E 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 section.

This section includes only those controls which respond to specific issues in key precincts. All other relevant controls contained within this Plan still apply. This section must therefore be read in conjunction with all the other sections in this Plan.

In the event of an inconsistency between the controls contained in Section E and other sections of the DCP, the controls contained in Section E will prevail.

Key precincts included in this section are:

- E1 Caddens
- E2 Claremont Meadows Stage 2
- E3 Cranebrook
    - Part A Waterside
        - Waterside Residential
        - Waterside Corporate
    - Part B Cranebrook Neighbourhood Centre
    - Part C Cranebrook Rural Residential Development
- E4 Emu Heights – Blue Mountains Escarpment Siting, Design and Management
- E5 Emu Plains
    - Part A Commercial Area
- E6 Erskine Business Park
- E7 Glenmore Park
    - Part A Glenmore Park Stage 1
    - Part B Glenmore Park Stage 2
- E8 Kingswood
    - Part A Land Fronting Morley avenue and the Great Western Highway, Kingswood
    - Part B The Knoll
- E9 Mulgoa Valley

- E10 Orchard Hills
- E11 Penrith
    - Part A Penrith City Centre
    - Part B Walkways
    - Part C North Penrith Urban Area
- E12 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
- E13 Riverlink Precinct
    - Part A Riverlink excluding Panthers
    - Part B Panthers Penrith Precinct
- E14 St Clair
- E15 St Marys / St Marys North
    - Part A St Marys Town Centre

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

Table of Contents

E1 Caddens

A. 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'.

1.1 About this Section

1.1.1 Land to which this Section applies

This section applies to development on land within the Caddens Release Area, as shown in Figure E1.1.

1.1.2 Aims of this Section

The aims of this Section are to:

a) support the objectives of Penrith Local Environmental Plan 2010 ; and

b) facilitate the sustainable development of the residential, mixed use, retail, open space and conservation areas of the Caddens Release Areas (Caddens).

1.1.3 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 E1.1 – Land to which this plan applies

1.1.4 Other Relevant Parts of this DCP

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

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

1.1.5 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 Plant (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.

1.1.6 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 Section.
- 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.

1.2 Structure Plan

1.2.1 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 E1.2 with the main elements being described in more detail in the following sections.

Figure E1.2 – 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.

1.2.2 Character Area Design Principles

This section outlines the design principles relating to the Special Character Areas at Caddens shown in Figure E1.3.

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 E1.3 – 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:

1) Respond to the topographical constraints.
2) Provide, where possible, opportunities for views to hilltops and ridges.
3) Minimise the height, bulk and scale of dwellings on steep slopes when viewed individually and collectively both from within and outside the locality.
4) Provide appropriate residential amenity, particularly with respect to visual privacy and the relationship between dwellings.
5) 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^2 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:

1) Create an attractive, lively and inviting pedestrian friendly environment with seating, shading, active tree-lined footpaths and pedestrian links that connect activities and spaces.
2) Reduce conflict between pedestrian and vehicular activity.
3) Create a rectilinear road pattern connecting nearby residential, employment, university and conservation land.
4) Incorporate opportunities for passive security and surveillance at ground level and above.
5) Incorporate shop top housing and other dwelling forms that facilitate home based employment.
6) Ensure active uses at street level.
7) Provide opportunities for the location of UWS and TAFE facilities.
8) Be built to the front property boundary and incorporate full width awnings along street edges.

1.2.3 Dwelling Yield and Diversity

A. Objectives

a) To provide a diverse range of housing forms and densities as shown in Figure E1.4.
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.

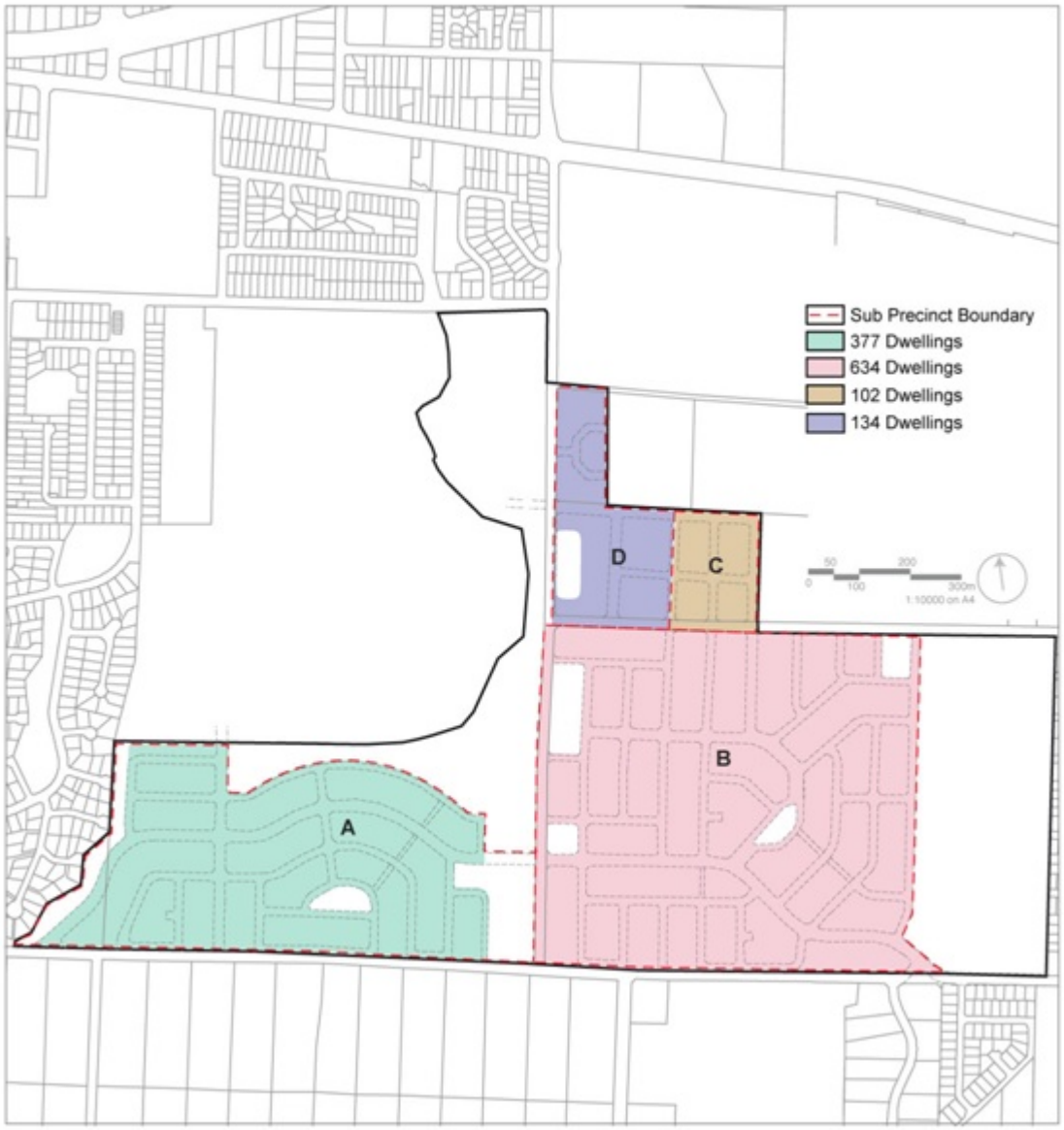
B. Controls

1) A minimum of 1,247 dwellings is to be delivered.
2) For each precinct the minimum dwelling yield outlined in Table E1.1 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 E1.1 – Dwelling yield

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

Figure E1.4 – Dwelling Yield Targets

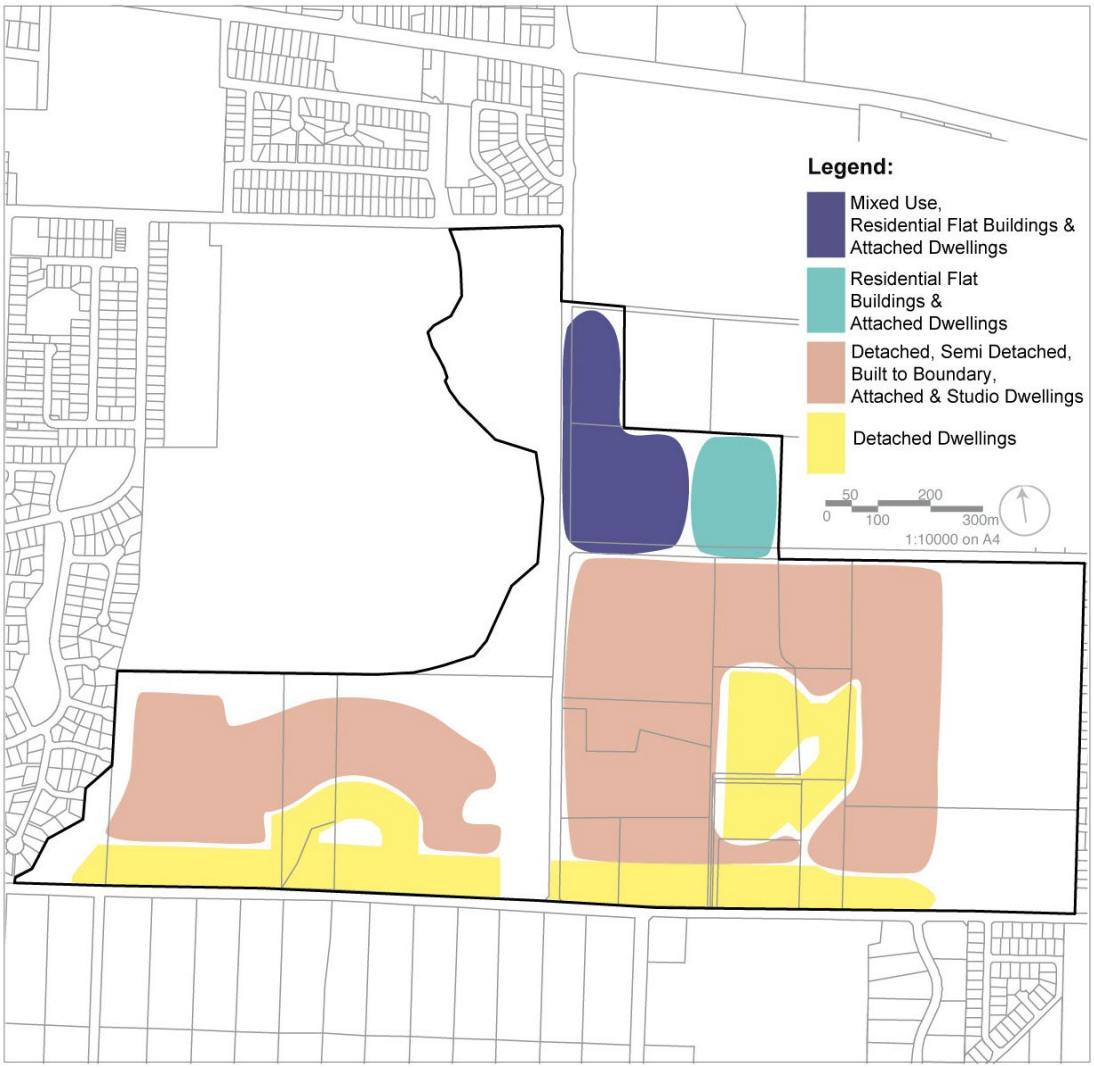


5) A diverse range of housing types is to be provided in accordance with Figure E1.5.

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 E1.5 – Indicative Dwelling Type Location



1.3 The Public Domain

1.3.1 Street Network and Design

A. 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.

B. Controls

1) The street network is to be provided generally in accordance with Figure E1.6 and must incorporate a new collector road to by-pass Caddens Road.

2) Where any variation to the residential street network indicated at Figure E1.6 is proposed, the alternative street network is to be designed to achieve the following principles:

   a) establish a direct and open network that is based on a modified grid system;

   b) encourage walking and cycling and reduce travel distances;

   c) maximise connectivity between residential areas, open space and the Precinct Centre;

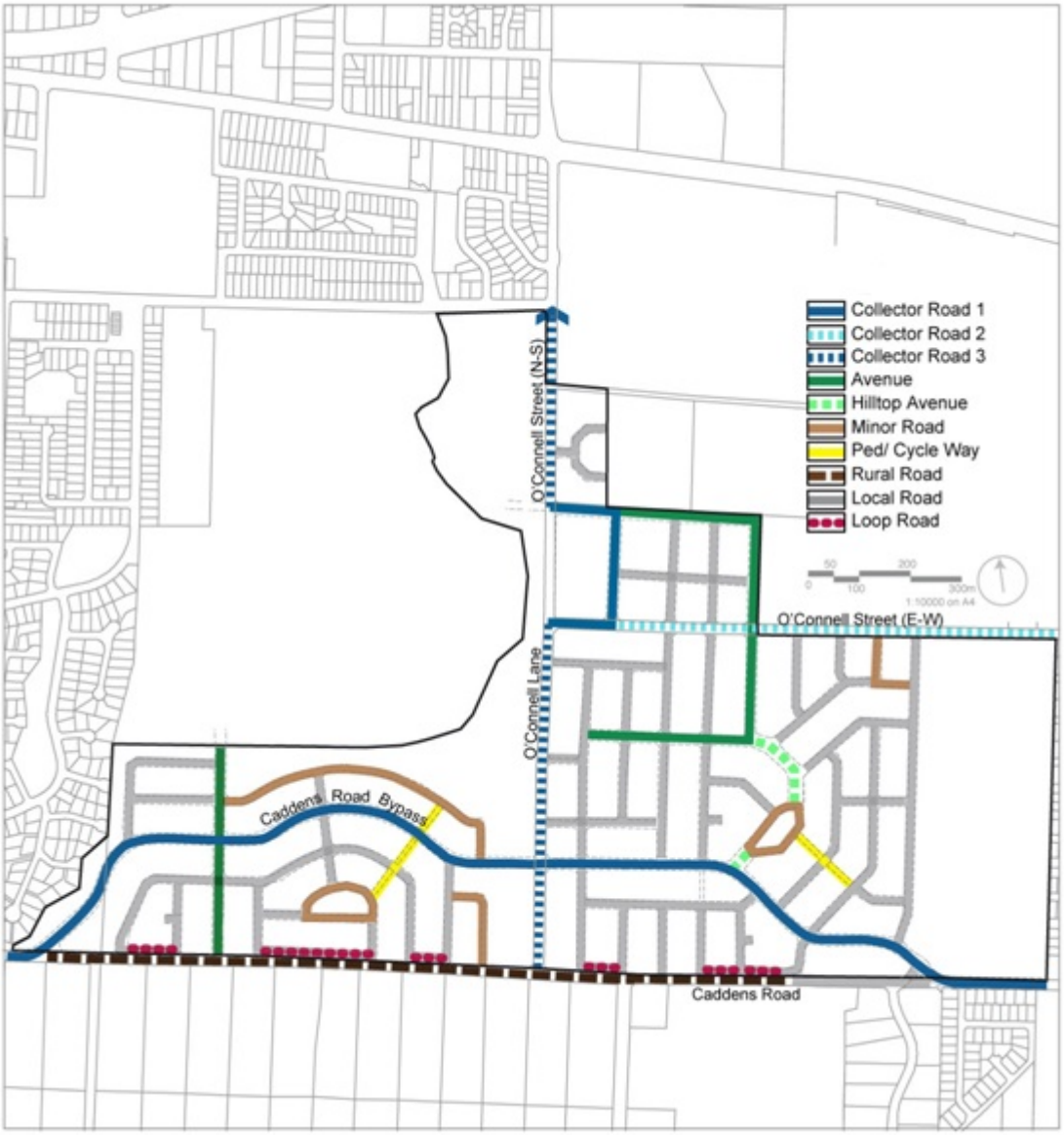
   d) take account of topography and accommodate significant vegetation;

   e) provide frontage to and maximise surveillance of open space and the riparian corridor;

   f) provide views and vistas to landscape features; and

   g) 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 six.

Figure E1.6 – Street Hierarchy



3) Streets are to be provided in accordance with the cross-sections at Figure E1.7. 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:

   a) minimise risk to utilities and services;

b) be durable and suited to the street environment and include endemic species;

c) maintain adequate lines of sight for vehicles and pedestrians, especially around driveways and street corners;

d) provide appropriate shade;

e) provide an attractive and interesting landscape character without blocking the potential for street surveillance; and

f) be sited to minimise interference with street lighting.

All streets will incorporate landscaping in the verge.

