

Table of Contents

E17 Introduction	3
E17.1 Land to which this DCP applies.....	3
E17.1.1 Aims of this Section	5
E17.1.2 Relationship to other parts of Penrith DCP	5
E17.2 Structure Plan – Orchard Hills North	6
E17.2.1 Vision	6
E17.2.2 General objectives	6
E17.2.3 Character Areas	7
E17.3 Transport, mobility and street network	10
E17.3.1 Street network	10
E17.3.2 Caddens Road.....	20
E17.3.3 North-South Road Corridor.....	21
E17.3.4 East-West Road Corridor.....	22
E17.3.5 Intersection Treatments.....	23
E17.3.6 Existing Roads – Castle Road, Ulm Road, Kingswood Road.....	23
E17.3.7 Pedestrian and cycle network	24
E17.3.8 Public Transport	25
E17.4 Public realm	26
E17.4.1 Public realm	26
E17.4.2 Active local open space	28
E17.4.3 Passive local open space	31
E17.4.4 Bushland open space.....	34
E17.4.5 Riparian corridor open space	36
E17.4.6 Biodiversity.....	38
E17.4.7 Street Furniture and public art.....	40
E17.4.8 Street landscaping	41
E17.4.9 Rural Fire Service facility	41
E17.4.10 Canopy Cover.....	42
E17.5 Residential Development	44
E17.5.1 Subdivision and neighbourhood design.....	44

E17.5.2 Site grading, earthworks and retaining walls45

E17.5.3 Developing on sloping land48

E17.5.4 General residential built form design50

E17.5.5 Residential typology and built form52

E17.5.6 Shop top housing60

E17.5.7 Dwellings located in Precinct 661

E17.5.8 Secondary dwellings.....62

E17.5.9 Dual occupancy63

E17.5.10 Multi dwelling housing63

E17.5.11 Private open space63

E17.5.12 Fencing.....65

E17.5.13 Garages, driveways, parking and access65

E17.5.14 Shared driveways67

E17.5.15 Residential amenity68

E17.5.16 Safety and surveillance69

E17.5.17 Road Traffic Noise69

E17.6 Village Centre72

E17.6.1 Urban Layout Context.....72

E17.6.2 Land use and built form.....73

E17.7 Other74

E17.7.1 Urban heat island74

E17.7.2 Water cycle management, basins and flooding74

E17.7.3 Contaminated land management76

E17.7.4 Development staging76

E17.8 References79

E17 Introduction

A. Background

This part of the Penrith Development Control Plan (DCP) 2014 is called Orchard Hills North and facilitates the sustainable development of the infill site for contemporary residential and lifestyle living, education, retail and interconnected open space on the site.

This Part is used as a guideline to facilitate development controls and objectives that are not covered by other controls within Penrith DCP 2014.

E17.1 Land to which this DCP applies

This part of the DCP applies to the land bound in red in **Figure E17.1** below.

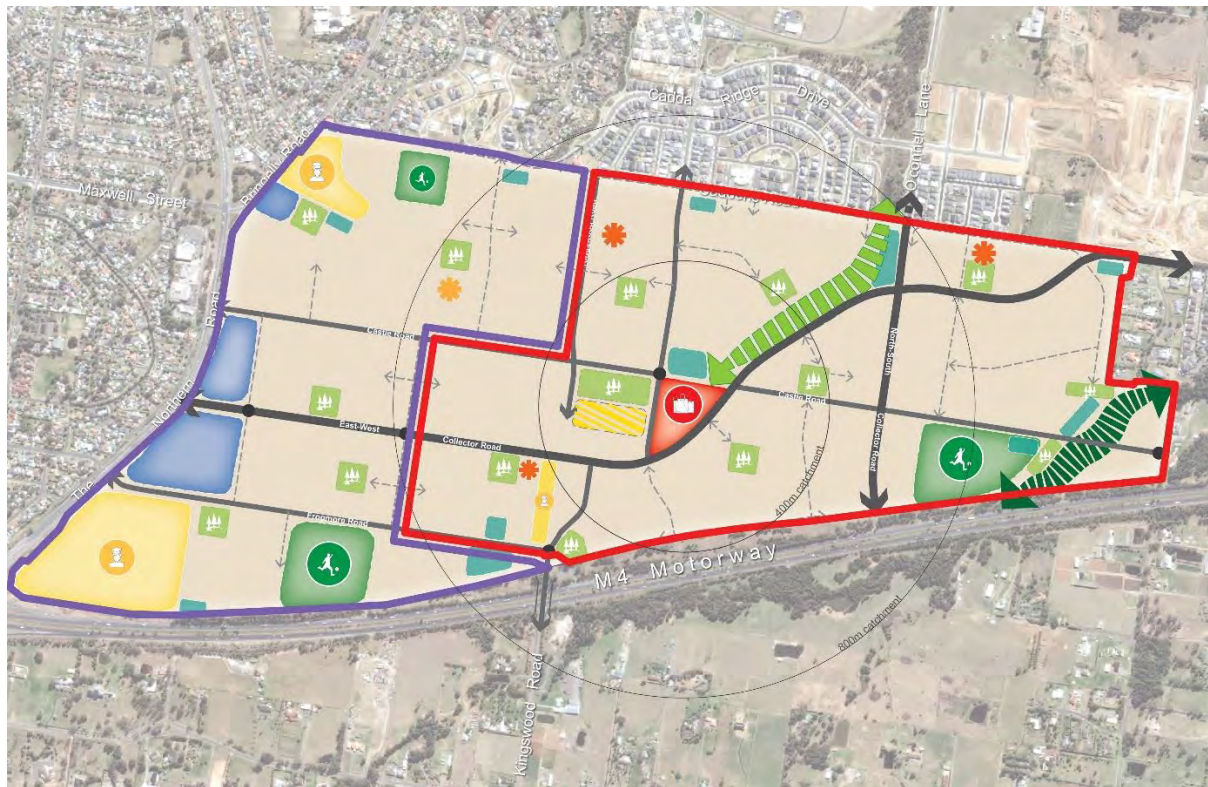
Figure E17.1: Land to which this part of the DCP applies



Source: Design and Planning

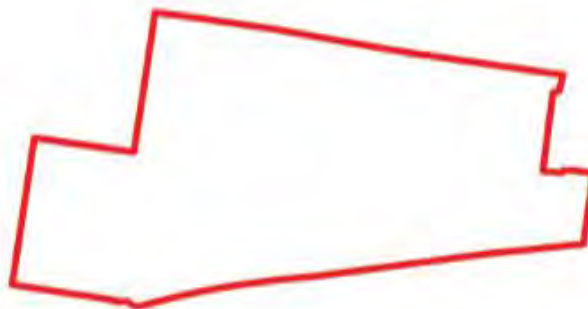
The future development of Orchard Hills North is required to take into account the broader Structure Plan. An indicative Structure Plan for the whole Orchard Hills North Precinct is provided in **Figure E17.2** below. The Orchard Hills North precinct is bound by the M4 Motorway, The Northern Road / Bringley Road, Caddens Road and land to the east, which is subject to this part of the DCP.

