal.
7. Building colours are to be derived from the local natural landscape, especially the stone and soil, and from the traditional colours of the historic buildings of the Valley. Examples are:
  - i. Walls – Light Indian Red, Biscuit, Light Stone, Drab, Light Red/Brown, Light Cream, Pink Beige and Brown Pink. Lighter colours are also acceptable, but avoid white and variegated and mottled colours in brickwork.
  - ii. Roofs – Unpainted iron, Light Olive Green, Paynes Grey, slate grey and blue/grey; and
  - iii. Trim – Bold rich deep colours such as Maroon, Terracotta and Brunswick Green.

## 1.4 Planting

This section seeks to ensure that important indigenous vegetation and historic introduced vegetation that contributes to the landscape of the Mulgoa Valley Precinct is protected and enhanced.

### Objective

- a) To protect and enhance existing indigenous vegetation and historic introduced vegetation that contributes to the Valley's rural and natural landscape and its heritage values.

### Controls

1. Existing stands of indigenous vegetation and key individual indigenous trees that contribute to the landscape character shall be retained.
2. Historic plantings of introduced trees and shrubs shall be retained where they have been identified as significant, or form a positive visual feature in the landscape, or complement a place of historic or cultural significance. For example, the entrance drive of *Pinus pinea* (Stone pines) at Winbourne, the *Araucaria bidwillii* (Bunya pines) at Glenmore, the *Ficus rubiginosa* (Port Jackson Fig) at Fairlight, and *Cinnamomum camphora* (Camphor Laurel) at Glenleigh.
3. Regrowth vegetation in the view corridors linking Cox's Cottage/St Thomas's Church/Fernhill may be selectively thinned to restore the landscape to an historic park-like character. However, the rough barked angophora species (*A. subvelutina* and *A. floribunda*) and their hybrids must be retained. For screening or to enhance this landscape character, clumps of three or four of these angophoras should be planted in appropriate locations. Naturally occurring seedlings or those specially propagated from specimens in the locality (provenance stock) for the purpose should be used.
4. A comprehensive list of suitable species is available on Council's website or by contacting Council.
5. Non-traditional introduced species with strongly coloured or otherwise prominent foliage is not recommended for planting in the Mulgoa Valley Precinct; e.g. golden cypress and *Pinus patula*. These species tend to detract from the landscape of traditional introduced species such as bunya pines or showy indigenous shrubs like wattles.

## 1.5 Access, parking and services

This section seeks to ensure that access roads, parking areas and services do not detract from the Valley's rural and natural landscape or its heritage values.

### Objectives

- a) To ensure the visual impact of access roads, parking areas and services is minimised.

### Controls

1. Driveways and access roads shall follow the contours of the land as much as possible and be of the minimum width.
2. Driveways and access roads shall be constructed of compacted gravel, or paved or sealed in a dark coloured material if located on steep slopes.
3. Parking areas shall be separated from access roads and from the buildings they serve by planting and other landscaping.
4. Large parking areas shall not be visible from public roads.
5. Services should be appropriately located and screened by walls and vegetation to form part of a coherent group.

## 1.6 Fences and entrances

This section seeks to ensure that fences and entrances do not detract from the Valley's rural and natural landscape or its heritage values.

### Objective

- a) To ensure fences, gates and entrances are in harmony with the existing landscape and character of the Mulgoa Valley Precinct.

### Controls

1. If practicable, avoid fences on road frontage boundaries.
2. Fences should be simple and unpretentious, and in keeping with traditional forms; e.g. unpainted timber post and rail, timber post and wire, or steel post and wire. Masonry fences, such as brick, blockwork or stone, should be avoided.

3. Gates and entrances should also be simple, and in keeping with traditional forms. Examples are:
  - i. Rendered and pointed brickwork, blockwork, sandstone, painted timber or post and rail.
  - ii. Decorated gateposts with the property name carved or painted onto the gatepost or painted onto a wide timber top rail; and
  - iii. Decorated iron, steel or timber gates.
4. Gates and entrances should relate to the materials and colours of the building to which they belong.

## **1.7 Signage**

This section seeks to ensure that signage does not detract from the Valley's rural and natural landscape or its heritage values.