Figure E1.7a – Collector Road 1

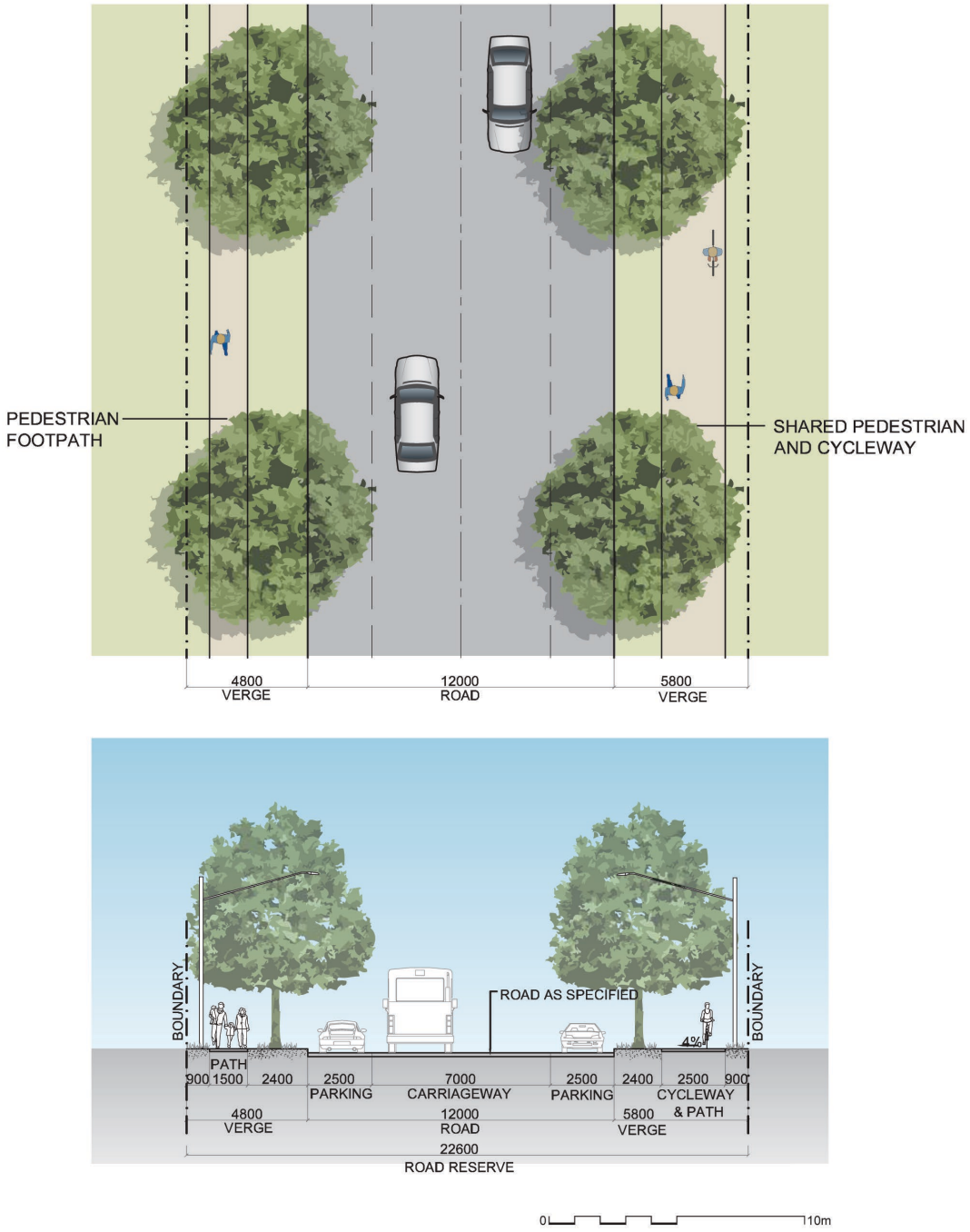


Figure E1.7b – Collector Road 2

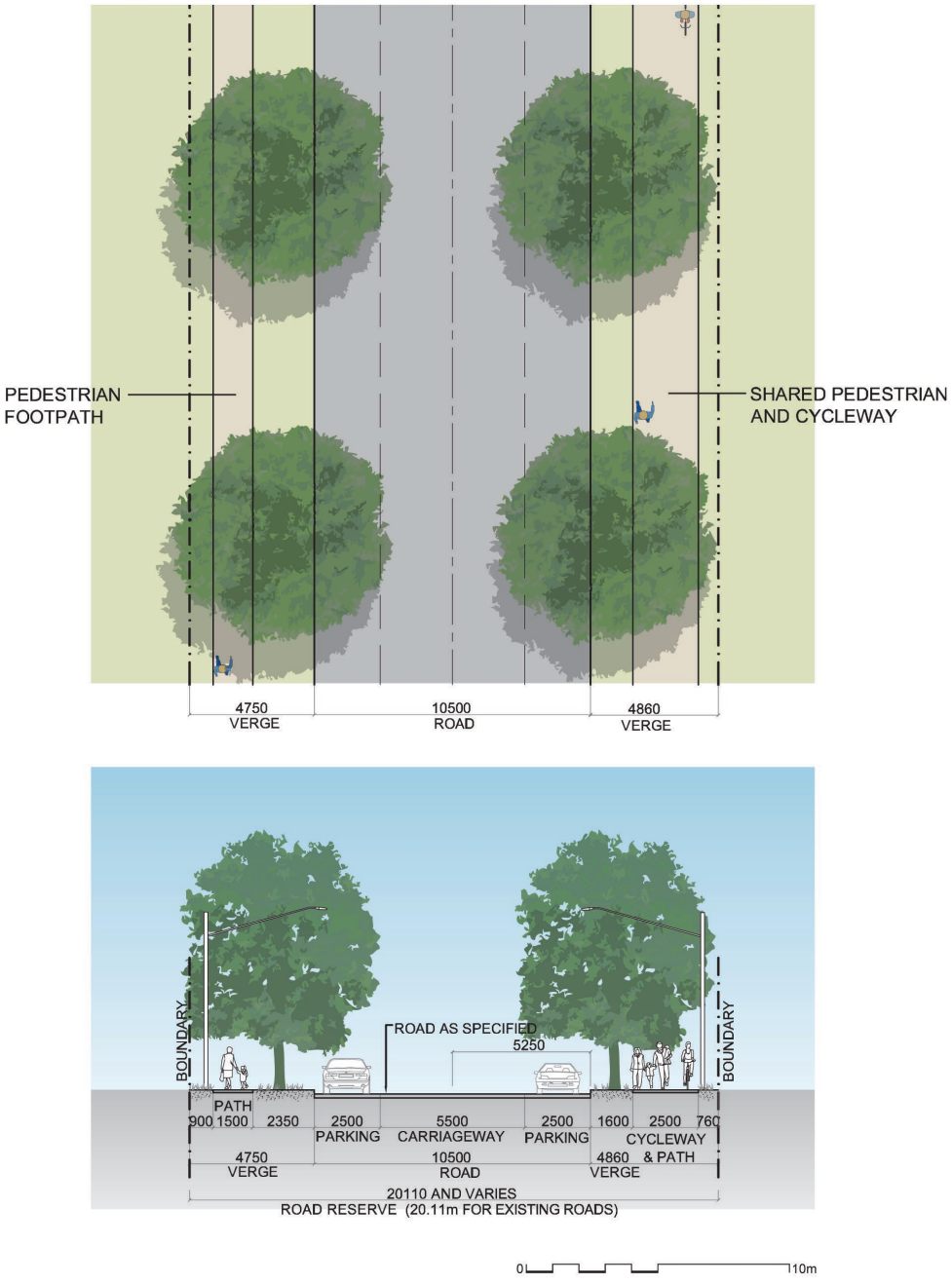


Figure E1.7c – Collector Road 3

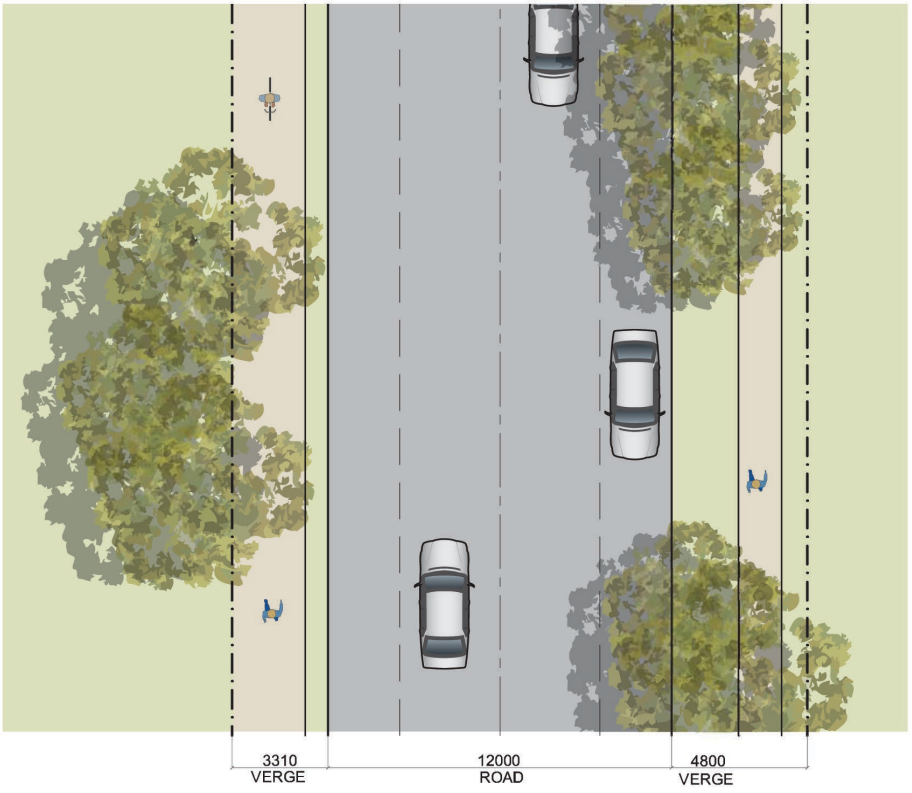


Figure E1.7d – Avenue

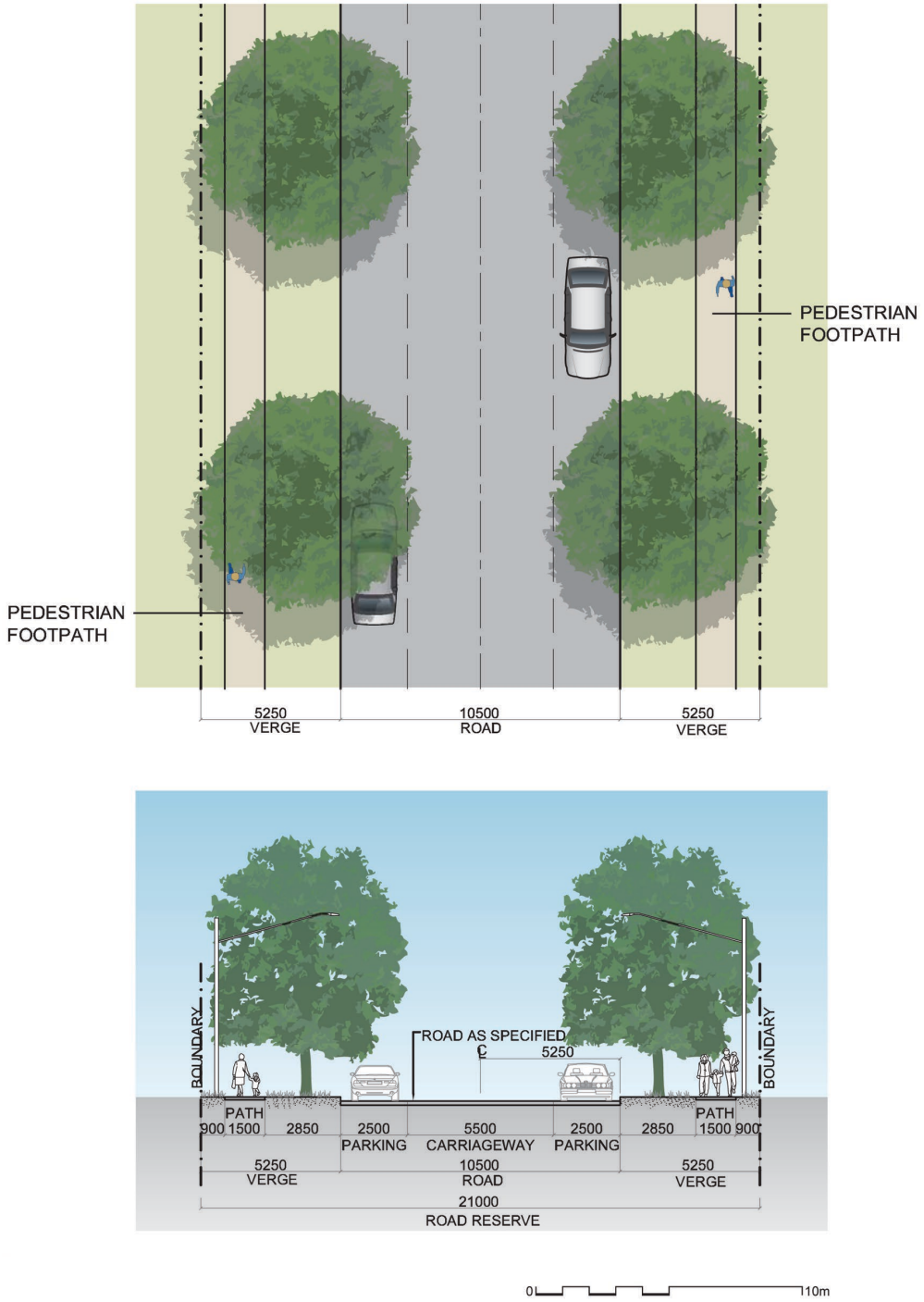
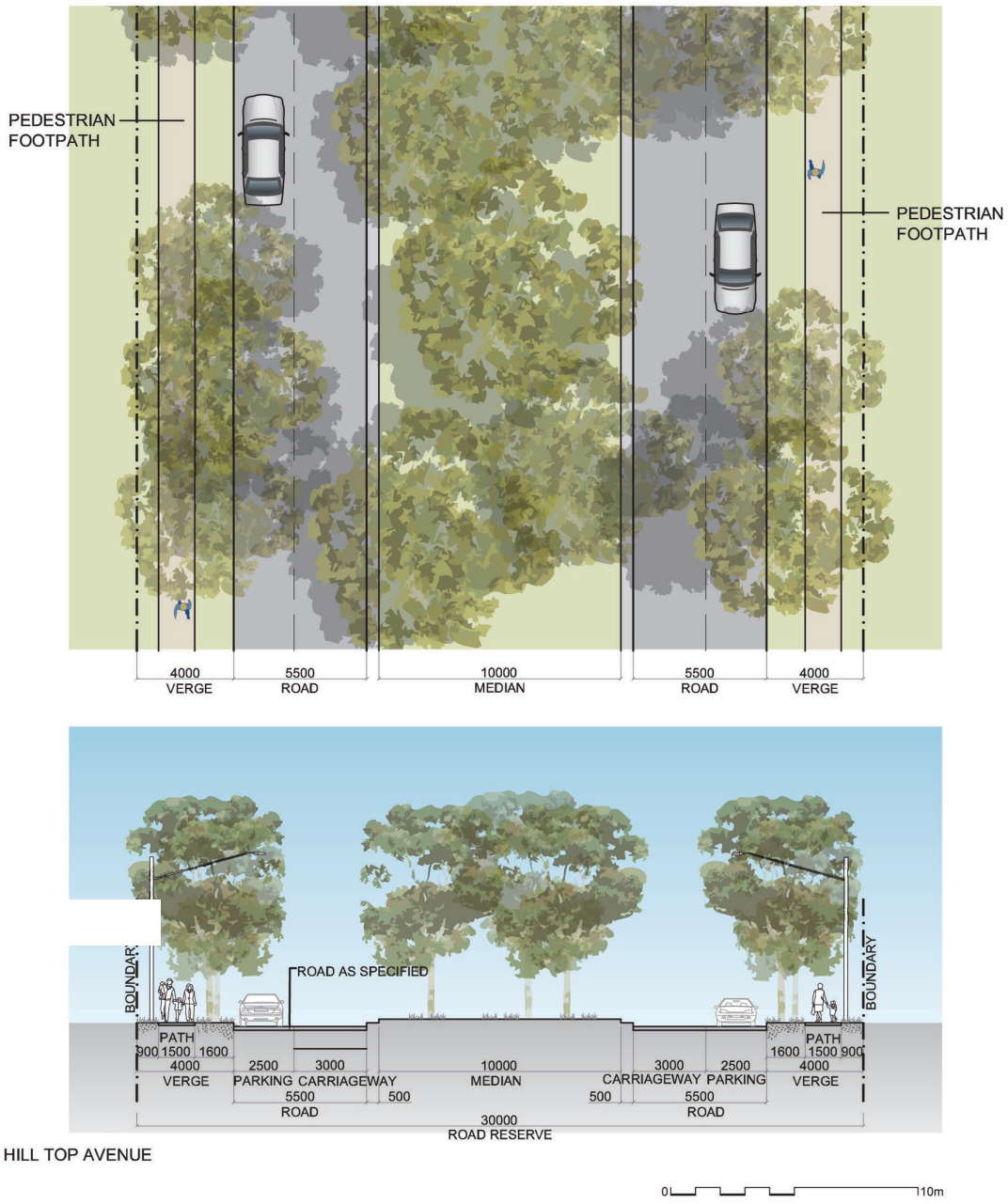