Figure E17.1: Orchard Hills North: Indicative Structure Plan



LEGEND

- **Area A**
- **Area B**
- Collector Roads
- Major Roads
- Village Centre
- Employment
- Residential
- Active Open Space
- Open Space
- Open Space Corridor
- Riparian Corridor
- ✱ Heritage
- ✱ Water Towers
- Basin
- Existing School
- Potential Future School



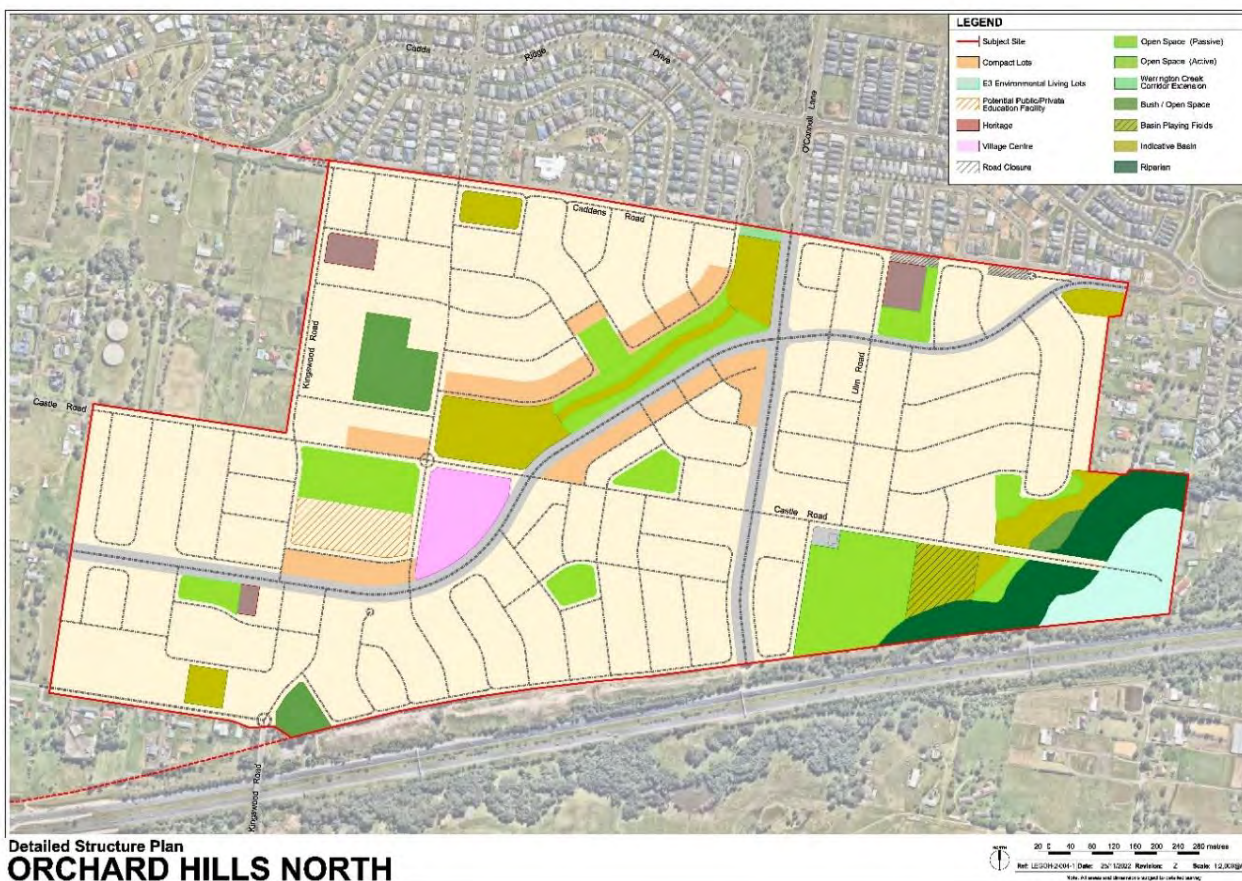
REZONING AREA (AREA A)

*Note that Area B is not subject to the proposed rezoning















Source: Design and Planning

It is important to note that this DCP only applies to the Rezoning Area (**Area A**) as shown in **Figure E17.2** above; and the Detailed Master Plan in **Figure E17.3** below.

Figure E17.2: Detailed Master Plan



LEGEND

	Subject Site		Open Space (Passive)
	Compact Lots		Open Space (Active)
	E3 Environmental Living Lots		Werrington Creek Corridor Extension
	Potential Public/Private Education Facility		Bush / Open Space
	Heritage		Basin Playing Fields
	Village Centre		Indicative Basin
	Road Closure		Riparian

Source: Design and Planning

E17.1.1 Aims of this Section

The aims of this Section are to:

Support the objectives of Penrith Local Environmental Plan 2010; and Facilitate the sustainable development of the residential, retail, open space and conservation areas of Orchard Hills North.

E17.1.2 Relationship to other parts of Penrith DCP

Part E of the Penrith DCP 2014 provides specific development controls for key precincts. This chapter should be read in conjunction with the relevant city-wide sections of the Penrith DCP 2014.

E17.2 Structure Plan – Orchard Hills North

E17.2.1 Vision

Orchard Hills North will be a residential community set amongst rolling hills in the rich natural landscape of Penrith, Western Sydney and offering panoramic views to the Blue Mountains and surrounding areas. The development will incorporate a diverse mix of housing types, focused around a new Village centre that forms the focal point of the future community and offers a high level of convenience for residents.

The overarching objective of Orchard Hills North is to provide a contemporary lifestyle supported by a wide variety of green spaces and links, connecting each of the future residential precincts with one another and to the wider regional community, thereby placing a focus on active transport such as walking and cycling.

E17.2.2 General objectives

The objectives of Orchard Hills North DCP are:

- Create a vibrant and well-connected community with a focus on enhancing the relationship with the existing place and natural characteristics of the area, the creek corridors and ridgelines.
- New development will take account of the natural topography and allow for suitably graded lots to minimise cut and fill.
- Provide diversity and good quality housing types which respond to the topography and maximise access to sunlight through suitable orientation.
- Medium density housing to be located adjacent to the central creek, the village centre and open space.
- Facilitate strong internal and external views from the site, as well as delivering strong visual linkages to surrounding established urban areas.
- Develop open space parks to enhance the existing value of the natural landscape, such as hill tops, creek lines, and the highest level of amenity for future residents.
- Provide key north-south and east west arterial road network that link the new growth area in the south and to the key university, hospital and education precinct to the north.
- Retain and realign the low-lying riparian corridor of Werrington Creek (also identified as College Creek in Council's Floodplain Risk Management Plan) as a key drainage and open space green link as a feature of the site, to manage heat island effect and facilitate pedestrian and cycle connections for the community.
- Create a green active open space edge linking the natural Claremont Creek and planned open space recreational spaces in the south east of the site.
- Create a central village centre that supports activity and convenience and connects with adjacent open space and Werrington Creek.
- Retain and restore existing significant vegetation as natural bushland parks to provide a reflection of the history of the site and to provide informal open space for the community.
- Protect and restore biodiversity and natural ecosystems within the site.
- Contribute towards the Greater Sydney Region Plan (GSRP) and Western City District Plan's (WCDP) identified target of 40% tree canopy
- Respect heritage buildings and enable their integration into the surrounding area.