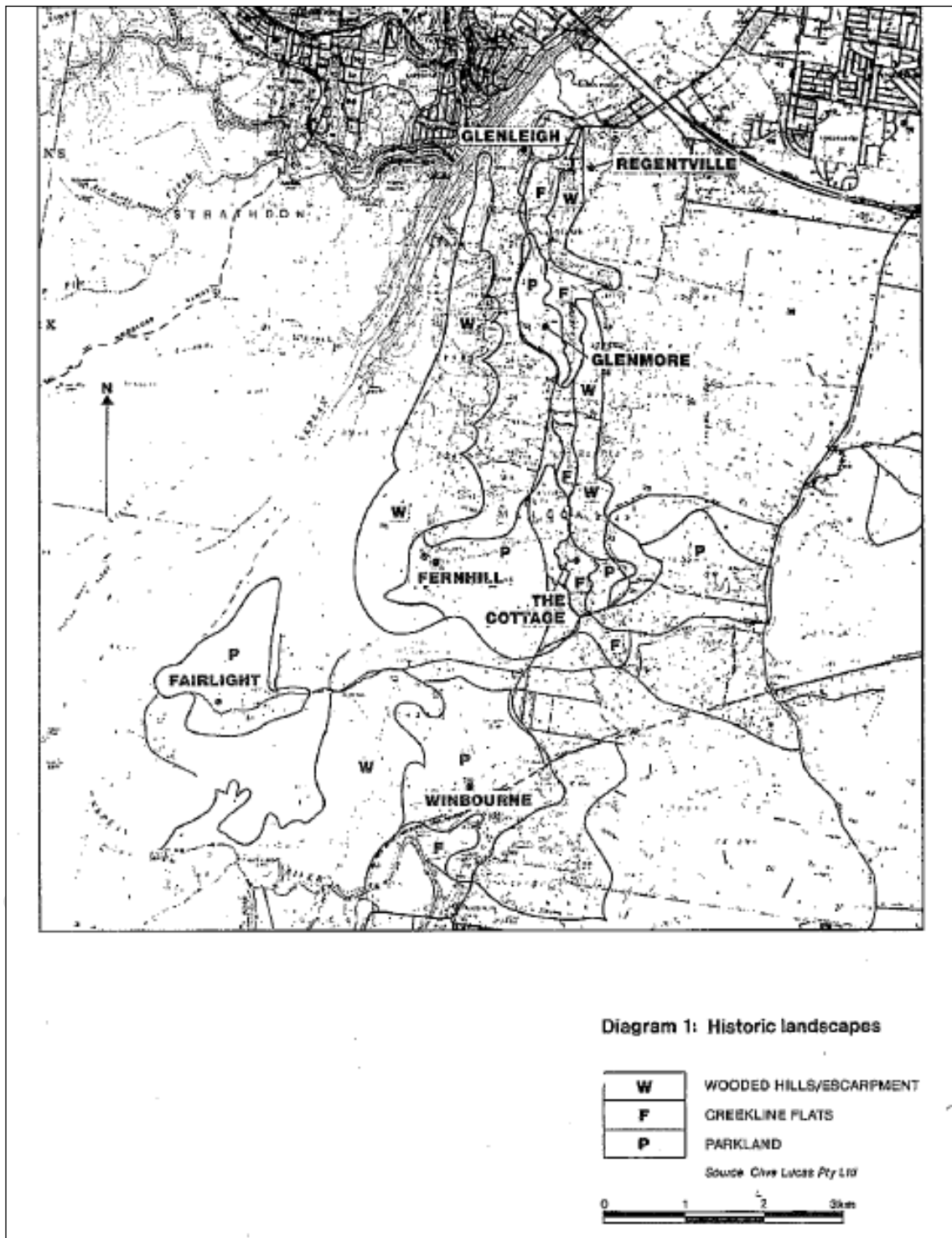
### **Objective**

- a) To ensure signage is in harmony with the existing landscape and character of the Mulgoa Valley Precinct.