Figure E1.7e – Hilltop Avenue



HILL TOP AVENUE

Figure E1.7f – Minor Road

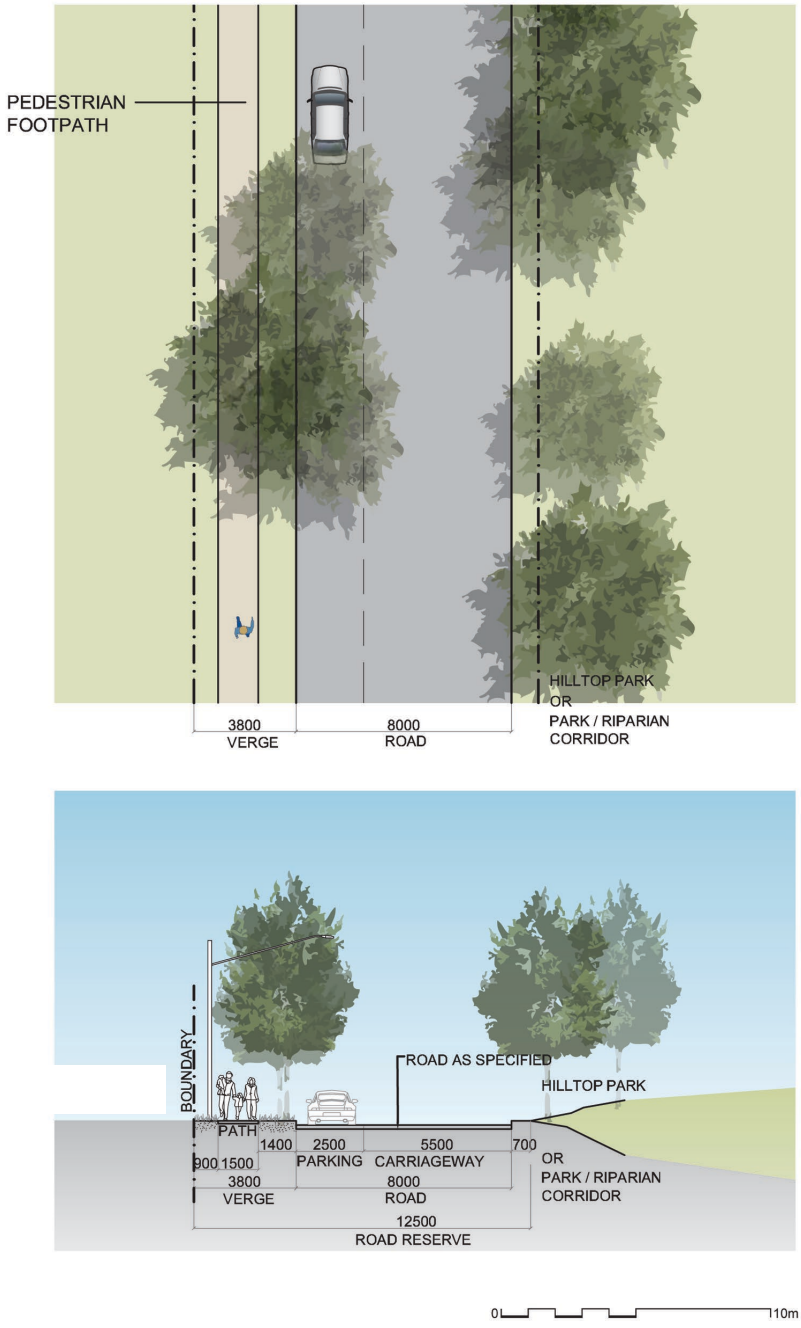


Figure E1.7g – Pedestrian / Cycleway

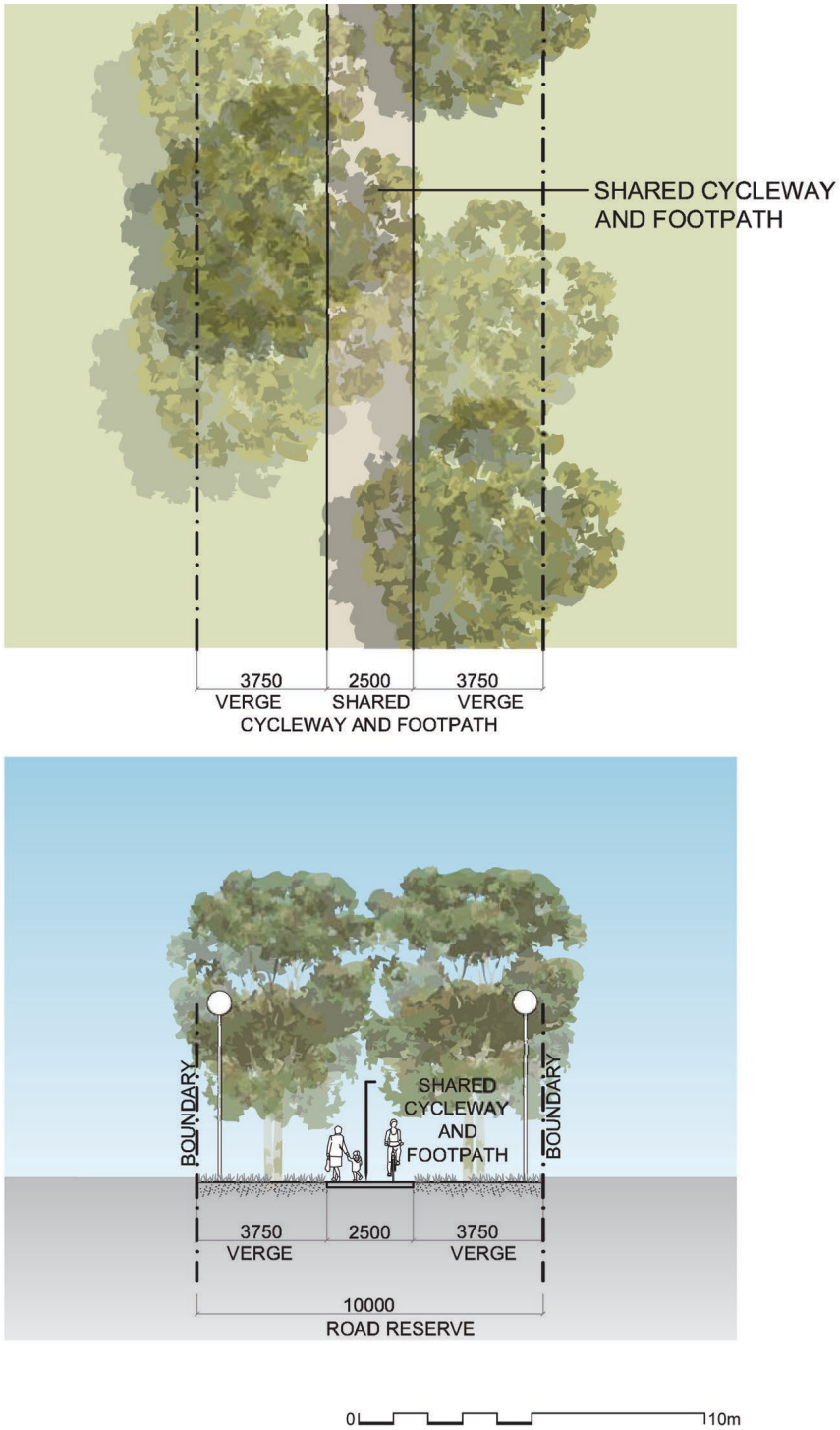


Figure E1.7h – Rural Road

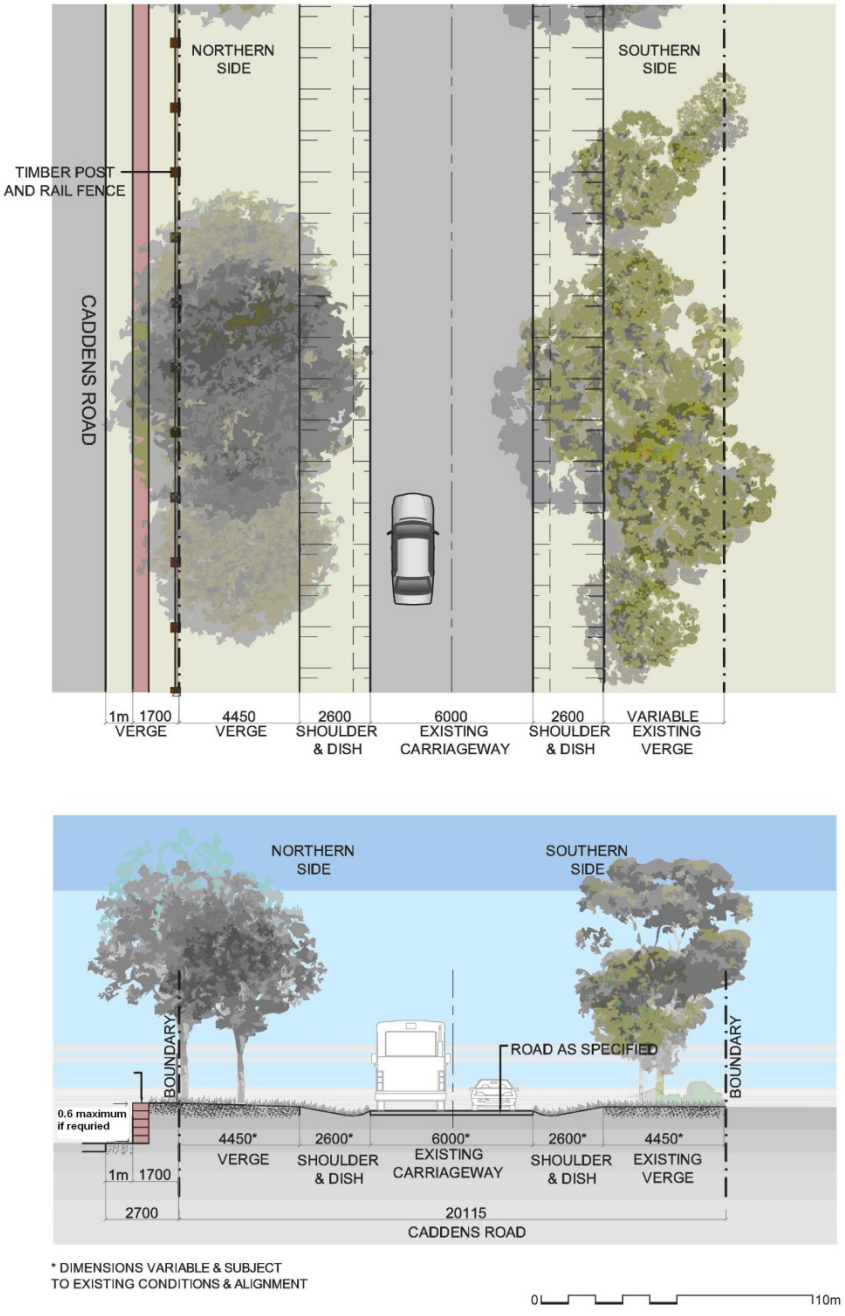


Figure E1.7i – Local Road

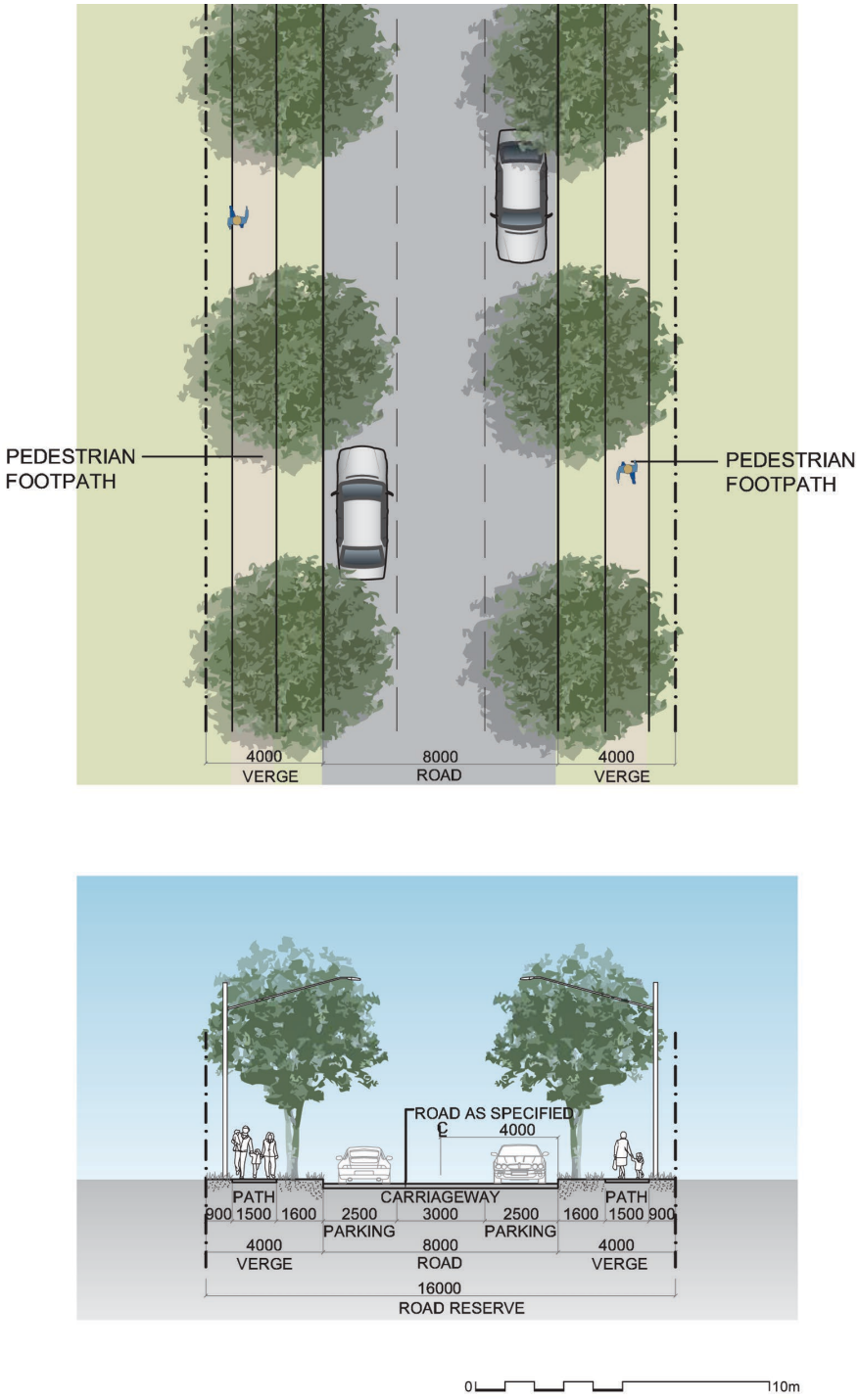


Figure E1.7j – Loop Road

1.3.2 Street Furniture and Public Art

A. 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.

B. 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:

   a) Seats.

   b) Litter bins.

   c) Drinking fountains.

   d) Lighting.

   e) Information signs.

   f) Bicycle racks.

   g) Planter boxes.

   h) 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.

1.3.3 Pedestrian and Cycle network

A. 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.

B. Controls

1) Key pedestrian and cycleway routes are to be provided generally in accordance with

Figure E1.8.

2) The design of cycleways located within the road reserve is to be in accordance with Figure E1.7.
3) The minimum width of off-street shared cycle and pedestrian pathways is to be 2.5m (as shown in Figure E1.7g).
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 E1.8 – Pedestrian & Cycle Routes

1.3.4 Public Transport

A. 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.

B. Controls:

1) Bus routes are to be provided generally in accordance with the requirements of Transport for NSW. Figure E1.9 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 E1.9 – Public Transport Network

1.3.5 Open Space, Environmental Conservation and Landscape Network

A. 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 viewscapes.

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.

B. 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 E1.10.

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 E1.10 – 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:

   a) play and other spaces to cater for a range of ages;

   b) adequate car and bicycle parking, lighting and waste management facilities;

   c) amenities such as seating and shade structures, drinking fountains, lighting, information signs, feature fencing and the like; and

   d) 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 Plan. Figures E1.11 and E1.12 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 E1.11:

   a) heritage interpretation of the ruins of the 19th century farmhouse and re-use of materials where appropriate;

   b) viewing platforms to other vantage points within Caddens and beyond;

   c) an informal kick about space on the flatter land;

   d) accessible paths where possible;

   e) seating areas and shade structures;

   f) canopy trees;

   g) existing trees, Cumberland Plain Woodland species as well as other endemic robust native plant species and where necessary saline-tolerant species; and

   h) low maintenance and robust finishes.

Figure E1.11 – 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 E1.12:

   a) children's play spaces on soft-fall including high quality interactive play structures and equipment;

   b) terraced lawns to increase usability of passive spaces in sloped areas, including a potential
   look-out space;

   c) accessible paths where possible

   d) seating areas and shade structures;

   e) a north-south path to connect to the surrounding streets and the riparian corridor;

   f) semi-open canopy trees;

   g) endemic native and other robust plant species; and

   h) low-maintenance and robust finishes.

Figure E1.12 – 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 E1.13:

   a) areas of passive open space;

   b) a shared pedestrian and cycle path;

   c) natural and/or organic forms for noise and visual screening of Collector Road 1;

   d) canopy trees for shade; and

   e) planting of endemic native and other robust plant species.

Figure E1.13 – 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 E1.14. It is to incorporate the following elements consistent with the Open Space Strategy and the WELL Precinct Section 94 Contributions Plan:

   a) connections to the shared pedestrian and cycle path;

   b) an amenities block;

   c) a children's playground;

d) seating areas;

e) a large level area suitable for future playing field(s) with flood lights;

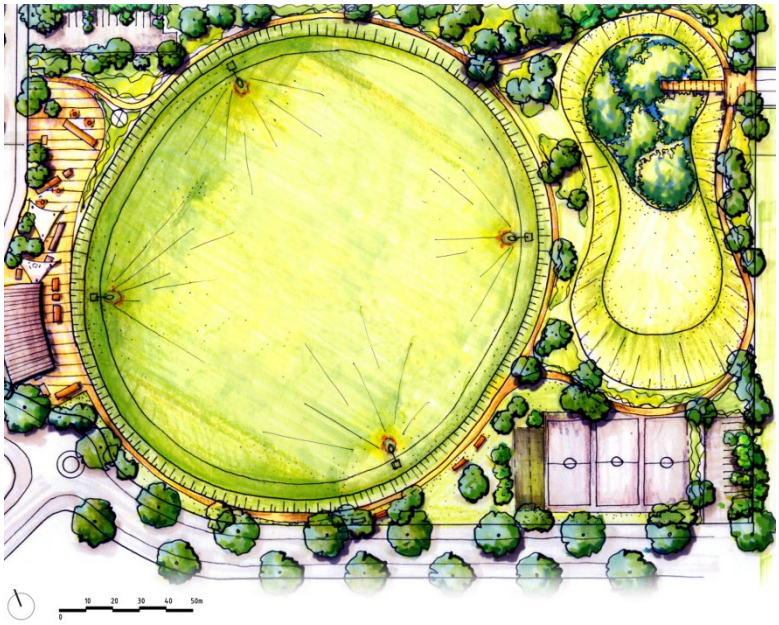
f) potential courts such as hard courts/tennis courts, bocce courts, netball courts and large chess board;

g) canopy trees and structures to provide shade and amenity;

h) planting of robust endemic native species; and

i) car parking.

Figure E1.14 – 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 E1.15 provides an indicative concept plan for their design which is to typically incorporate the following elements as appropriate:

a) a natural/organic basin form with steeper slopes facing east to avoid the hot westerly winds and exposure to afternoon sun;

b) a rain garden at the base of the basin with sloped embankments (capable of being mowed);

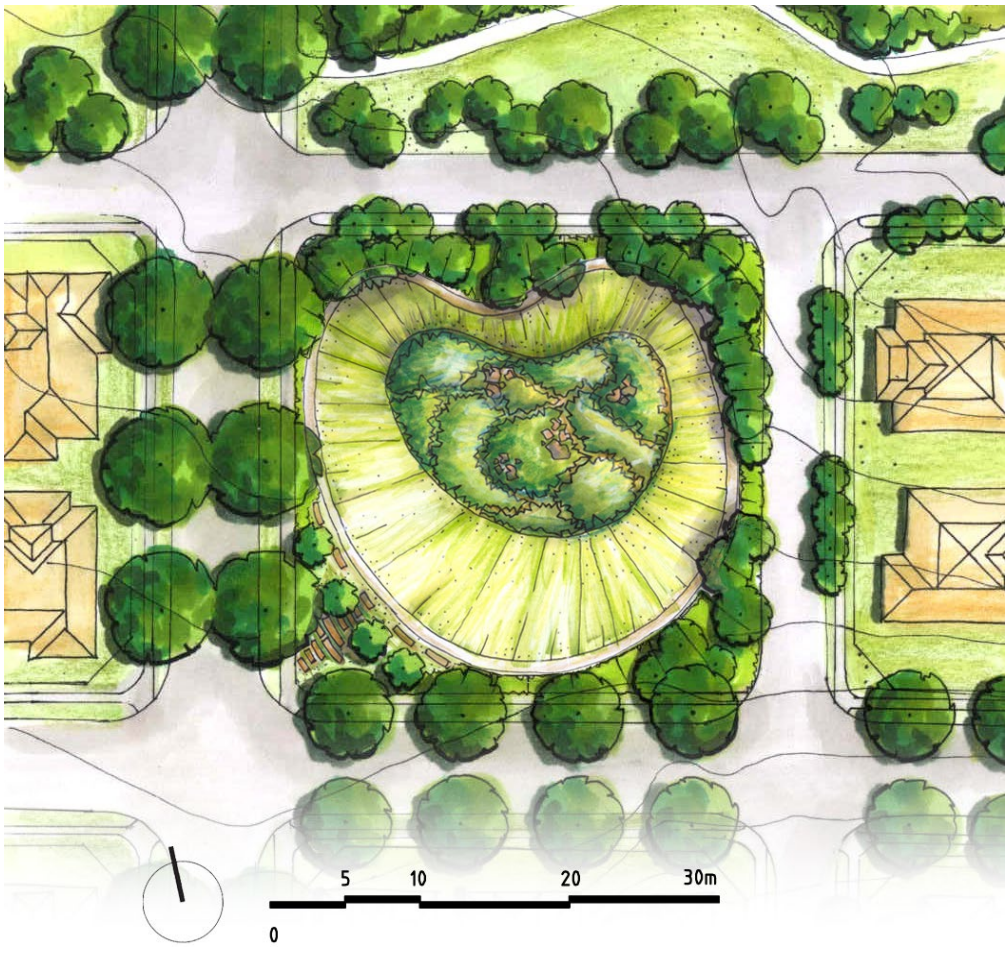
c) a 1.5m path informally planted with native trees with low level under planting to define the top of the detention basin;

d) passive open space; and

e) seating areas along flatter slopes where possible to allow views across the rain gardens.