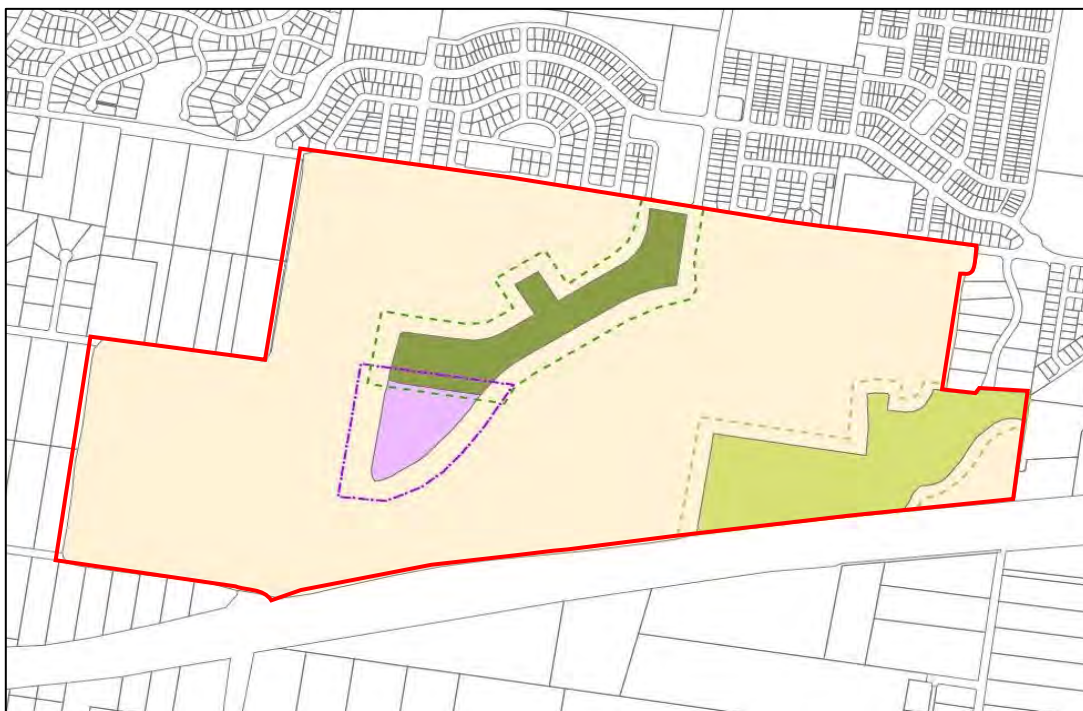
- Improve and manage water quality through water sensitive urban design, detention basins and improved water flow.
- Incorporate opportunities for the following ecologically sustainable development approaches/principles:
 - Passive design for residential development
 - Water conservation measures including potential greywater and black-water reticulation systems in the neighbourhood centre and rainwater harvesting for public open space and toilet flushing
 - Renewable energy and energy efficiency measures e.g. BASIX and LED street lighting (subject to Council approval).

E17.2.3 Character Areas

The site has key features of the landscape that influence the urban design and assist to establish a strong sense of identity for future residents.

The identified elements such as prominent ridgelines and valleys, creek lines, significant trees and view corridors together with an existing fabric of local heritage buildings create a hierarchy and contrast between the natural environment and the new urban environment. These formed the basis of the character areas shown on **Figure E17.4** below.

Figure E17.3: Character Areas



- Legend**
- Lots
 - Residential areas
 - Claremont Creek
 - Werrington Creek Corridor
 - Neighbourhood Centre
 - - - Claremont Creek Area Impact
 - - - Werrington Creek Corridor Area Impact
 - - - Neighbourhood Centre Impact

Source: WSP

Residential areas: the residential areas have a strong focus to Werrington Creek and Claremont Creek which provide the various residential areas within the Master Plan area. The residential areas will have a diversity of housing product with medium density areas focussing on the key land use features like neighbourhood centre and creek environs.

The interface with the existing residential lots to be retained through maintaining meaningful transitions to the future urban environment. This attention to interface treatment ensures that visual connection to amenity spaces can be maintained and enabling people to comfortably integrate with public spaces.

Objectives and attributes

- Allow for a variety of housing types suitable for small and large lots.
- Allow for passive surveillance of the open space areas.
- Allow for the integration of the existing housing with other contemporary housing types
- Residential areas provide for key view corridors within and external to the site.
- Provide medium density housing within or in close walking distance (i.e. 400 – 600 metres) of the neighbourhood village centre.

Claremont Creek Area: the eastern precinct which includes an integration of active playing fields adjacent to Claremont Creek provides a high level of amenity and attraction for the residents, as well as creates amenity for the large residential lots with high quality housing to the east of the creek.

Objectives and attributes

- Create a green active open space edge linking the natural Claremont Creek and planned open space recreational spaces in the south east of the site.
- Develop open space parks to enhance the existing value of the natural landscape of Claremont Creek and the highest level of amenity for future residents.
- Improve and manage water quality through water sensitive urban design and improved water flow.
- Allow for passive surveillance of the open space areas by maintaining the interface with adjacent housing.

Neighbourhood Village Centre: a local centre precinct which is to provide everyday convenience to the community, reinforced by compatible surrounding land uses including more compact housing forms to capitalise on the amenity created together with an adjacent primary school and the central riparian corridor which will provide pedestrian and cycleway connections through the centre of the development and to the adjoining Caddens development. The local centre will also offer a range of employment opportunities for new residents and the surrounding community.

Objectives and attributes

- Supports activity and connects with adjacent open space areas and Werrington Creek.
- Encourages mixed use development to foster a lively, human scale environment, active street frontages and improvements to pedestrian linkages throughout the centre.
- Provides on and off-street parking in suitable locations to enhance the centre as a general destination rather than a predominantly car-dependent retail venue.
- Encourages night-time activities such as restaurants, outdoor cinema and a range of community facilities to enliven the centre.

Werrington Creek Corridor Area: this is the low-lying precinct within the site, where it is important to protect and retain Werrington Creek riparian corridor and vegetation as a key drainage and open space green link of the site. The environmental and spatial qualities of the creeks contribute to the creation of a sustainable residential community that is connected to the environment.