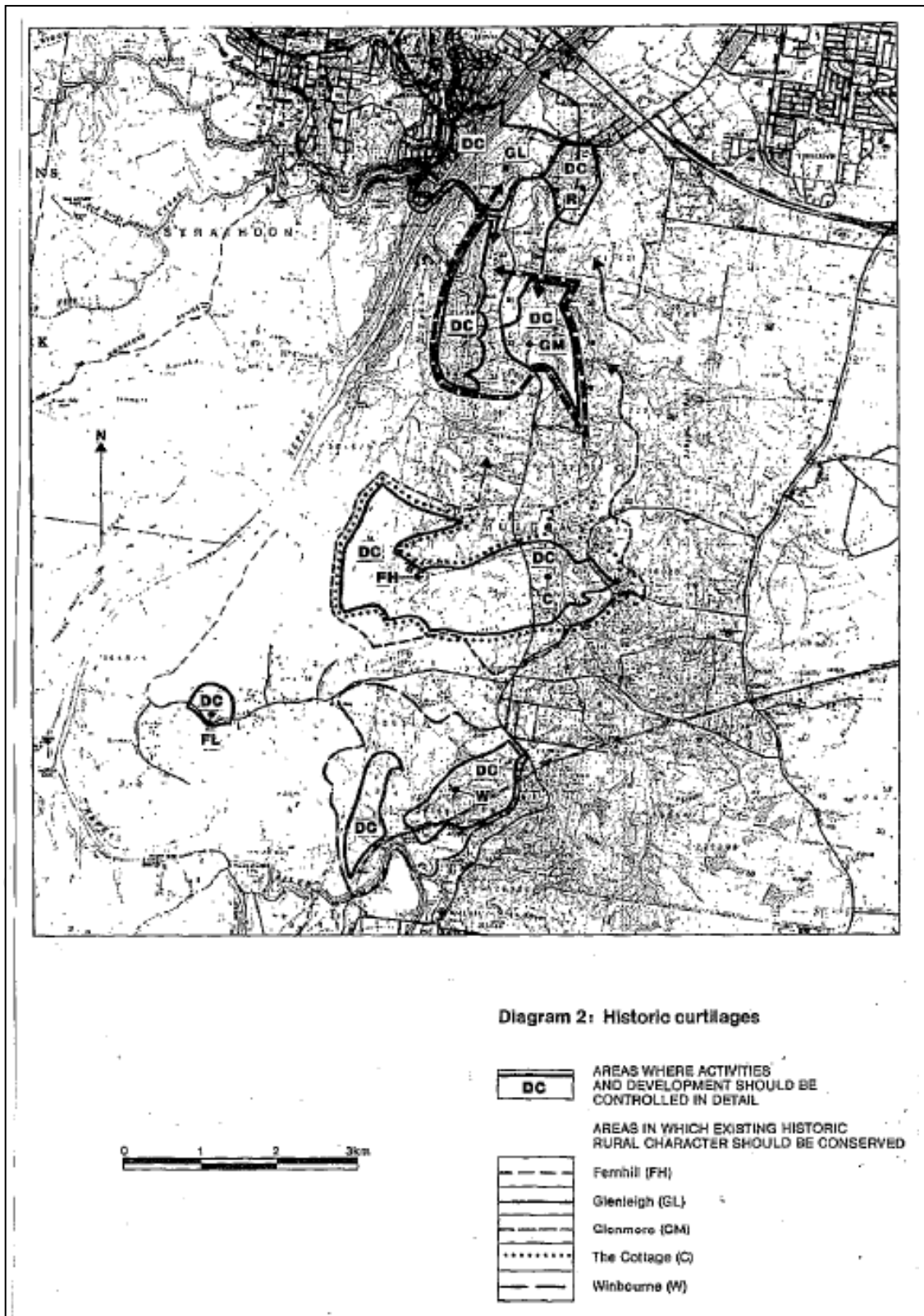
### **Controls**

1. Signage, where permissible, shall relate to the style, character and function of the building or activity.
2. Signage shall not be freestanding in the natural landscape, but relate to walls, fences or buildings.
3. Signage shall be no larger than 0.72m<sup>2</sup> and no higher than 2m.
4. Illuminated signage is not permitted.
5. A distinctive signage system for the Valley is encouraged based on colonial lettering faces, proportions, sizes and details.

**Figure 1: Historic landscapes**



**Figure 2: Historic curtilages**



## 2. Other controls

### 2.1 Mulgoa Road

An important part of the Mulgoa Valley Precinct and appreciating its landscape is the drive along Mulgoa Road. Roadside vegetation, hills, gullies, bends and the changing views of heritage items and the landscape are the main attributes. This section seeks to ensure that Mulgoa Road and these attributes are protected.

#### Objectives

- a) To protect the present rural character and function of Mulgoa Road; and
- b) To ensure any new development does not impact on the safety and efficiency of Mulgoa Road.

#### Controls

1. Mulgoa Road shall be maintained as a rural road and shall not be improved to the level of a major regional thoroughfare.
2. Consent shall not be granted to development in the Mulgoa Valley Precinct if:
  - i. The safety and efficiency of Mulgoa Road will be adversely affected by the design and siting of the proposed access and by the nature, volume and frequency of vehicles using Mulgoa Road to gain access to the development; and
  - ii. Any upgrading or strengthening of Mulgoa Road required to maintain its safety and efficiency detracts from the present rural character and function of Mulgoa Road.