Detention basins are intended to be natural elements.

Figure E1.15 – Detention Basins Concept



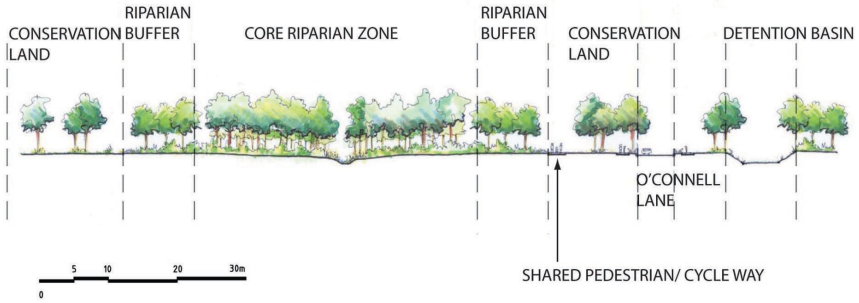
12) The environmental conservation area is to accord with the Riparian Corridor Management Plan and the requirements set out in Sections 3.5 and 3.8 of this section, and is to be designed generally in accordance with Figures E1.16 and E1.17.

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 E1.18 – Riparian Corridor (plan)- A pedestrian path/cycleway will extend along the edge of the riparian corridor

Figure E1.17 – Riparian Corridor (section)

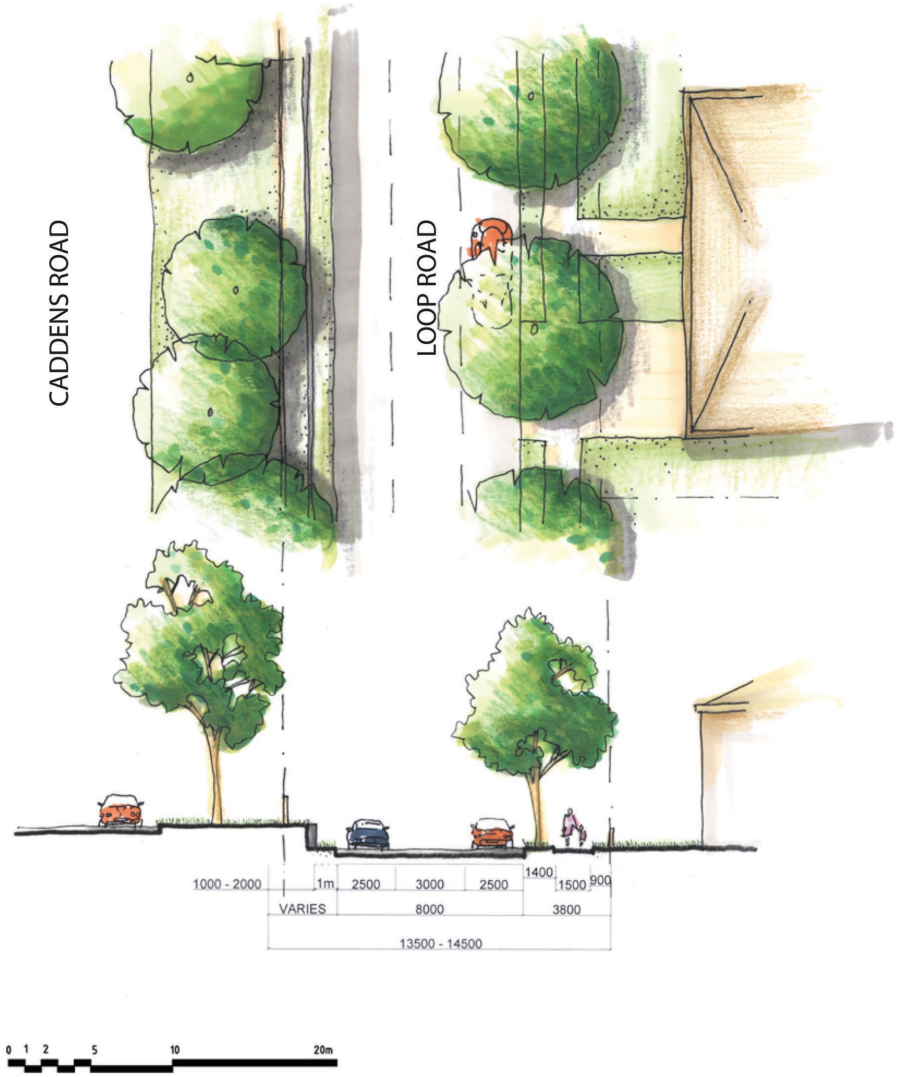


Where an area of open space adjoins a residential area, a Landscape Plan for that open space is to be submitted to Council at the time of subdivision of the adjoining residential area. The Plan is to provide details on elements such as:

a) earthworks, including existing and proposed levels;
b) erosion control measures;
c) drainage and stormwater control measures;
d) assessment of visual impact;
e) measures to address salinity;
f) fencing and walls;
g) signage, including any heritage or environmental interpretation;
h) plant species and sizes (including street trees);
i) hard and soft landscaping treatments;
j) lighting;
k) seating;
l) public art;
m) waste facilities;
n) play equipment; and
o) site specific maintenance specifications.

15) The design of public art elements must consider longevity of materials; ease and cost effectiveness of maintenance; and use of sustainable materials.
16) 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.
17) The verges between the 'loop roads' and Caddens Road (as shown in Figure E1.3) are to be landscaped in accordance with Figure E1.18. Trees should be endemic and Cumberland Plain woodland species and groupings of trees should be informal to reflect the rural character of the street.
18) Fencing along Caddens Road boundary is to be a rural style solid timber post and rail fence. The northern verge of Caddens Road is be landscaped in accordance with in the Caddens Public Domain Strategy.
19) Fencing of the Caddens Road boundary and landscaping of the northern verge of Caddens Road is to be undertaken at the time of subdivision.
20) Fences along Caddens Road must incorporate gaps to enable pedestrian and cycle access, but not access for motor vehicles.

Figure E1.18 – 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.

1.3.6 Biodiversity

A. 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.

B. 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.

1.3.7 Aboriginal and European Heritage

A. 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.

B. Controls

1) Areas of Aboriginal archaeological conservation value are identified at Figure E1.19. 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.

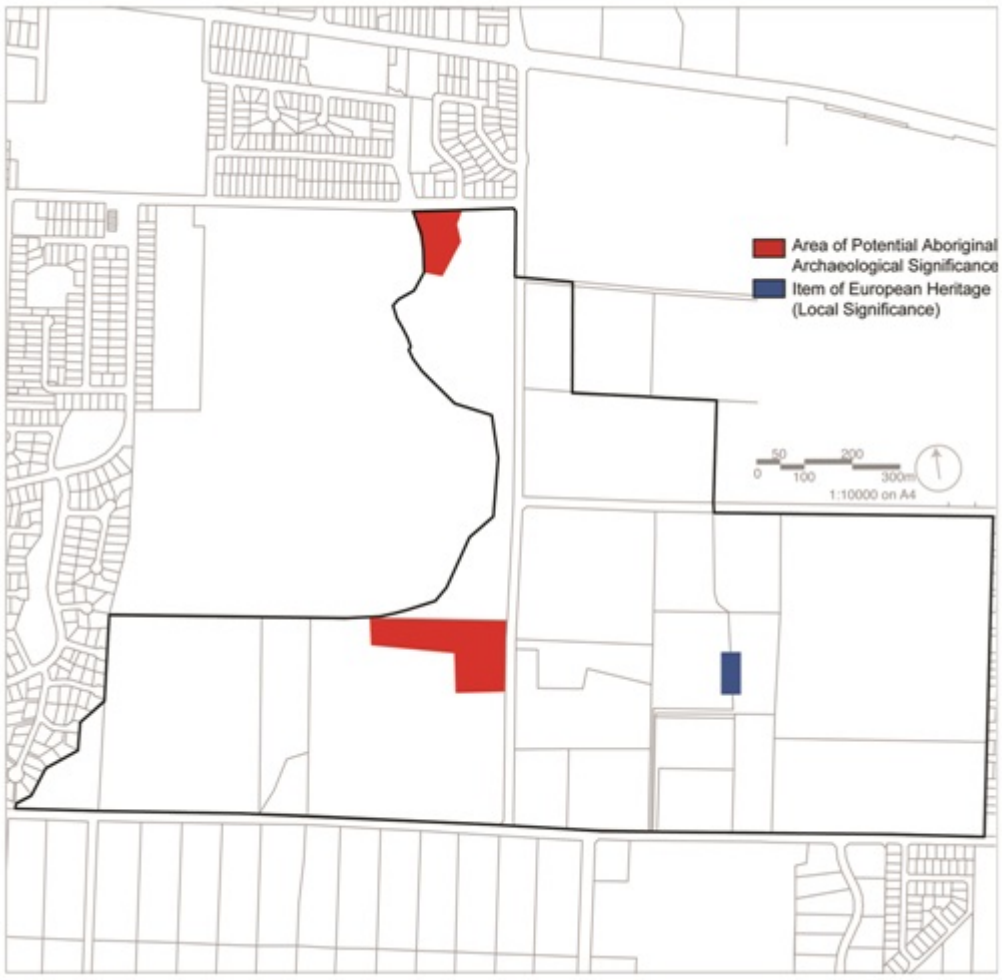
3) Any development that encroaches on the conservation area is to be subject to archaeological salvage excavation following consultation with relevant local Aboriginal groups.

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 E1.19.

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 E1.19. 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 E1.19 – Areas of Aboriginal & European Cultural Heritage



1.3.8 Bushfire Hazard Management

A. Objectives

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

B. 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 E1.17).
   The setback:
   a) may incorporate roads;
   b) is to be located wholly outside of a core riparian zone; and
   c) 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'.

1.3.9 Water Cycle Management

A. 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.

B. 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 E1.16 and E1.17.

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.

1.3.10 Contamination Management

A. 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.

B. Controls

1) DAs for development in areas of potential contamination as identified at Figure E1.20 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 E1.20 – Potentially Contaminated Land

1.3.11 Salinity Management

A. Objectives

1) To minimise the damage to property and vegetation caused by existing saline soils or processes that may create saline soils.
2) To ensure development will not significantly increase the salt load in any watercourses.
3) 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.

B. Controls

1) DAs for subdivision of land identified in Figure E1.21 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:
   a) directing runoff from paved areas into lined stormwater drains rather than along grassed channels as necessary;
   b) lining or locating any pondages higher in the landscape to avoid recharge where proximity to the water table is likely to create groundwater mounding;
   c) 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:
   a) disturbance of subsoil should be minimised;
   b) engineering designs should consider salinity impacts; and
   c) 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 E1.21 - Salinity Constraints

1.4 Residential Development

1.4.1 Subdivision and Neighbourhood Design

A. 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.

B. Controls

1) Subdivision layout should generally be in accordance with Figure E1.2 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 E1.22. Preferred lot orientation is either on a north-south or east-west axis as per Figure E1.22. 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)

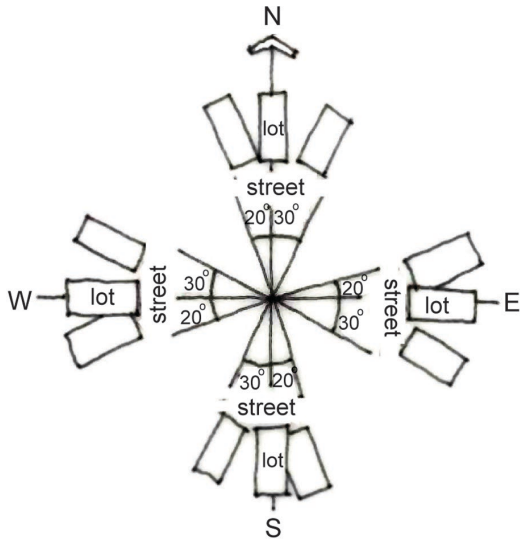
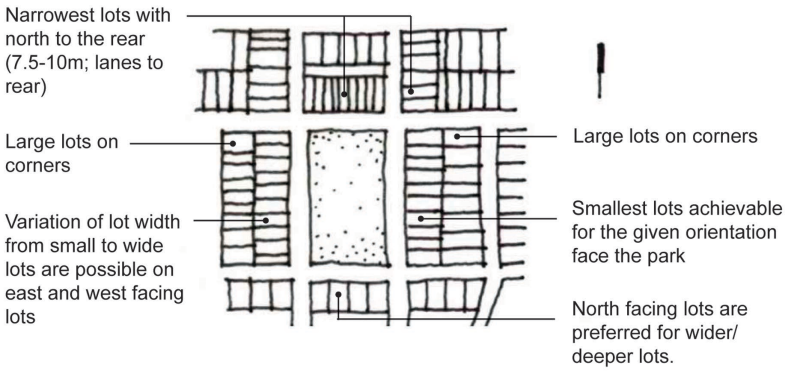


Figure E1.22 – Lot Design Principles



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^2.
6) The minimum lot dimensions for all dwelling types at Caddens are set out in Table E1.2.

Table E1.2: Minimum lot dimensions

Dwelling type	Lot area (m^2)	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 E1.3**

7) All applications for subdivision proposing residential allotments with a site area of less than 350m^2 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^2 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^2 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.

1.4.2 Streetscape, Feature Elements and Roof Design

A. 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.

B. 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:

   a) balcony to any first floor element;

   b) a variation in scale to adjoining properties;

   c) architectural elements which recess or project by at least 600mm;

   d) open verandah;

   e) mix of building materials or finishes;

   f) bay windows or similar features;

   g) pergola or similar feature above garage doors.

   Good streetscape design principles are illustrated at Figure E1.23.

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:

   a) verandah;

   b) vertical architectural elements to reduce the horizontal emphasis of the façade;

   c) balcony;

   d) an architectural element which recesses or projects from the façade by at least 600mm.

   e) 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.

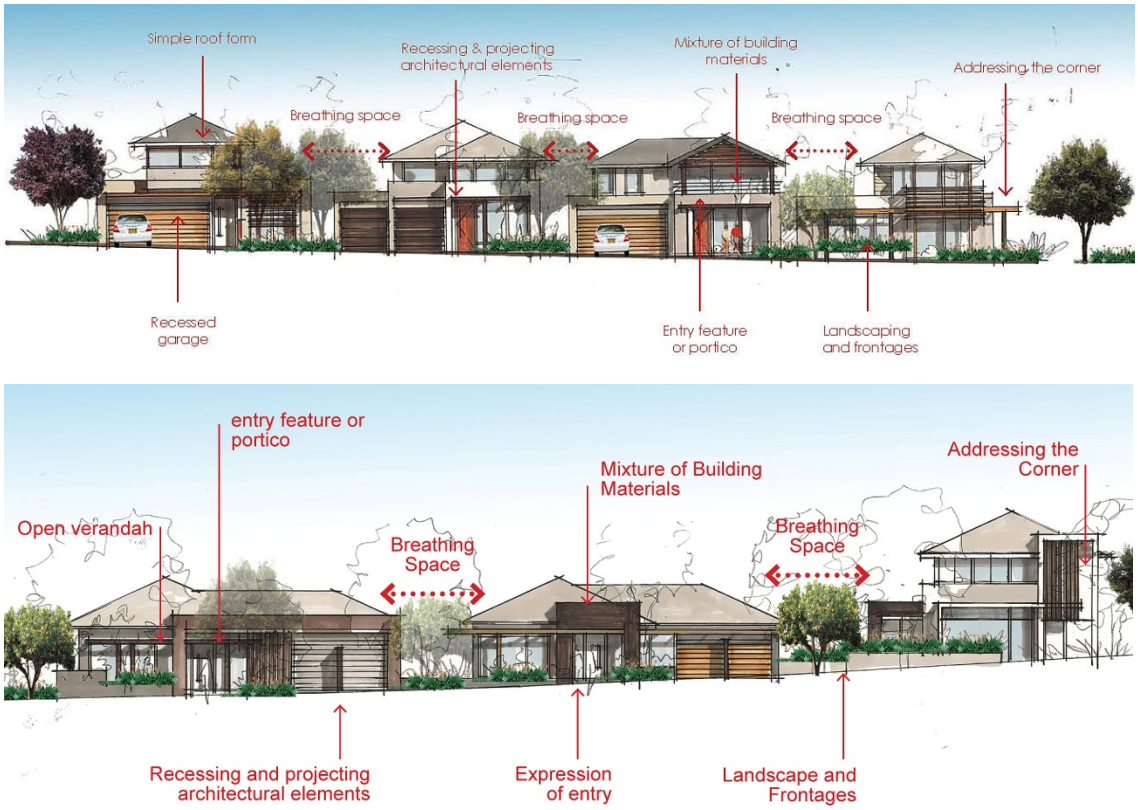
4) Water tanks, air conditioning units, solar hot water tanks and roof clutter such as satellite dishes should not be prominent when viewed from any street.

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 E1.23).

7) The repetition of identical housing designs in a group of dwellings, other than for attached dwellings, will not be permitted.

Figure E1.23 – Streetscape Design Principles. Source: DKO



1.4.3 Dwelling Height, Massing and Siting

A. 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.

B. Controls

1) The maximum number of storeys, measured from existing ground level, must be in accordance with those shown in Figure E1.24.