Objectives and attributes

- Minimise heat island effect and facilitate pedestrian and cycle connections for the community by protecting the existing vegetation.
- Consider opportunities for passive recreational pursuits.
- Improve and manage water quality through water sensitive urban design and improved water flow.
- Create active open space areas and recreational spaces to support the medium density housing along the creek.
- Link the creek to the neighbourhood village centre through natural landscape and open space areas.

E17.3 Transport, mobility and street network

E17.3.1 Street network

Objectives

- a. To create a hierarchy of streets to encourage safe and efficient movement through and within the site and connect with adjacent collector routes and neighbouring streets to maximise movement efficiency.
- b. Streets should be visually contained to promote steady, predictable traffic speeds by:
 - Clearly defining the boundary between pedestrian, cycle and vehicle zones.
 - Providing on-street parking.
 - Planting street trees at regular spacing within the verge and median islands.
- c. Provide convenient, safe and publicly accessible bicycle and pedestrian paths.
- d. Provide convenient and functional public transport routes.
- e. Plant street trees to create “cool” streets and assist to minimise the heat island effect.
- f. Street network is functional and responds to the prevailing topography, desirable views and safety for vehicles.
- g. Bus routes along east-west and north-south routes shall be identified, subject to consultation with the relevant authorities (e.g. TfNSW and Council).
- h. To enhance the biodiversity benefits of the street network.

Controls

1. A hierarchy of streets should reflect the function and traffic load of each street in a network, minimise travel distances, maximise access to facilities and services and assist people find their way. The street network and road hierarchy is to be in accordance with **Figure E17.5** below.
2. Where any variation to the residential street network indicated in **Figure E17.5** is proposed, the street network is to be designed to achieve the following principles:
 - a. Establish a direct and open network based on a modified grid system;
 - b. Encourage walking and cycling and reduce travel distances;
 - c. Maximise connectivity between residential areas, open space, community facilities and the Village centre;
 - d. Align with the 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.
3. Streets are to be provided in accordance with the cross sections in **Figures E17.6 – E17.12** below. The dimensions shown on these diagrams are minimums only. In terms of the existing Caddens Road, Kingswood Road, Ulm Road, Frogmore Road and Castle Road, the relevant local road cross section is to be adjusted to provide for landscaped verges to fill the existing road corridor width, if required.
4. Split-level roads are provided as local roads if topographical constraints allow and shall provide wider verges in order to enhance biodiversity values, accommodate additional landscaping as well as pedestrian and vehicular safety barriers. No locations for these are specifically

nominated, but the form is provided if required to be implemented to assist in “taking up grade” across a development site.

5. The minimum median width of split-level roads should be 8.0m to allow landscaping and safety barriers.
6. Retaining walls for split level roads shall be full masonry construction and no timber is to be used.
7. The street design has taken into consideration the existing topography and vegetation.

Figure E17.4: Road Hierarchy Plan



* VARIABLE VERGE WIDTH WHERE EXISTING ROAD RESERVE IS GREATER THAN NOMINATED ROAD WIDTH.

Source: J Wyndham Prince

8. Traffic management and provision of infrastructure should be in general accordance with the “Orchard Hills North Rezoning – Traffic Management and Accessibility Plan” by SCT Consulting (April 2021).

9. Clear delineation is provided between where vehicles can be parked, cyclists can ride and where pedestrians should walk.
10. Walking and cycling paths are to be integrated with the road reserve and open space network.
11. Where the provision of parking “lanes” is included in the street reserve width, they are line-marked as parking bays.
12. Speed control devices are to be provided to achieve target speeds, where required. Any speed control devices, inclusive of road narrowing, are to be designed to take into account the needs of cyclists.
13. Design details such as footpath and driveway crossovers are uniformly applied to make the street character more consistent.

Table E17.1: Road typologies

Street/Road Type	Verge	Road	Median	Road	Verge	Road Reserve	Parking	Pathways	Figure Ref
Split-level	4m	6m	8m	6m	4m	28m	2.5m x 2*	1.5m x 2	Figure 6
Caddens Road	5.5m**	6m (south side)	N/A	3.5m (north side)	4m**	19m+	2.5 x 1*	1.5m x 2	Figure 7
North-South Road	5.8m	9m***	5m	9m***	4.8m	33.6m	N/A	2.5m x 1 1.5m x 1	Figure 8
East-West Road [Western Section]	4.8m****	7m	5m	7m	5.8m	29.6m	N/A	1.5m x 1**** 2.5m x 1	Figure 9
East-West Road [Eastern Section]	4.8m	7m	N/A	7m	5.8	24.6m	3.5m x 2*	1.5m x 1 2.5m x 1	Figure 10
Major Local Road	4m	6m	N/A	6m	5m	21m	2.5m x 2*	1.5m x 1 2.5m x 1	Figure 11
Minor Local Road	3.5m	4.5m	N/A	4.5m	3.5m	16m	2.5m x 2*	1.5m x 2	Figure 12