## 3. Other relevant information

The following documents may assist applicants in addressing the controls for the Mulgoa Valley Precinct:

- Penrith City Council 1999, Mulgoa and Wallacia Rural Villages Study.
- Penrith Rural Lands Strategy 2022.

# D10 Orchard Hills

## Contents

D10 Orchard Hills.....	2
1. Siting and built form controls.....	3
1.1 Siting and orientation of dwellings and outbuildings .....	3
1.2 Building form, materials and colours.....	4
1.3 Vegetation and plantings .....	5
1.4 Access, parking and services.....	6
1.5 Fences and entrances .....	7
1.6 Signage .....	7
2. Other relevant information .....	8

# D10 Orchard Hills

## Background

### Area included within the Orchard Hills Precinct

The Orchard Hills Precinct is bounded by The Northern Road to the west, Caddens Road to the north, the South Creek corridor to the east, and the Orchard Hills defence establishment to the south. The M4 Motorway and The Northern Road are the main transport corridors in the area. Orchard Hills is a key part of the transition between the urban and rural areas of Penrith when approaching along the M4 Motorway and The Northern Road. The extent of the land is shown on the Penrith LEP Clause Application Map with a notation 'Orchard Hills'.

Orchard Hills has a predominately rural character with undulating hills and scenic vistas. Historically, its landscape was mainly overlaid with orchards and grapevines, and with rural farmhouses and outbuildings. A prominent line of hills mostly with an east-west orientation defines the topography of the area.

Today, Orchard Hills retains a largely rural character predominantly used for rural living on 2 hectare lots. There are also a number of intensive agricultural uses in operation throughout the locality. A number of schools and churches are dispersed in the area north of the M4 Motorway.

### General Objectives

- a) To ensure that development does not adversely affect the scenic qualities, character and amenity of this precinct.
- b) To promote the continuation of the open, semi-rural character and regionally significant landscape setting of Orchard Hills and minimise the visual impact of development from major roads and public places.
- c) To recognise that Orchard Hills forms part of an important entry to the residential areas of Penrith, and that careful management of development in this location is critical to conserving the values of this City entry.
- d) To ensure that development does not unreasonably increase the demand for public infrastructure and public services.

- e) To ensure that non-residential activities do not:
  - i. Alter the character or scenic quality of the locality.
  - ii. Detract from the existing landscape setting.
  - iii. Promote the commercialisation of lands adjoining The Northern Road;  
or
  - iv. Generate traffic volumes which cannot be readily accommodated within the existing road pattern, or which create a traffic safety problem.

## **1. Siting and built form controls**

### **1.1 Siting and orientation of dwellings and outbuildings**

#### **Objectives**

In addition to the general objectives for Orchard Hills, the objectives of this section are to ensure that buildings are positioned in a manner and location that will:

- a) Protect and enhance the semi-rural landscape of Orchard Hills.
- b) Minimise the visual impact of development from major roads and public places; and
- c) Enhance the important City entry qualities of Orchard Hills.

#### **Controls**

1. All buildings shall be set back a minimum of 30m to The Northern Road boundary and a minimum of 15m from all other roads.
2. An additional building setback shall be provided on those lots fronting The Northern Road, where in the opinion of Council, the development of the land is likely to impact on the open, semi-rural character of the land when viewed from The Northern Road.
3. Buildings and other structures shall not intrude into the skyline when viewed from The Northern Road or the M4 Motorway.

4. Buildings are to be located on mid-slopes to avoid visual impact on ridges and to avoid the banks of watercourses.
5. Buildings are to minimise excavation, filling and high foundations by avoiding slopes greater than 1 in 6.
6. The longest façade of a building is to be parallel to the contours of the land.
7. Buildings should be positioned to maximise opportunities for solar access in winter, and minimise exposure to summer sun and winter winds.
8. Buildings and other structures should be located to retain, whenever possible, remnant indigenous vegetation, including trees, shrubs, understorey plants and ground covers.

## **1.2 Building form, materials and colours**

### **Objectives**

In addition to the general objectives for Orchard Hills, the objectives of this section are to:

- a) Ensure building forms are in keeping with the setting and context of the precinct; and
- b) Ensure building materials contribute to maintaining the semi-rural character of the Precinct.