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:

   a) on a prominent street corner; or

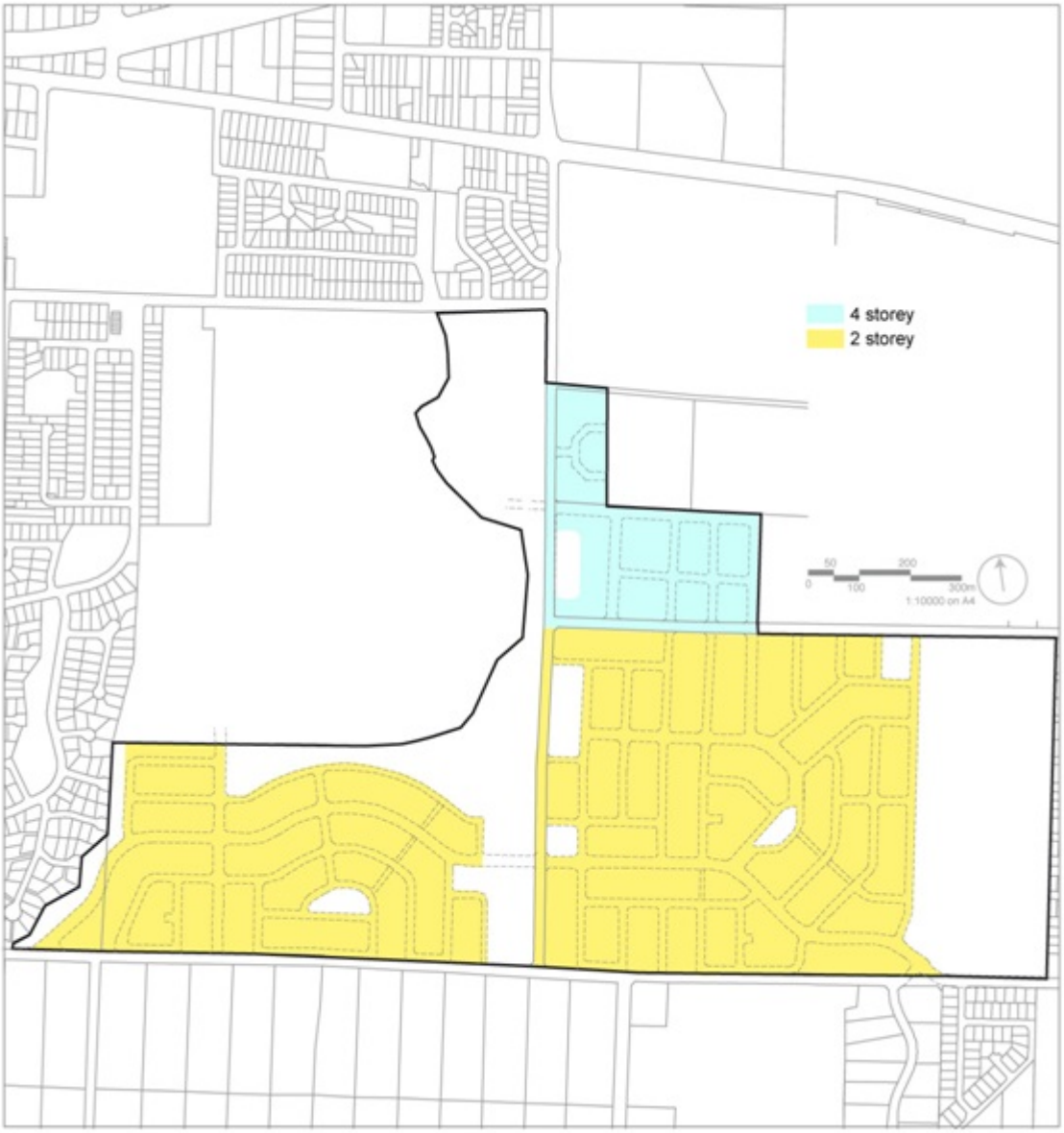
   b) on the lower side of land with a finished ground level slope equal to or more than 15%; and

   c) 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^2, the upper (second) level of a dwelling is to be no more than 30% of the lot area.

Figure E1.24 - Height Map



1.4.4 Building Setbacks

A. 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.

B. Controls

1) Dwellings are to be consistent with the minimum front, side and rear setback controls in Table E1.3 and the front setback principles diagram at Figure E1.25.

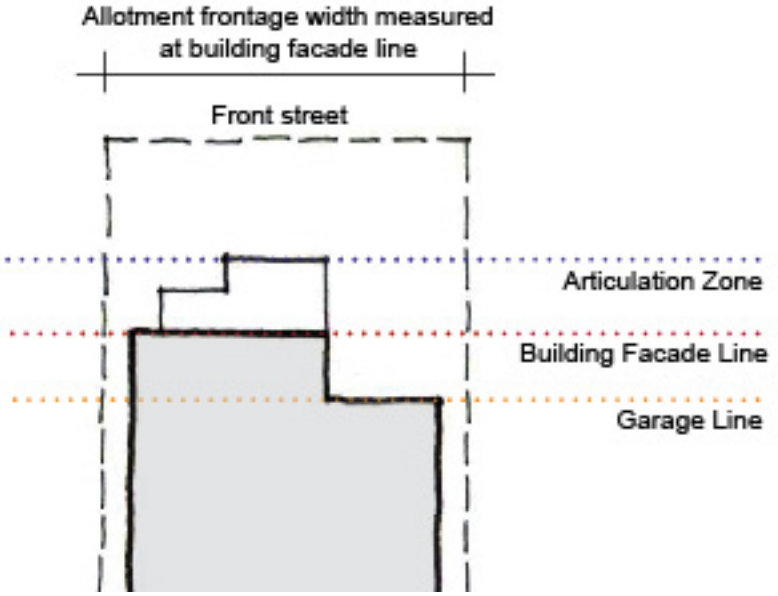
Table E1.3: Building setbacks

Dwelling type	Front *	Side	2nd 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

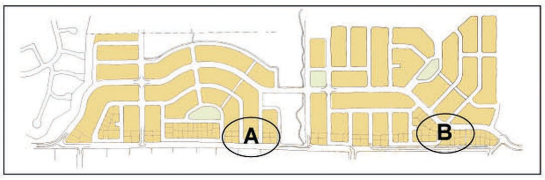
** excluding garage

Figure E1.25 – Front Setback Principles



2) On corner lots the setback for a secondary frontage is to be as follows:
   a) 2m for all detached and semi detached dwellings on lots less than 18m wide; and
   b) 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 E1.26.
6) Garages are to be set back a minimum of 1m behind the front building facade line as shown in Figure E1.26.
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 E1.26 – Caddens Road Lot Layout



Location A

Location B

9) Dwellings are to be consistent with the side and rear setback controls at Table E1.3. 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:

    a) detached dwelling – 1.2m on both sides;

b) semi-detached dwelling – 1.2m on the unattached side;

c) 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 E1.25). These may extend beyond the front façade by a maximum of 1m. The following elements are permitted:

a) entry features or porticos;

b) awnings or other features over windows;

c) eaves and sun shading;

d) balcony or window box to any first floor element;

e) projecting architectural elements;

f) open verandahs;

g) bay windows or similar features.

12) Side walls should be staggered/ indented to avoid an excessive long and blank appearance.

1.4.5 Development Forms

Built to Boundary Dwellings

The general form and style of 'built to boundary' dwellings is illustrated in Figure E1.27.

A. Objectives

a) To create an attractive and cohesive streetscape and facilitate the efficient use of land.

b) To ensure appropriate amenity between dwellings.

B. Controls

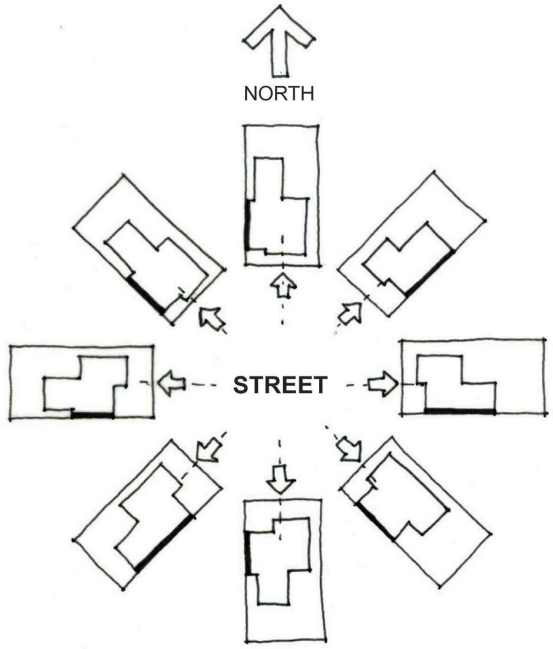
1) Built to boundary development must demonstrate that the use of a 'zero lot line setback' will not adversely affect the privacy and solar access of an adjoining property.

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 E1.27.

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 E1.30 – 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 E1.31.

A. Objectives

a) To encourage a diversity of affordable housing product.

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

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

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

B. Controls

1) The maximum floor space for a secondary dwelling is 60m^2.

2) 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.

3) A secondary dwelling must incorporate design and construction features, finishes, materials and colours similar to, or complementary with, the principal dwelling.

4) An application for a secondary dwelling development is to have regard to its suitability in the context of neighbouring dwellings and local character.

5) 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.

6) Design is to generally maximise solar access to internal living areas and minimise overshadowing of outdoor areas of the principal and adjacent dwellings.

7) 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.

8) 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.

9) Strata title subdivision into a separate allotment will be permissible only where the following are provided:

   a) The secondary dwelling is located substantially above the other dwelling; or

   b) The secondary dwelling has a floor area that does not exceed 60m^2 and is located above the garage, carport or similar structure of the principal dwelling; and

   c) private open space of 8m^2 with a minimum dimension of 2m; and

   d) separate access; and

   e) one separate on-site car parking space; and

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

   g) separate connections and metering for utilities (electricity, water, gas, telecommunications etc).

Figure E1.28 – 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 E1.29.

A. 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 E1.29 – General form of Mixed Use Development

B. Controls

1) Mixed use and residential flat buildings are to be located generally within the Precinct Centre (B2 zone) and the Residential R3 Zone and are to:

   a) have a minimum lot size of 1,000m^2 and a minimum street frontage of 30m; and

   b) 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.

2) All mixed use and residential flat development is to be consistent with:
   a) the guidelines and principles outlined in SEPP 65 – Residential Flat Development; and
   b) the primary controls set out at Table E1.4.

Table E1.4: Controls for Residential Flat Buildings

Element	Control
Principal private open space (min)	Ground level - 20m^2 per apartment (min width 2.5m) Upper level - 10m^2 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 Residential Flat Design Code or on merit
Adaptable dwellings (min)	10%

3) To provide visual interests and reduce building bulk, facades are to be articulated (via balconies, blade walls, stepped facades and the like).
4) Balconies can intrude into the front setback by a maximum of 2m.
5) Buildings with a length greater than 15m are to incorporate multiple entries and circulation cores.
6) 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.
7) Buildings with mixed use development, that is a mix of residential and commercial and/or retail, must incorporate the following:
   a) retail/commercial uses at ground floor level;
   b) floor to ceiling heights of at least 3.5m at ground level;
   c) separate commercial and residential pedestrian access;
   d) separate provision for commercial and residential waste.

Development on Sloping Land

A. Objectives

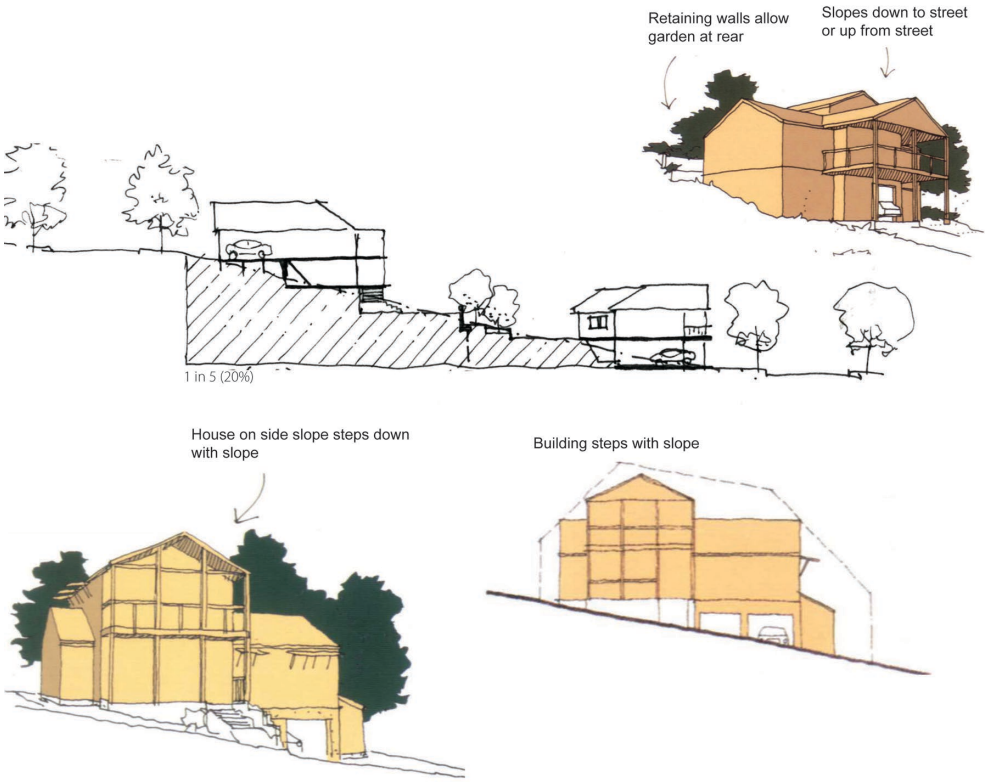
a) To ensure that development responds to topographical constraints.
b) To provide opportunities for views to and from hilltop areas.
c) To minimise the bulk and scale of dwellings on steep slopes.

d) To minimise the potential impact of on-site salinity.

B. Controls

1) Development on sloping land should generally be accordance with Figures E1.30.
2) The subdivision layout on cross slopes should incorporate wider/larger lots on steeper land.
3) 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.
4) The side boundary retaining walls for development on cross slopes should retain a cut no higher than 1m.
5) All retaining walls forward of the garage line must be constructed with masonry materials and finished to complement the house design.
6) 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.
7) 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.
8) 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).
9) 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.
10) Garden retaining walls within lots are not to exceed 0.9m in height. Any remaining slope is to be graded out.
11) 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.
12) 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.
13) 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 E1.30 – Housing on Sloping Land



1.4.6 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.

A. 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.

B. 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 E1.5.

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 E1.31.

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).

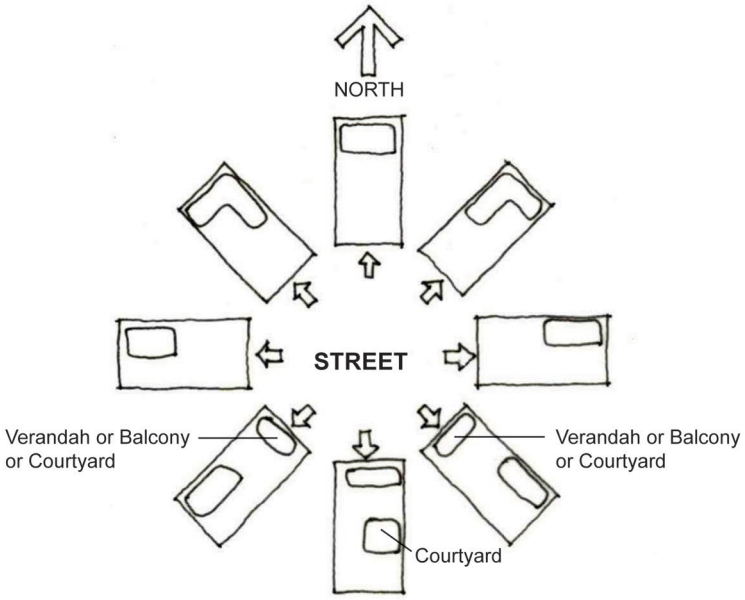
4) The PPOS must interface directly with the main living area of a dwelling or alfresco room. Where the PPOS is a semi-private patio, balcony or roof top area, it must be provided with a fence or landscaped screen at least 1m in height, and be directly accessible from a living area.

5) For a secondary dwelling that incorporates one dwelling substantially above the other, the ground level dwelling is to comply with the controls in Table E1.5. The upper level dwelling is to have a balcony accessed directly off the living space with a minimum area of $8m^2$ plus a minimum $5m^2$ 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^2 in area Min. dimension - 3m
>10-15m	Min. 20% of lot area Min. dimension – 2 m	24m^2 in area Min. dimension - 4m
>15-17.5m	Min. 20% of lot area Min. dimension – 2.5m	30m^2 in area Min. dimension - 4m
> 17.5m	Min. 20% of lot area Min dimension – 3m	40m^2 in area Min dimension – 4m

Figure E1.31 – Principal Private Open Space Principles



1.4.7 Site Cover and Landscaped Areas

A. 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.

B. Controls

1) Dwellings on lots 450m^2 and greater are to comply with the following maximum site cover:
   a) 50% of total lot area; with

b) 60% for single storey dwellings.

2) Site coverage on lots smaller than 450m^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 Plan.

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:

   a) lots less than 450m^2 – 35% of the lot area ;

   b) lots 450m^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.

1.4.8 Fencing

A. 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.

B. 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.

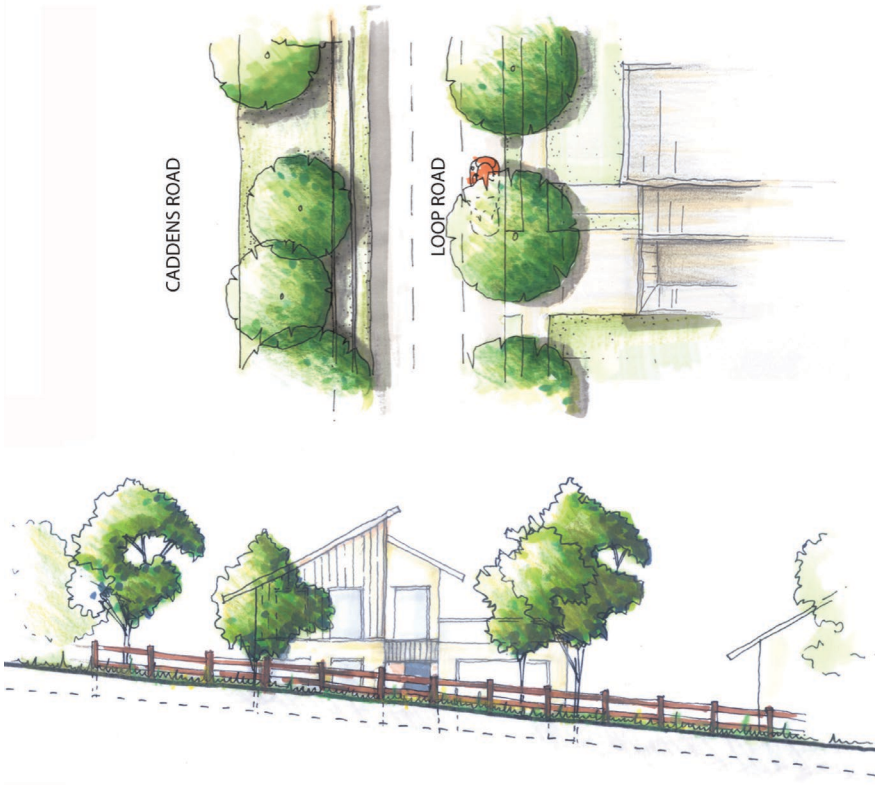
2) The fencing on the secondary street of a lot with a frontage 17.5m or greater must be set back 0.9m from the secondary street boundary and must incorporate landscaped vegetation between the fence and the boundary.