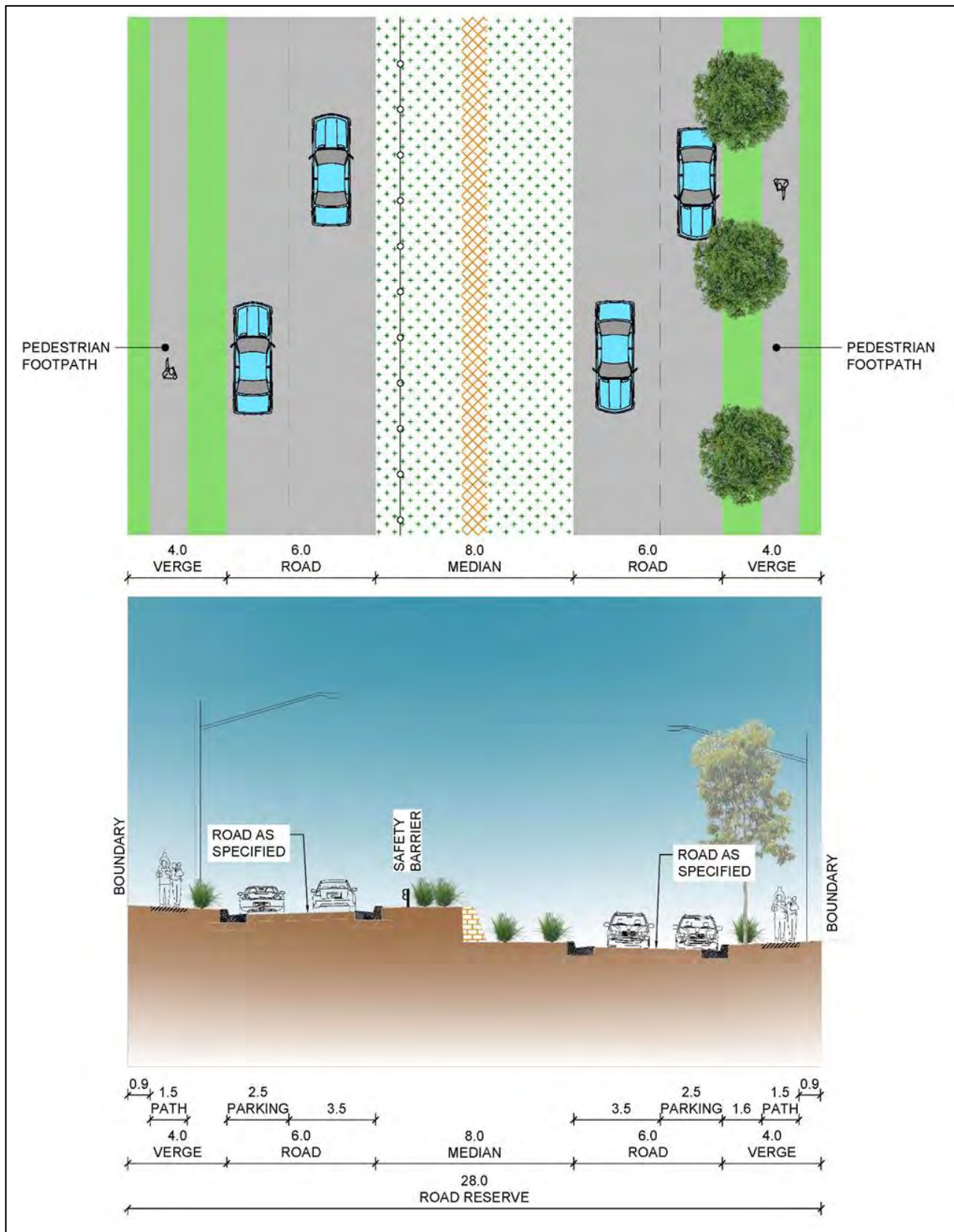
* parking lane within road – refer relevant figures.

** verge variable width

*** includes 2m x 2 on-road cycle lane.

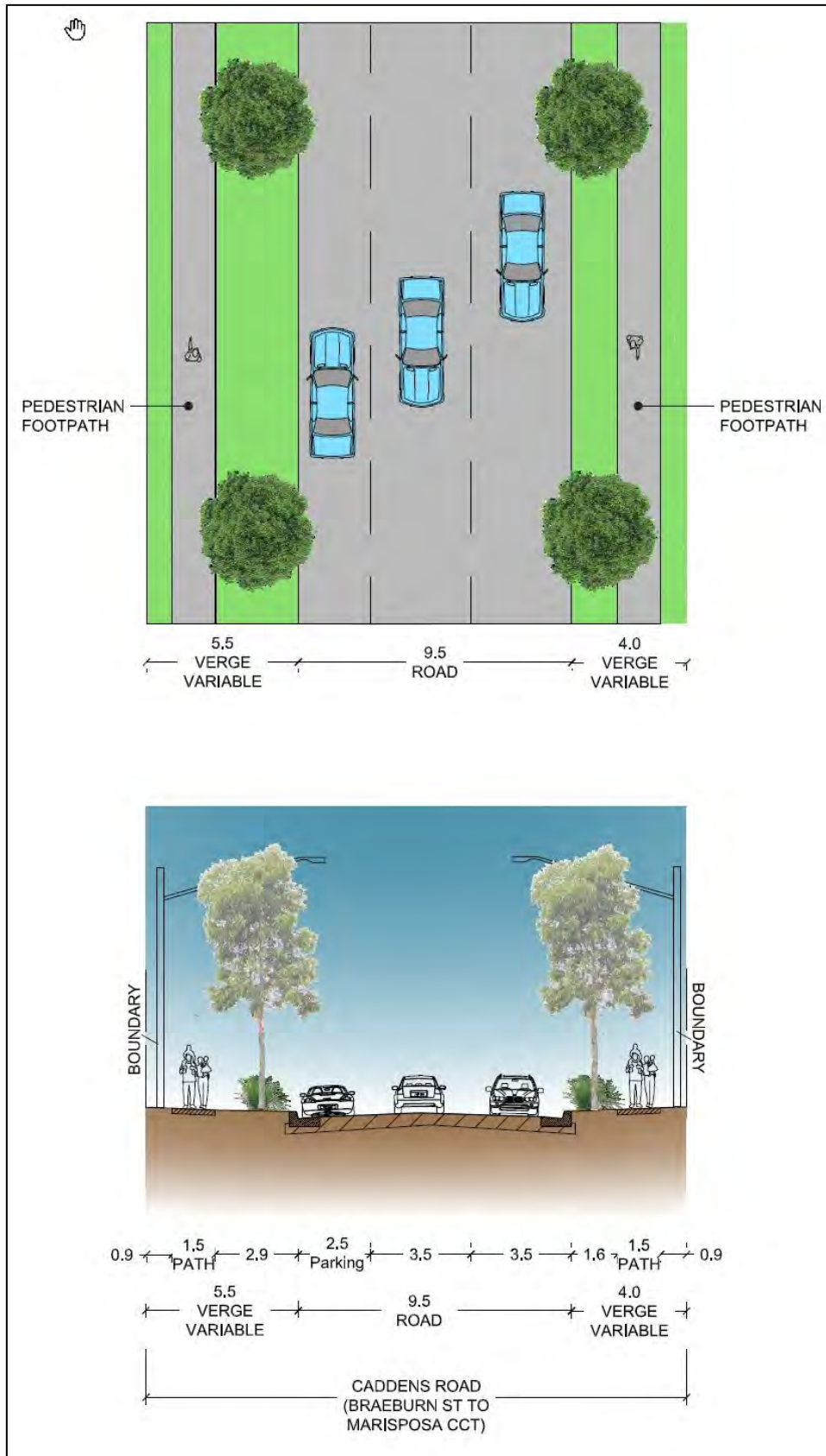
**** where road adjoins Werrington Creek riparian corridor