### **Controls**

1. Buildings are to be a maximum of two storeys in height.
2. Pitched roofs are preferable with a slope of between 30 and 45 degrees. Skillion roofs by themselves are to be avoided except as verandahs or for extensions.
3. Large elements, especially flat surfaces, are to be avoided. Building facades and roof lines are to be broken into small elements. Garden structures such as trellises and pergolas can assist in breaking up large elements.
4. Buildings are to be designed with a horizontal rather than vertical emphasis.

5. Exterior windows and doors are to have a vertical rather than a horizontal emphasis. Large unbroken glazed panels are to be avoided.
6. Building materials and colours are to be in keeping with their surroundings, and are to be derived from the local horticultural and natural landscape.

### **1.3 Vegetation and plantings**

#### **Objectives**

In addition to the general objectives for Orchard Hills, the objective of this section is to provide controls to ensure the layout of gardens and plantings, and the selection of species reflects the traditional landscape character of Orchard Hills.

#### **Controls**

1. Development on land occupied by existing vegetation (including, although not limited to, remnant and regrowth tree stands, existing or abandoned orchards and vineyards) shall demonstrate, in the design and siting of buildings, parking, access and general improvements, that all measures have been taken to retain and supplement this vegetation.
2. Landscape design should be based upon the traditional forms, colours, scale, textures, relationships and groupings of plant species in Orchard Hills. This can also include other garden elements of fences, gateways, hedges, windbreaks, driveways, and landscape built elements.
3. When deciding what to plant, applicants should consider the existing landscape and environmental amenity of the area with reference to agricultural, horticultural and homestead plantings, and the manner in which they have been traditionally used in the Orchard Hills landscape setting.

## 1.4 Access, parking and services

### Objectives

In addition to the general objectives for Orchard Hills, the objective of this section is to ensure the visual impact of access roads, parking areas and services is minimised.

### Controls

1. Access from properties fronting The Northern Road shall only be permitted if it serves dwellings or domestic outbuildings.
2. Traffic generating developments must demonstrate that traffic volumes can be readily accommodated within the existing road pattern and do not create a traffic safety problem.
3. Driveways and access roads shall follow the contours of the land, as much as possible, and be no wider than is necessary to allow for safe and effective vehicle movements.
4. Driveways, access roads and hardstand areas shall be constructed of compacted gravel, or paved or sealed in a dark coloured material if located on steep slopes.
5. Large parking areas shall not be visible from public roads, and shall be separated from access roads and from the buildings they serve by planting and other landscaping.
6. Any lighting provided should not intrude into the rural setting. Lighting structures and the light cast shall be discreet.
7. Services should be appropriately located and screened by walls and vegetation to form part of a coherent group.

## 1.5 Fences and entrances

### Objectives

In addition to the general objectives for Orchard Hills, the objective of this section is to ensure fences, gates and entrances are in harmony with the existing landscape and character of the Orchard Hills Precinct.

### Controls

1. If practicable, avoid fences on road frontage boundaries.
2. Fences should be simple and unpretentious, and in keeping with traditional forms; e.g. unpainted timber post and rail, timber post and wire, or steel post and wire.
3. Masonry fences, such as brick, blockwork or stone, should be avoided.
4. Gates and entrances should also be simple and in keeping with traditional forms. The scale, form and bulk should not detract from the established street frontage. Examples are:
  - i. Rendered and pointed brickwork, blockwork, sandstone, painted timber or post and rail.
  - ii. Decorated gateposts with the property name carved or painted onto the gatepost or painted onto a wide timber top rail; and
  - iii. Decorated iron, steel or timber gates.
5. Gates and entrances should relate to the materials and colours of the building to which they belong.

## 1.6 Signage

### Objectives

In addition to the general objectives for Orchard Hills, the objective of this section is to ensure that signage is in harmony with the existing landscape and character of the Orchard Hills Precinct.

### Controls

Any signage must be rural in character and must:

1. Relate to the style, character and function of the building or activity it advertises.
2. Only refer to the development on the land to which the sign is located.
3. Not be illuminated.
4. Not exceed 1.5m<sup>2</sup> in area, or a maximum height of 2m above ground level, or intrude in the sky line; and
5. Not be freestanding, but related to walls, fences or buildings.

## **2. Other relevant information**

The following documents may assist applicants in addressing the controls for the Orchard Hills Precinct:

- Penrith Rural Lands Strategy 2022 as supported by:
  - Penrith Rural Lands and Villages Study 2019.
  - Penrith Scenic and Cultural Landscapes Study 2019.
  - Penrith Rural Economy and Agribusiness Opportunities Study Part 1.