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 Figure E1.3, are to be fenced with a rural style solid timber post and rail fence generally in accordance with Figure E1.32.

Figure E1.32 – Landscaping along Caddens Road



1.4.9 Garages and Access

A. 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.

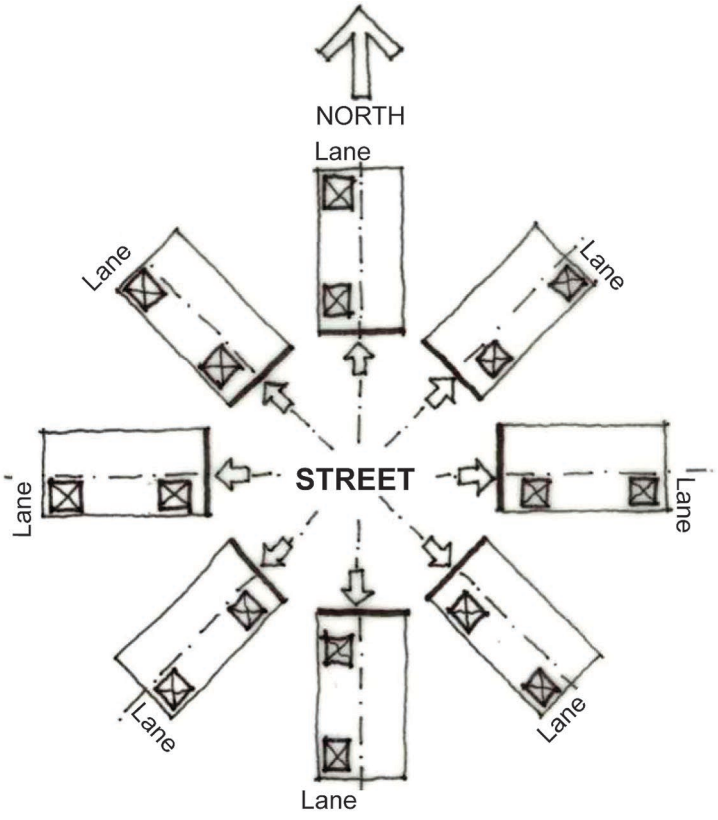
c) To ensure that garages do not dominate the frontage of the house.

d) To encourage the use of secondary dwelling over garages to facilitate surveillance, and opportunities to work from home and for residential accommodation.

B. Controls

1) Garages are to be sited as per the preferred siting diagram at Figure E1.33.
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:
   a) minimum internal width between main walls of 3m for a single garage;
   b) 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 E1.33 – Garage Location Principles



1.5 Environmental and Residential Amenity

1.5.1 Visual Privacy and Acoustic Amenity

A. 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.

B. Controls

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

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

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

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

   c) have sill height of 1.7m above floor level; or

   d) 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:

   a) 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.

   b) 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;

      i) dwelling setbacks;

      ii) internal dwelling layouts designed to minimise noise in living and sleeping areas;

      iii) fencing constructed with a suitably solid mass, and

      iv) 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:

   a) 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	LAeq 1 hour, Day	40dB
	LAeq 1 hour, Night	35dB
Living areas	LAeq 1 hour, Day	45dB
	LAeq 1 hour, Night	40dB

   b) 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 LAeq noise levels shall not be exceeded when doors and windows are shut and mechanical ventilation or air conditioning is operating:

Sleeping areas	L_{Aeq} 1 hour, Day	43dB
	L_{Aeq} 1 hour, Night	38dB
Living areas	L_{Aeq} 1 hour, Day	46dB
	L_{Aeq} 1 hour, Night	43dB

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

Note: LAeq 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)

1.5.2 Safety and Surveillance

A. 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.

B. 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).

1.5.3 Sustainable Building Design

A. 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.

B. Controls

1) Minimum dwelling floor to ceiling heights shall be as follows:
   a) ground floor habitable rooms of two storey single dwellings - 2.65m;
   b) upper floors and all non-habitable rooms – 2.4m;
   c) single storey dwellings – 2.65m;
   d) attics – 1.5m wall height at edge of room with a 30 degree minimum ceiling slope;
   e) 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.

1.6 The Precinct Centre

A. 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.

B. Controls

1) The Indicative Concept Plan shown at Figure E1.34 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^2.

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^2.

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 E1.34 – Precinct Centre Concept Plan

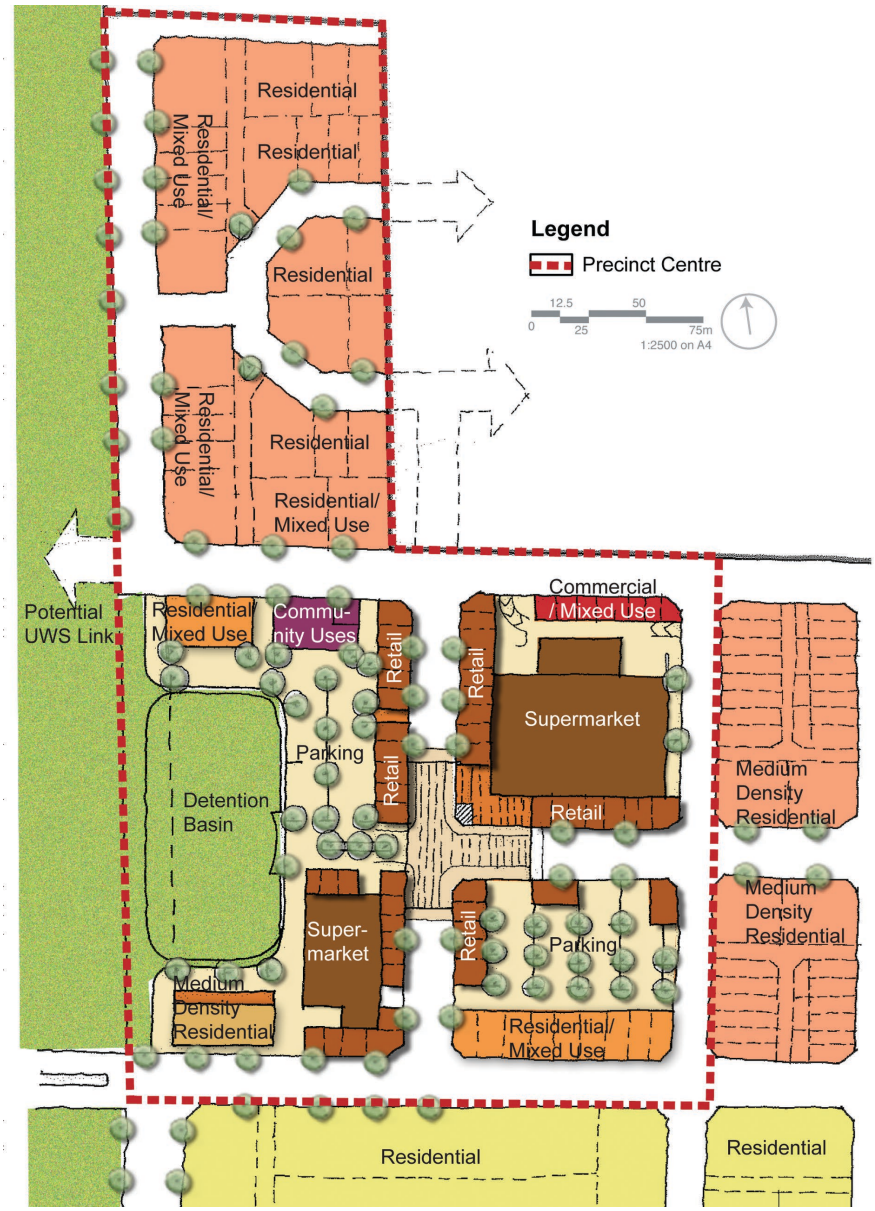


Table of Contents

E2 Claremont Meadows Stage 2

2.1. Introduction

2.1.1. Area Covered by this Section

The Claremont Meadows Stage 2 (Figure E2.1) 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 E2.1) 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 E2.2), 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 E2.3), 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 E2.1) is located on the corner of Gipps Street and the Great Western Highway.

Figure E2.1 – Land to which this Section applies

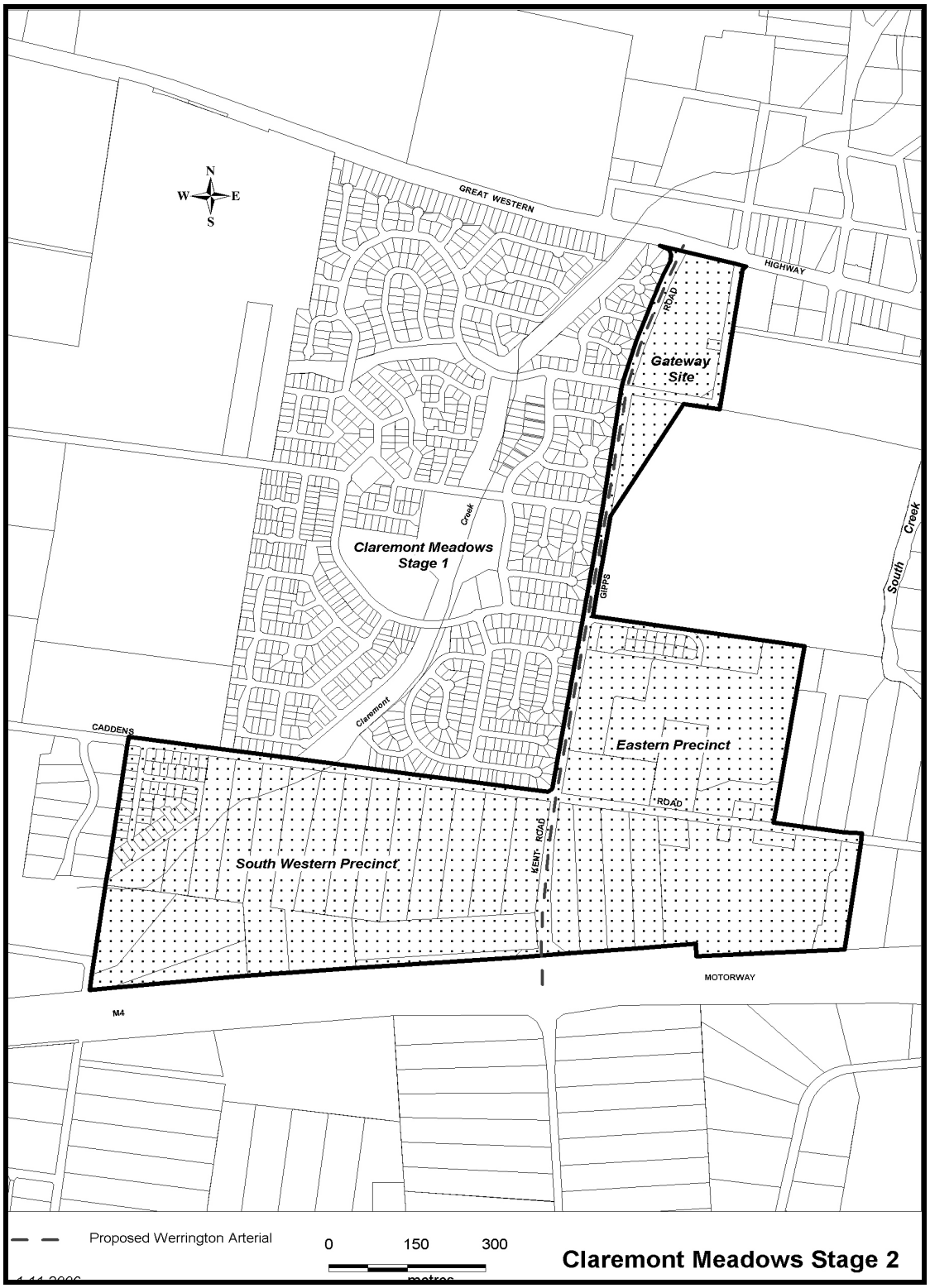


Figure E2.2 – Eastern Precinct

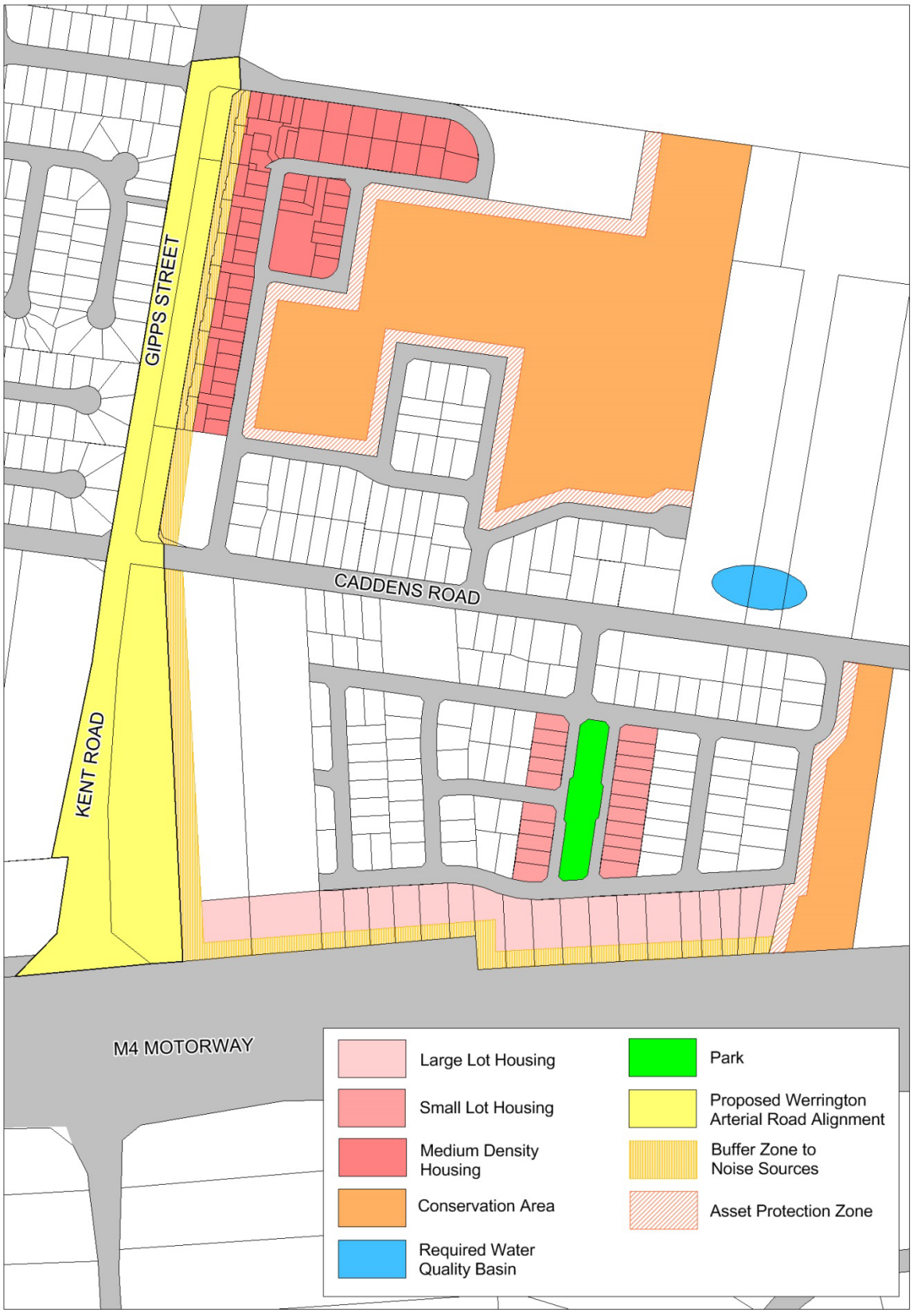
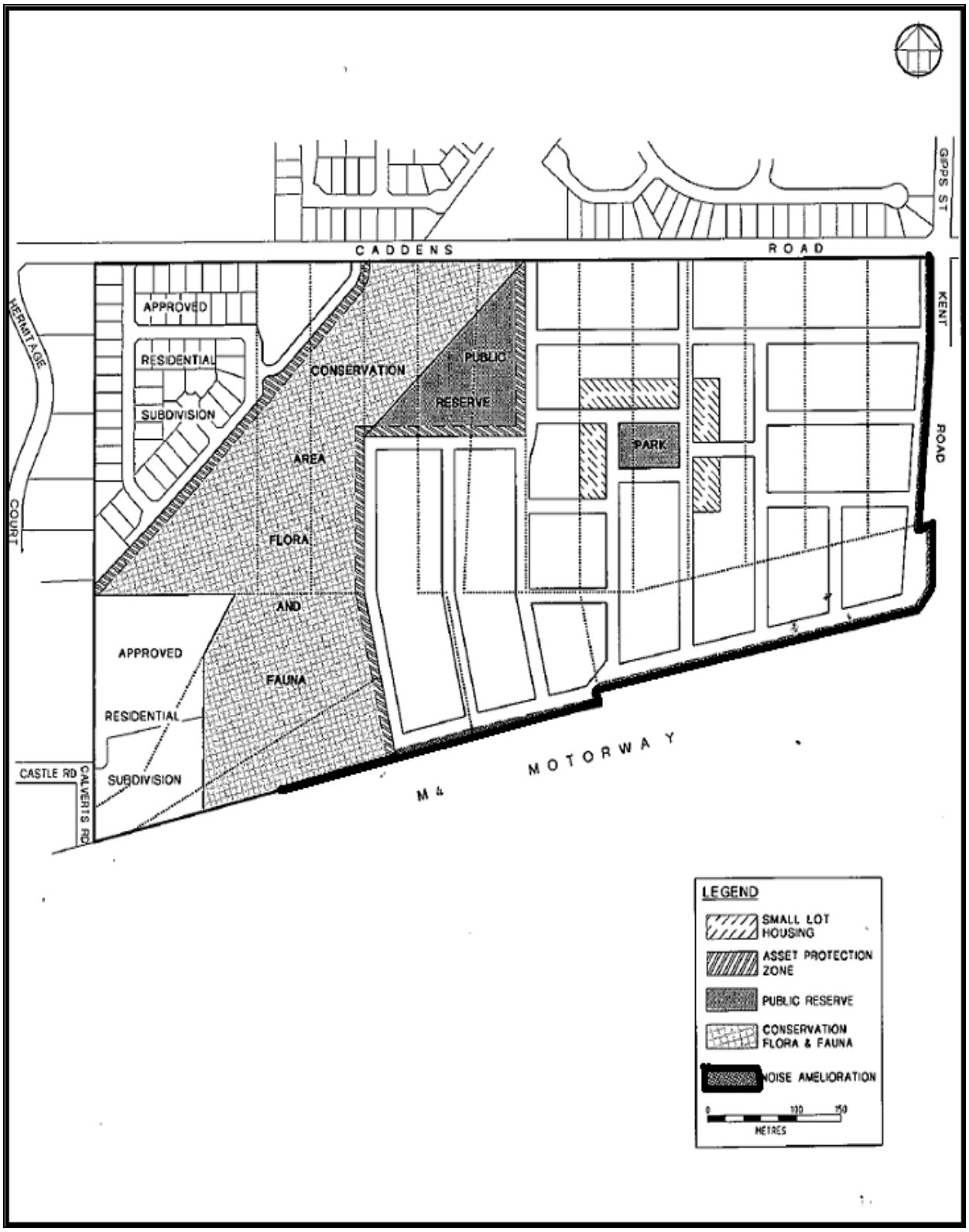


Figure E2.3 – South Western Precinct



2.1.2 Aims of this Section

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.