Figure E17.5: Typical street cross section - Split-level road



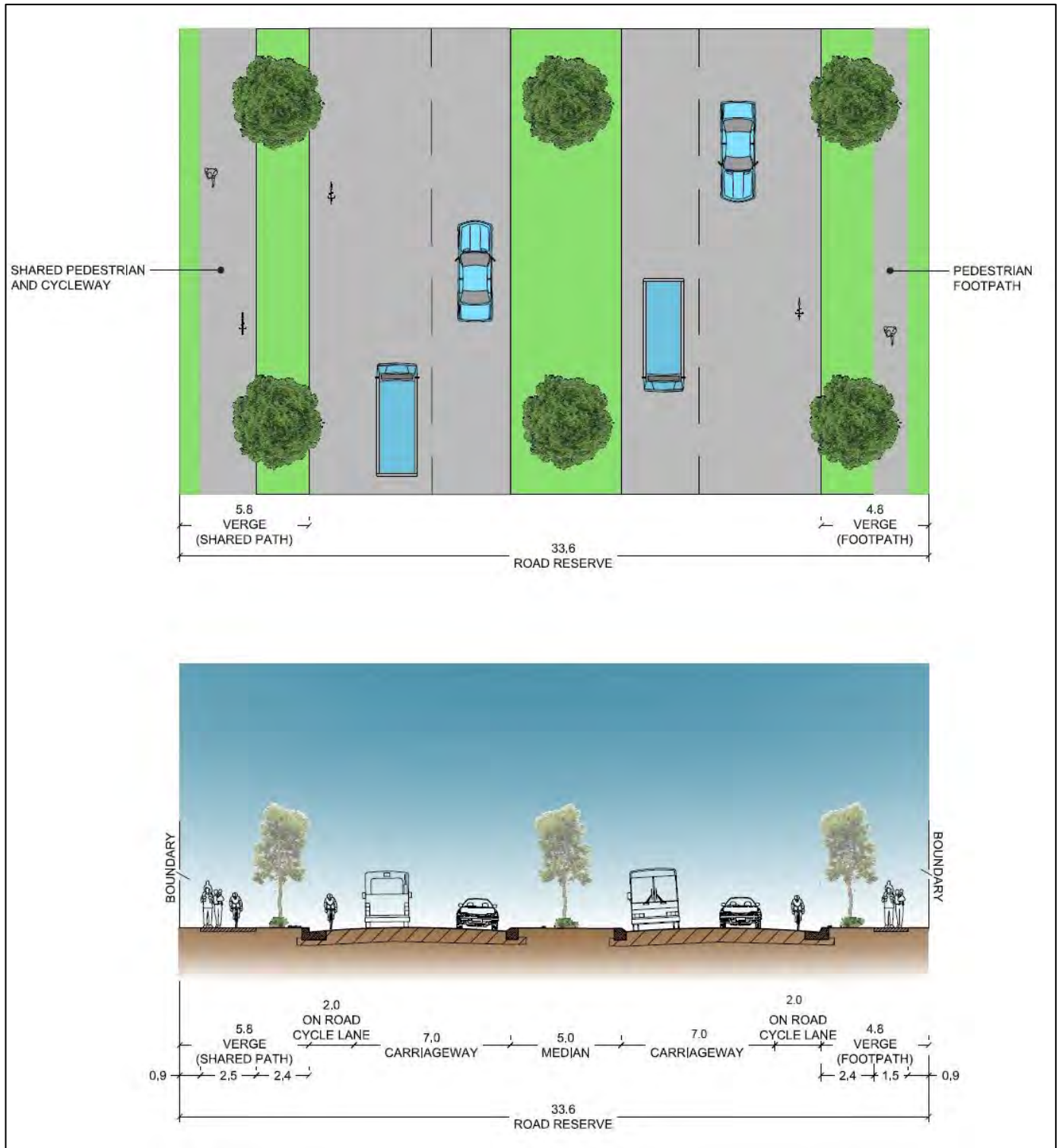
Source: J Wyndham Prince

Figure E17.6: Typical street cross section – Caddens Road



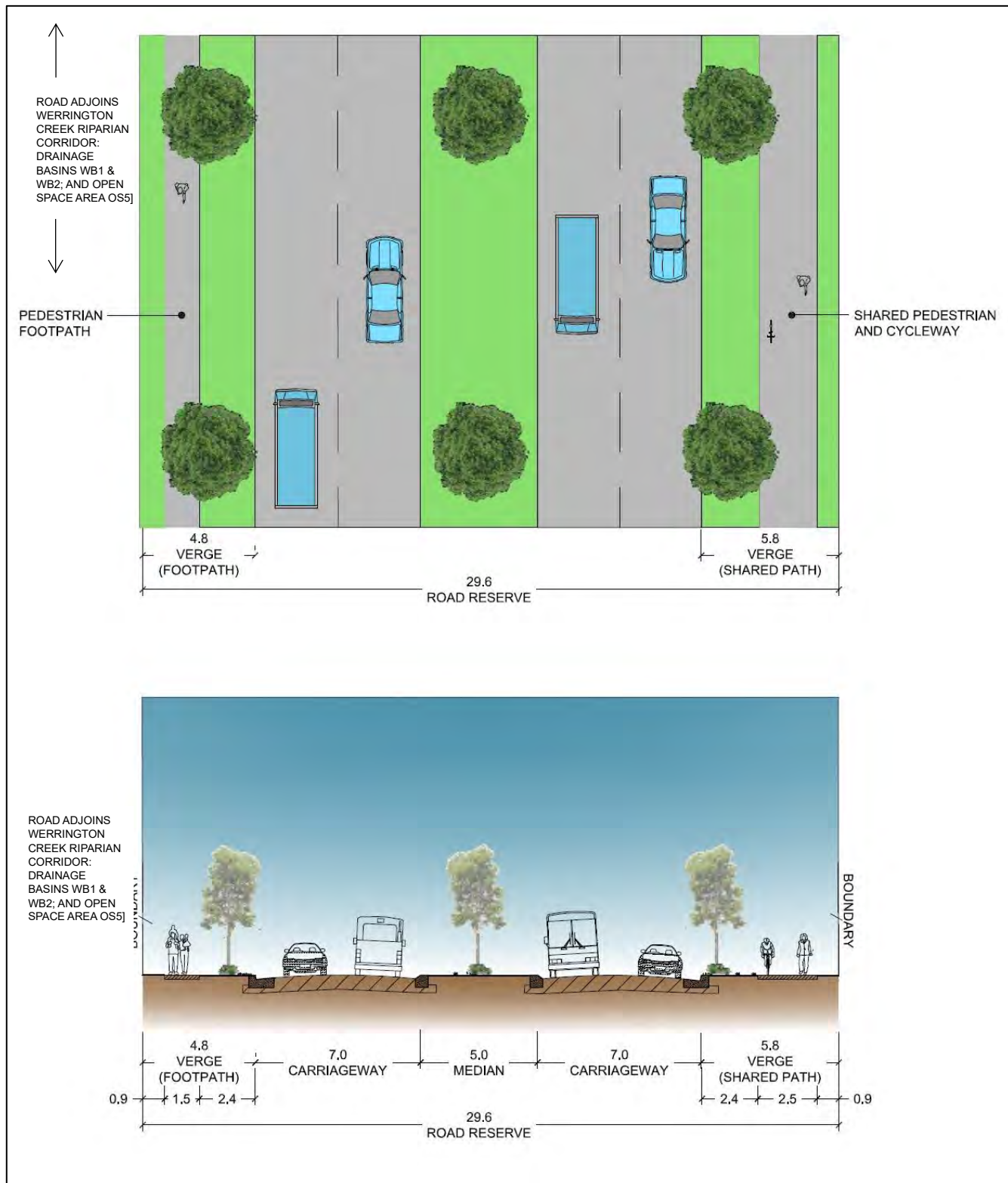
Source: J Wyndham Prince

Figure E17.7: Typical street cross section – North-South Road



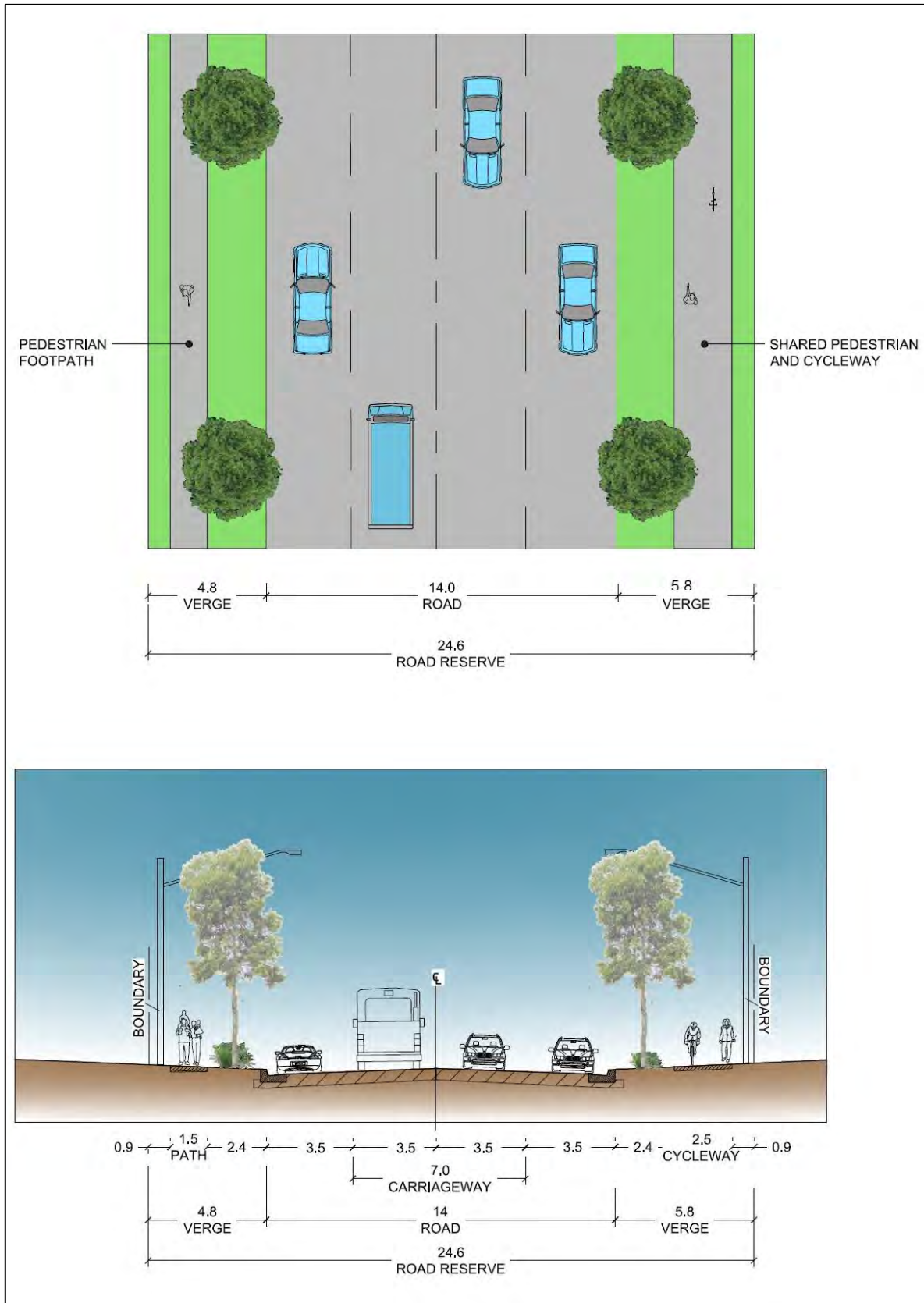
Source: J Wyndham Prince

Figure E17.8: Typical street cross section – East-West Road (Western Section)