2.2 Residential Development

2.2.1 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; and

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.

A. 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.

B. Controls – Eastern Precinct

1) Development applications must demonstrate that:

   a) 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;

   b) Development has been designed to maximize the number of dwellings with north facing living areas and private open space areas;

   c) Communal outdoor recreation areas are north facing; and

   d) Development in the north of the precinct recognises the former tip site as a future recreational resource (both passive and active).

2.2.2 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.

A. 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.

B. 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:
   a) Clearly indicate both the proposed public reserve and the area to be developed with smaller lot sizes; and
   b) 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^2.
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 Development section of this Plan.

Eastern Precinct

1) Residential development in this precinct must be set out in accordance with the indicative layout illustrated in Figure E2.2.
   a) 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;
   b) 550m^2 – 800 m^2 – provided in the bulk of the precinct;
   c) Small lot housing (250m^2 – 400m^2) – provided immediately around the proposed neighbourhood park; and
   d) Large lot housing (over 1,000m^2) – provided adjacent to the M4 Motorway.
2) The controls specified in the Residential Development section of this Plan apply.

South Western Precinct

1) Residential development in this precinct must be set out in accordance with the indicative layout illustrated in Figure E2.3.
2) In general:
   a) Small lot housing around the central park with lot sizes ranging from 250m^2 – 400m^2 (to be submitted as integrated housing for development application purposes);
   b) Conventional lots with a minimum area of 550m^2 and minimum width of 15m; and
   c) Large lot residential to the south west off Castle Road; and
   d) The controls specified in the Residential Development section of this Plan apply for all other requirements.

2.2.3 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.

A. 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.

B. Controls

1) Development Applications will be assessed against the standards specified in the Residential Development section of this Plan.

2) That vegetated buffer of 20m depth shall:

   a) 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;

   b) be planted with species appropriate to the area given the presence of Cumberland Plain Woodland; and

   c) 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.

2.2.4 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 E2.1.

A. Objective

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

B. 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 Development section of this Plan.

2.2.5 Home-Based Business Activities

A. Objective

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

B. Controls

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:
   a) Dedicated rooms for business activities;
   b) Separate entrances for the residences and for business rooms;
   c) Flexible parking and vehicle access for visitors and/or residents – subject to the scale of activity;
   d) Buildings designed according to traditional residential scale and appearance when viewed from the street; and
   e) 'Smart wiring' of homes to enable consumers to access multi telecommunications facilities (broadband capacity internet, e-commerce, cable TV, lighting, audio, security), and
   f) Building orientation.

2.3 Areas of Ecological Sensitivity

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

1) The remnant Cumberland Plain Woodland (endangered ecological community) in the eastern precinct, immediately adjacent to the South Creek corridor, and
2) 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.

2.3.1 Remnant Bushland

A. Objectives

a) To conserve wildlife habitat and indigenous plant species;
b) To ensure that development adjacent to areas of existing vegetation identified for preservation is designed to minimise impact;
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.

B. 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):

a) Signage;

b) Fencing

c) Walking tracks;

d) Street layout; and

e) Street names.

3) Development Applications shall demonstrate that the Biodiversity Management Plan and its principles have been addressed.

2.3.2 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.

A. 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.

B. Controls

1) Development Applications shall:

a) Ensure that remnant native vegetation within the riparian corridor is protected and rehabilitated with local provenance species at a density that would occur naturally;

b) Ensure there is to be no development within the riparian corridor unless works include:

i) The rehabilitation of aquatic and riparian vegetation and habitat;

ii) Demolition and removal of existing structures or works;

iii) Crossings for roads, pedestrian pathways, easement services, sewer, utility installation;

iv) 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.

c) Treat all stormwater discharge outside of the riparian corridor before it enters the watercourse.

2.3.3 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.

A. Objectives

a) To achieve an integrated approach to water cycle management on the site;

b) To control the quantity and quality of runoff from the site to maximise the improvements to downstream receiving waters and minimise the impact on the downstream catchment;

c) To investigate innovative approaches to water supply to minimise water wastage and reduce the demand for potable water; and

d) To maximise the ecological and visual benefits gained from Claremont Creek.

B. Controls

1) Development Applications shall:

a) 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;

b) Identify and incorporate best management practices to control runoff quantity and quality;

c) 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;

d) Adopt an integrated approach to the management of wastewater, consistent with:

i) Water-sensitive urban design practices, including options for the reuse of stormwater;

ii) Capacity of site soils to absorb run-off;

iii) Existing levels of soil salinity and minimises extent and frequency of perched watertable; and

iv) Local climate and likely rates of evaporation from open ponds.

e) Demonstrate drainage solutions that shall embody appropriate catchment management principles;

f) Include a surface drainage design which:

i) Includes any runoff detention and water quality control ponds, swales and channels;

ii) Minimises land-take;

iii) Minimises potential breeding areas for mosquitoes;

iv) Limits disturbance to the ground whenever possible;

v) Utilises landscaped, open space and passive recreational features which contributes to the local amenity;

vi) Ensures engineered structures are integrated with the configuration and character of the wider development and Its public domain; and

vii) 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;

g) Take account of the influence of the former tip site, including the possibility of subsurface water movement;

h) Shall evaluate opportunities for the integration of water supply and re-use of stormwater, grey water and treated effluent:

   i) In consultation with authorities such as Sydney Water, NSW Office of Environment and Heritage, NSW Ministry of Health and Penrith City Council;

   ii) 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.

2.3.4 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:

a) Known salinity;

b) High salinity potential;

c) Moderate potential; and / or

d) Associated with drainage lines identified as having high salinity potential.

A. 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.

B. 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:

   a) Initial site walkover, observations and field tests as well as a desktop review;

   b) Site specific soil and groundwater investigations;

   c) 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

   d) 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:
   a) Remedial objectives;
   b) Details of the process and standards by which the land will be remediate;
   c) Specific measures that will be undertaken to reduce the risk of salinity to property and structures, vegetation and the environment; and
   d) 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:
   a) A layer of sand at least 50mm deep under the slab must be provided;
   b) A damp proof membrane (rather than vapour proof membrane) must be laid under the slab;
   c) Normal Class 32 Mpa (N32) concrete or sulphate resisting Type SR cement with a water cement ratio of 0.5 must be used;
   d) The minimum cover to reinforcement must be 30mm from a membrane in contact with the ground;
   e) The minimum cover to reinforcement must be 20mm from an internal surface;
   f) The minimum cover to reinforcement must be 50mm for strip footings and beams irrespective of whether a damp proof membrane is used; and
   g) Admixtures for waterproofing and/or corrosion prevention may be used.
5) In identified salinity hazard areas the following measures must be used for brickwork:
   a) The damp proof course must be correctly placed to prevent moisture movement;
   b) The use of ‘exposure clast bricks’;
   c) Manufacturer’s recommendations regarding suitability for use in saline environments for all bricks and concrete blocks should be followed; and
   d) 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.

2.3.5 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.

A. 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.

B. Controls

1) Development Applications for subdivision shall include an assessment of possible contamination prepared by a suitably qualified person, which covers the following:
   a) Likelihood of contamination over the subject area, based on previous land uses; and
   b) 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 of State Environmental Planning Policy No. 55 – Contaminated Land;
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:
   a) Breaches of Work, Health and Safety (WHS) obligations to employees during maintenance excavation;
   b) Breaches of WHS obligations to employees during maintenance of sewers containing contaminated flows;
   c) Contaminant degradation of sewage treatment processes, particularly biological processes;
   d) Contamination of the drinking water supply from contaminants diffusing through plastic water mains;
   e) Contamination of the drinking water supply from contaminants being sucked through rubber ring pipe joints during passage of low pressure transients;
   f) Contaminant corrosion or weakening of concrete infrastructure; and
   g) Contaminant corrosion of rubber rings in pipe joints effecting joint tightness.

   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.

2.3.6 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.bushfire.nsw.gov.au) and Australian Standard 3959.

A. Objective

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

B. 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

1) 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;

2) 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

3) This Asset Protection Zone may include:

   a) A 10m fuel reduced zone within the Conservation Area;

   b) The width of the adjacent road reserve; and

   c) Front setbacks to dwellings.

South Western precinct

1) The creation of Outer Protection Areas 10m in width within the Flora and Fauna Conservation Areas;

2) Inner Protection Areas 25m in width be maintained within residential areas adjoining the Flora and Fauna Conservation areas; and

3) 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.

2.3.7 Air Quality

A. Objectives

a) To ensure that development does not have an undue adverse effect on air quality; and

b) To identify appropriate compensatory measures that can be taken to help improve air quality in general.

B. Controls

1) Use of solid fuel heaters is prohibited; and

2) The area of land available for soft landscaping should be maximised.

2.4 Community Services and Recreation

2.4.1 Neighbourhood Parks

A. Objective

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

B. Controls

1) Each precinct shall provide an appropriate area for a neighbourhood park; and

2) Neighbourhood parks shall have the following features:

   a) A minimum area 2,500 m^2;

   b) A central location, accessible to the majority of the population of the precinct;

   c) Surrounded by a logical road pattern, which provides a safe direct and legible route to the neighbourhood park from the majority of the precinct;

   d) Suitable embellishment with play equipment, seating, lighting, landscaping and pathways (details to be provided at Development Application stage); and

   e) Shall not be used as detention basins.

2.5 Recognition of Surrounding Land Uses

2.5.1 Major Roads (Werrington Arterial, Great Western Highway and the M4 Motorway)

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

1) The M4 Motorway provides a boundary to the south;

2) The new alignment for the Werrington Arterial along Gipps St separates the eastern and south western precincts; and

3) 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.

A. 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.

B. 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 the Roads and Maritime Services (RMS). The treatment of all interfaces with major roads shall be negotiated with the RMS 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 Figure E2.8a and E2.8b), 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 E2.5 and E2.6). 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

1) A 15m wide buffer is required along Gipps St (north of Caddens Road) and as detailed in Figure E2.5. 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 RMS 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;

2) A minimum 20m buffer is required along Kent Road (south of Caddens Road) as detailed in Figure E2.6. 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 (4) below.

3) Any application received for subdivision shall include details in relation to the acoustic treatment and should include:

   a) Cross-sections of the acoustic treatment including landscaping and shall include one section for each different condition.

   b) 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;

   c) Details of the construction type, colours, materials (minimum masonry) and maintenance of acoustic treatment;

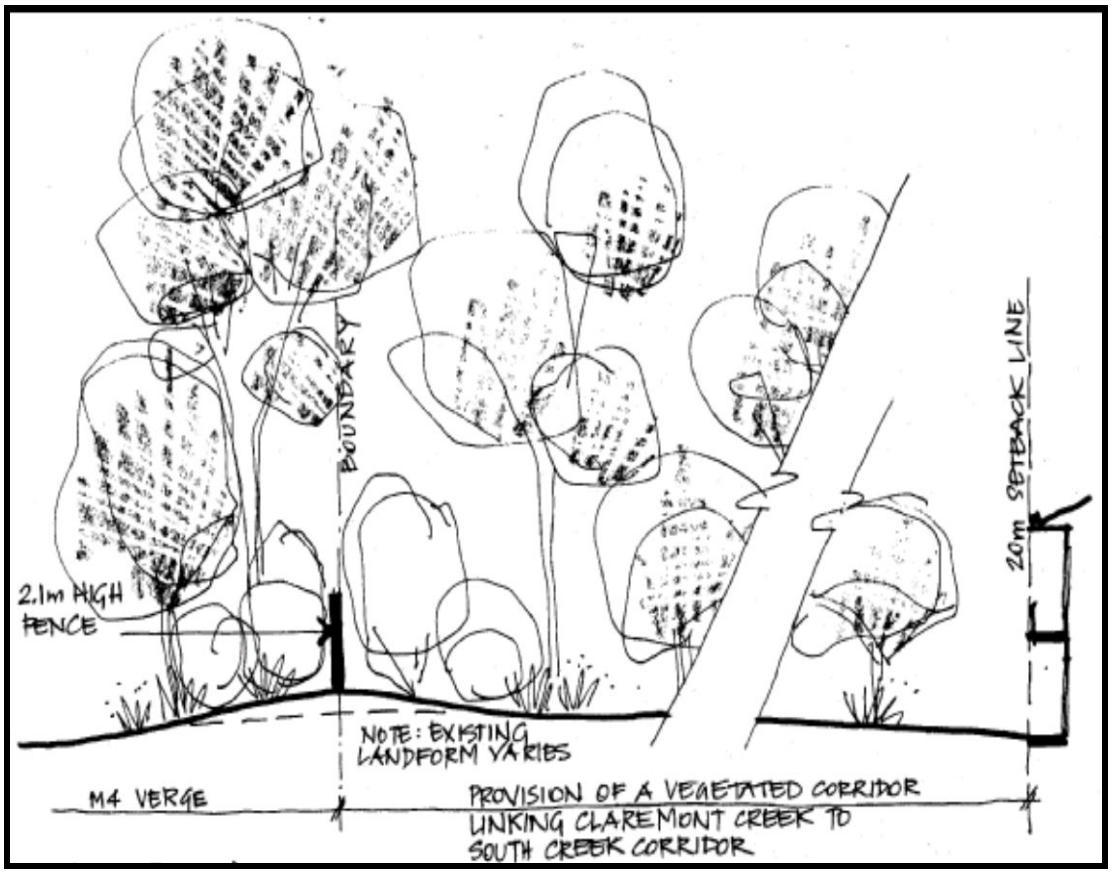
   d) Landscaping plan including location of acoustic treatment and maintenance schedule; and

   e) Stepping and variation in the location of the acoustic barrier with opportunity to provide design elements.

4) 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.

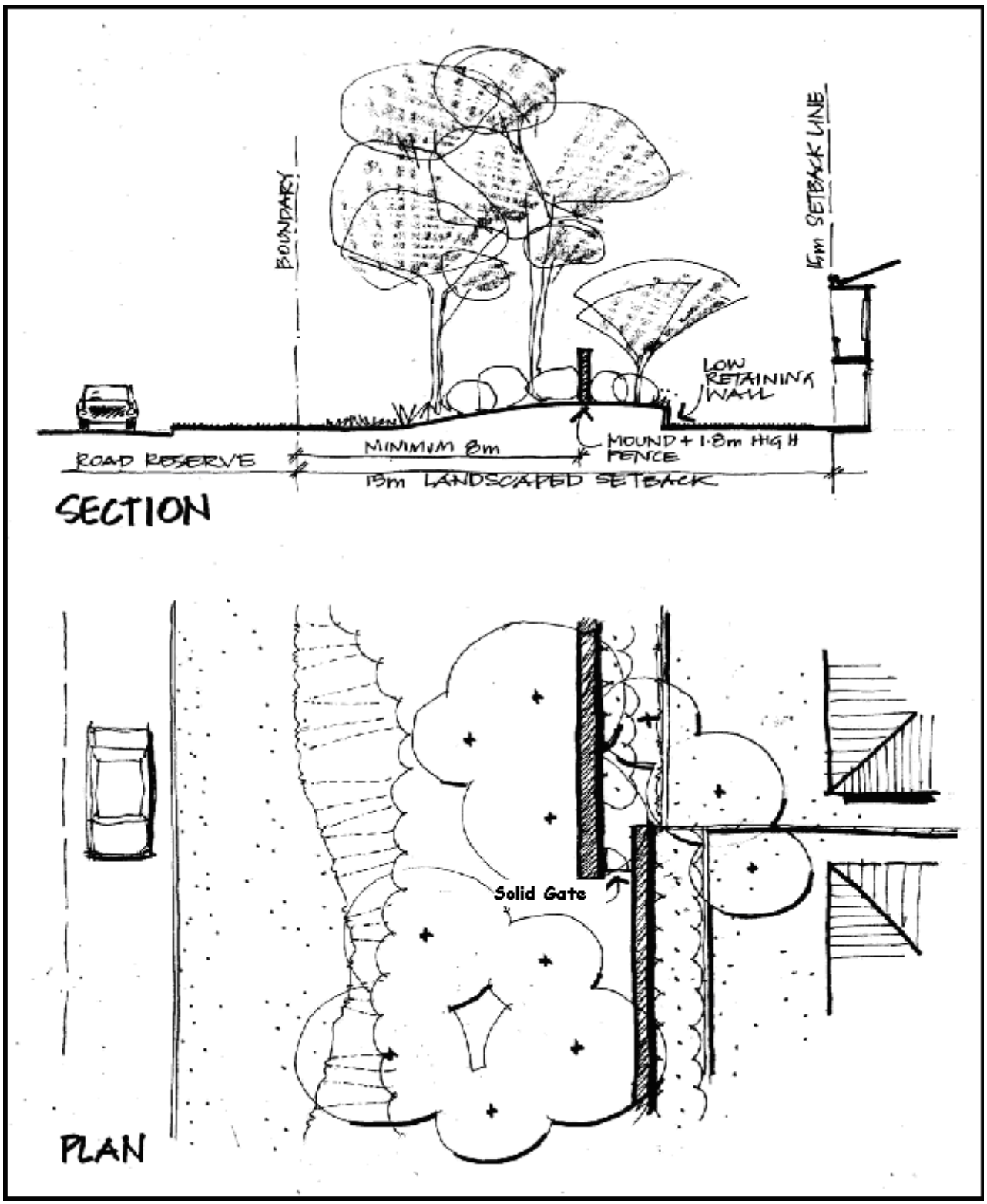
Eastern Precinct – M4 Streetscape

Figure E2.4 – Typical M4 frontage cross-section within the south eastern precinct



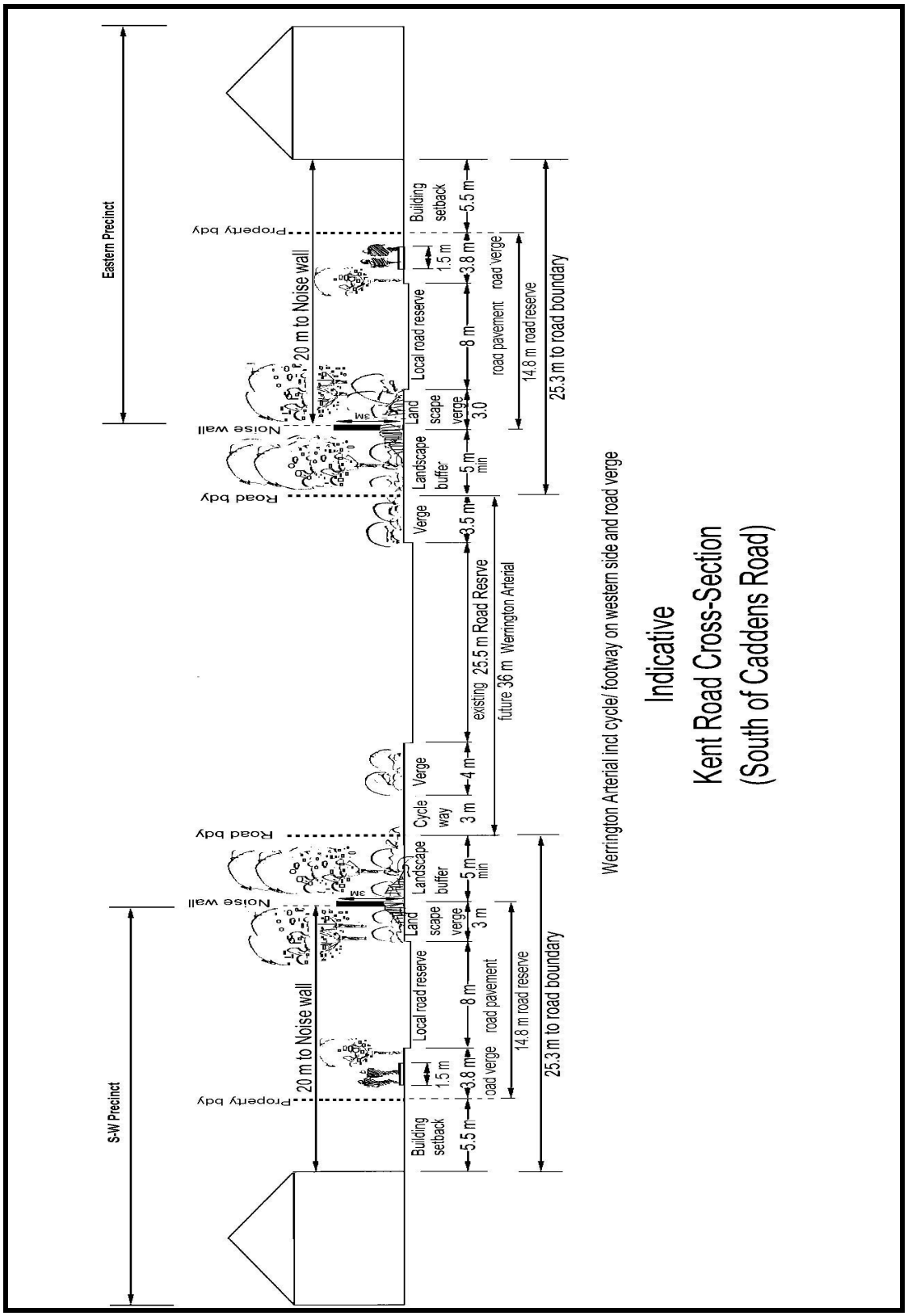
Gipps Street Streetscape

Figure E2.5 – Cross-Section Gipps Street Eastern Precinct North of Caddens Road



Kent Road Streetscape (South of Caddens Road)

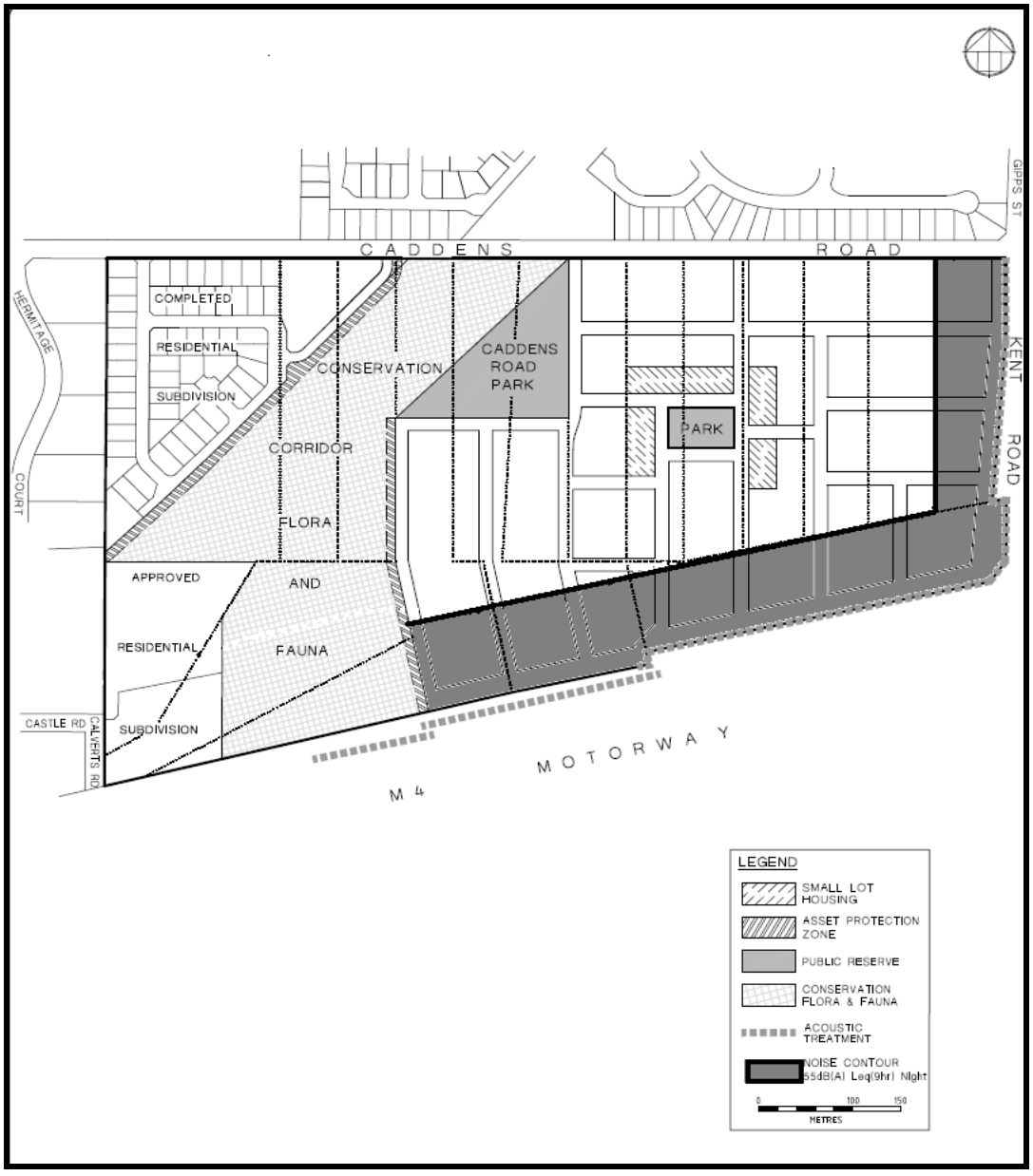
Figure E2.6 – Typical Cross-Section Kent Road South of Caddens Road



South Western Precinct

1) 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 E2.7) below:

Figure E2.7 – Area of Restricted Development due to traffic noise



2) A minimum 20m buffer is required along Kent Road as detailed in Figure E2.6. 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 (4) below; and

3) Any application received for subdivision within the area shaded in Figure E2.7 shall include details in relation to the acoustic treatment and shall include:

   a) Cross-sections of the acoustic treatment including landscaping and shall include one section for each different condition.

   b) 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

   c) Details of the construction type, colours, materials (minimum masonry) and maintenance of acoustic treatment;

   d) Landscaping plan including location of acoustic treatment and maintenance schedule; and

   e) Stepping and variation in the location of the acoustic barrier with opportunity to provide design motif treatment.

4) 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;

5) 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 E2.8a – Interface Treatment with M4 and Kent Road South Western Precinct

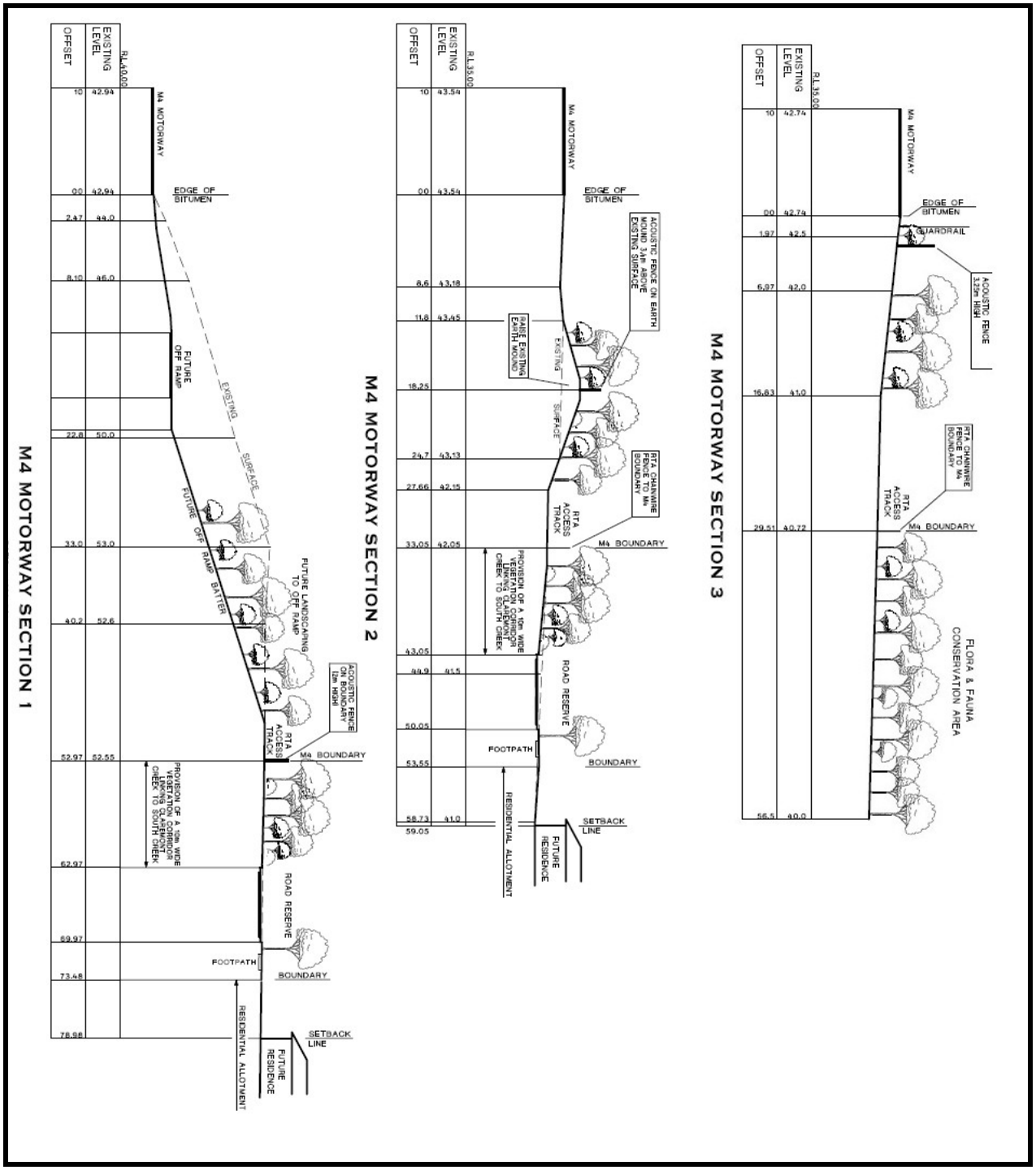
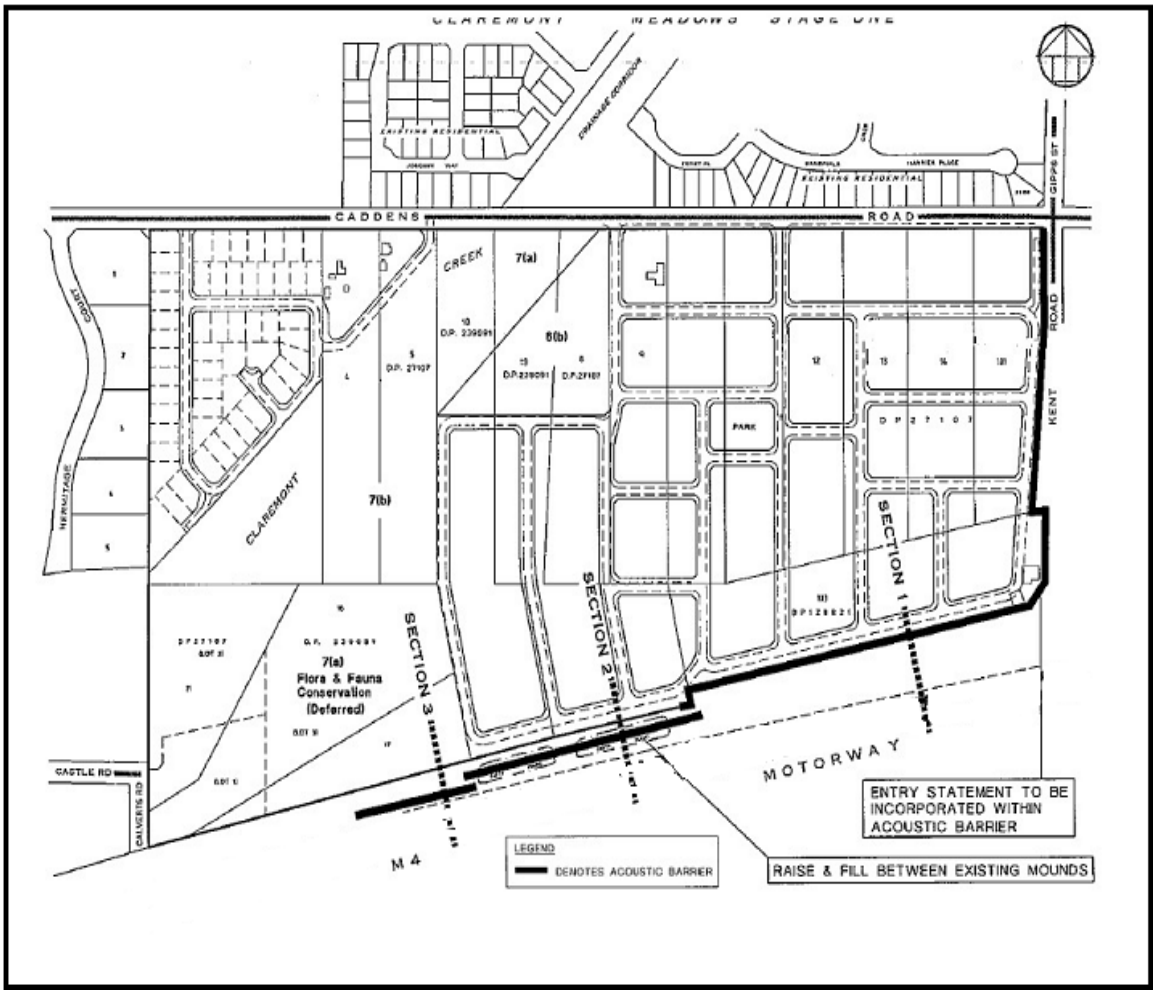


Figure E2.8b – Sections relating to Interface Treatment with M4 detailed in Figure 8a.



2.5.2 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.

A. Objectives

a) To ensure that adequate pedestrian and cycle linkages are provided between Claremont Meadows Stage 2 and the existing estate; and

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.

B. 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; and

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.

2.5.3 South Creek Corridor

A. Objective

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

B. 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:

   a) Drainage, particularly water quality and the treatment of all stormwater discharge outside of the riparian corridor before it enters South Creek;

   b) Appropriate edge treatments are in place and that pedestrian pathway systems are located outside the riparian corridor;

   c) Biodiversity management and the linkage of remnant vegetation to the riparian corridors;

   d) Views and vistas; and

   e) The locating of water quality treatment measures outside the riparian corridor.

2.5.4 Former Gipps Street Landfill Site

A. 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.

B. 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; and

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.

2.6 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.

2.6.1 Management of the Public Domain

A. Objectives

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

B. Controls

1) The nature of facilities to be provided in the public domain shall be shall include but not limited to:

   a) Seating;

   b) Bins;

   c) Lighting;

   d) Signage;

   e) Drainage facilities;

   f) Shade Structures;

   g) Public Art; and

   h) 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.

2.6.2 Landscape Design

A. 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.

B. 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 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:

   a) Facilitate multiple uses;

   b) Be consistent with Council's current management policies and practices;

   c) Ensure that landmark locations, key thoroughfares and vistas are complemented and reinforced;

   d) Ensure that drainage reserves are embellished as attractive components within the public domain, as effective adjuncts to wastewater management and as habitat for bird life;

   e) Provide for the identification of individual neighbourhoods and precincts; and

   f) 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.

2.7 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.

2.7.1 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.

A. 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.

B. Controls

1) Refer to the Transport, Access and Parking section of this Plan for the various road types.

2) The road network shall be designed to accommodate multiple purposes, including:

   a) Safe and efficient access for pedestrians (including alternative forms of pedestrian activity), cyclists and vehicles 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;

   b) Underground routing of service infrastructure;

   c) Appropriate access for emergency vehicles;

   d) Contribution to traditional townscape character via street tree amenity including shade to footpaths;

   e) Provision of vistas to landmarks within the precinct and beyond; and

   f) Establishment of appropriate solar access for lots, open spaces and buildings.

3) Roads shall be designed:

   a) In accordance with relevant Council policy and design standards and be based on forecast traffic flows (refer to the Transport, Access and Parking section of this Plan);

   b) To facilitate a configuration of neighbourhood streets appropriate to the desired solar orientation of dwellings;

   c) To provide safe pedestrian access, and vistas towards landmarks and central destinations within the precinct and beyond, including identification of possible future pedestrian facilities;

   d) To limit the number of four-way intersections and where they occur, indicate their management;

   e) To control traffic speeds, incorporating safe pedestrian crossings to central destinations; and

   f) 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:

   a) Residential streets;

   b) The possible future bus route;

   c) The low speed environment surrounding the park; and

d) 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.

2.7.2 Sewer and Water

A. Objective

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

B. 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:

   a) A Section 73 Certificate be obtained from Sydney Water; and

   b) Compliance with build-over easement restrictions.

3) Consultation with the Office of Environment and Heritage is required prior to locating sewer and water utilities in and adjoining riparian corridors for their requirements.

2.7.3 Energy Supplies

A. Objective

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

B. 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.

2.7.4 Telecommunications

A. Objective

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

B. 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 Environment and Heritage is required prior to locating telecommunications infrastructure in and adjoining riparian corridors for their requirements.