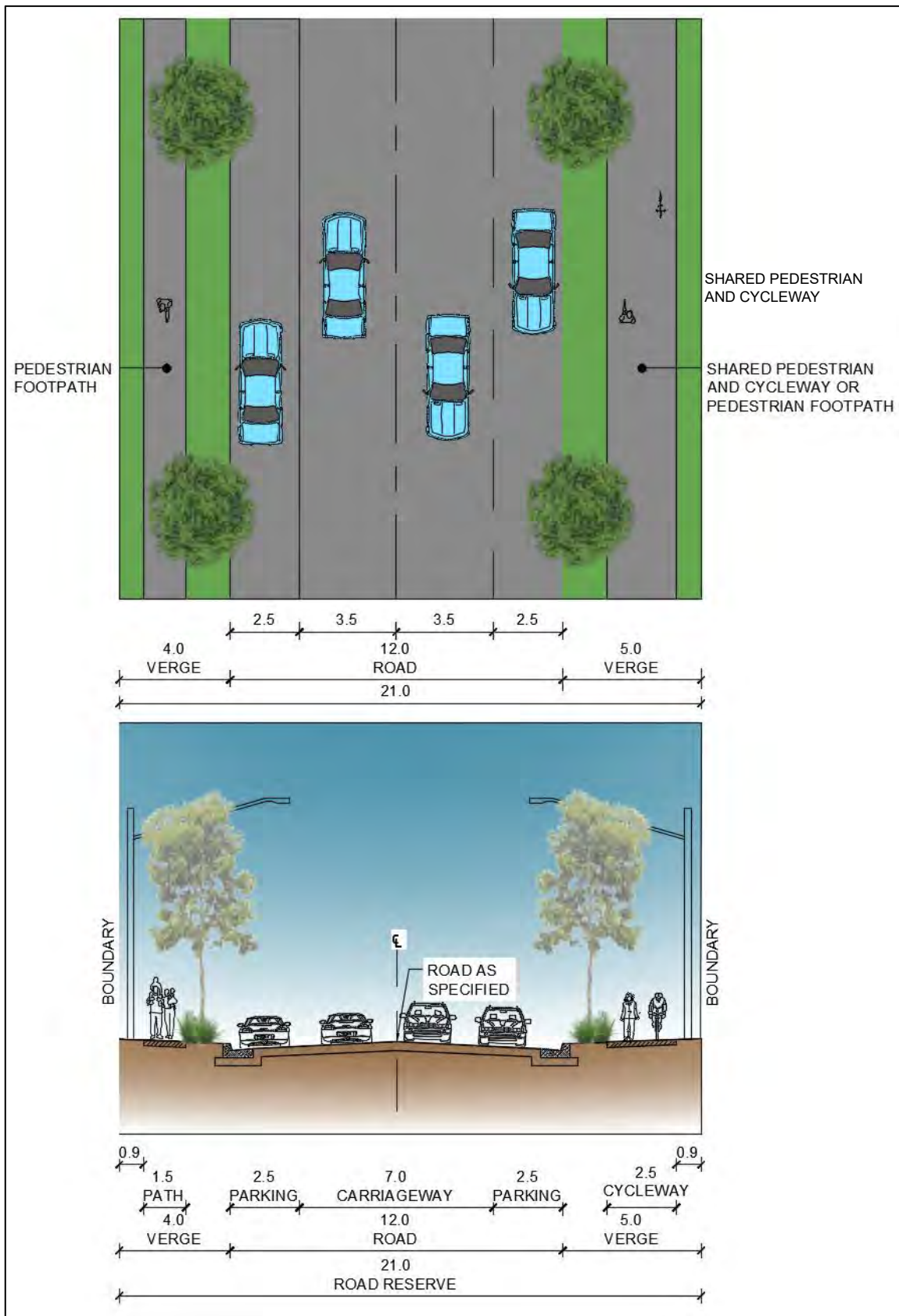
Source: J Wyndham Prince

Figure E17.9: Typical street cross section – East-West Road (Eastern Section)



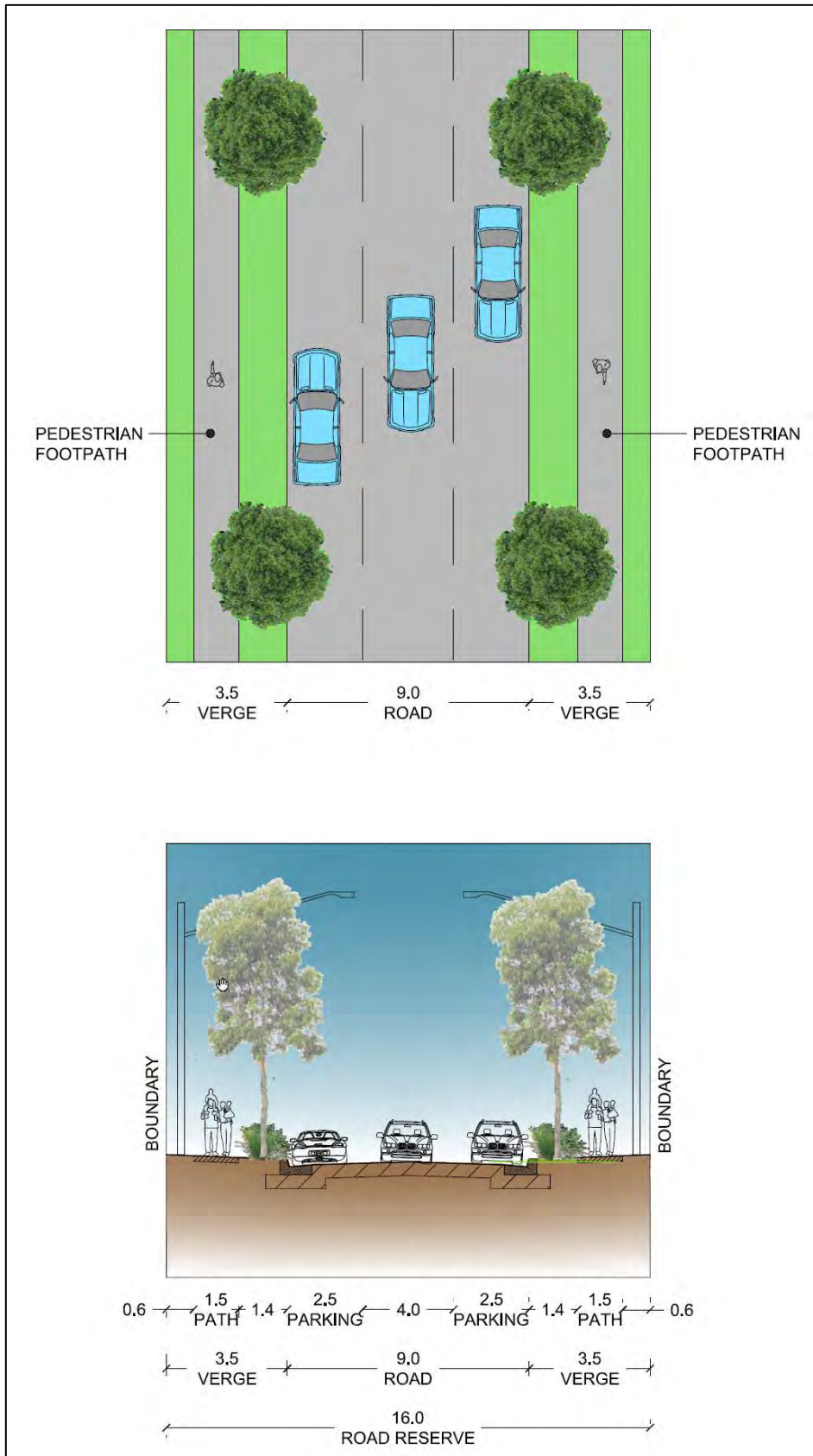
Source: J Wyndham Prince

Figure E17.10: Typical street cross section – Major Local Road



Source: J Wyndham Prince

Figure E17.11: Typical street cross section – Minor Local Road



Source: J Wyndham Prince

E17.3.2 Caddens Road

The existing Caddens Road is a rural road located along the northern boundary of the Orchard Hills North development. With the reconfiguration of the road network to focus through traffic on the East-West Road (within Orchard Hills North) and Cadda Ridge Drive (within Caddens), the role of Caddens Road will be predominantly retained as a moderately low volume local road. Notwithstanding this, Caddens Road is an important servicing corridor which carries significant utility services owned by a number of service authorities, which should be maintained.

As part of the Orchard Hills North development, full construction and/or reconstruction will be required for portions of Caddens Road (as set out below). The extent of works includes full width pavement reconstruction, stormwater drainage and kerb and gutter to both sides of the road and intersections. The works shall include appropriate street lighting, footpath construction and street trees. The works required for the northern side of the road and fronting the detention basins are incorporated into the Section 7.11 Contributions Plan. Works on the southern side of the road are at the cost of the adjacent development.

Objectives

- a. Maintain the servicing corridor along Caddens Road to provide authorities with unrestricted access to their assets.
- b. Improve the safety and amenity of Caddens Road between the two intersections with Cadda Ridge Drive.
- c. Upgrade Caddens Road as a local road within the broader road network that allows for access onto it.

Controls

1. For the various sections of Caddens Road, the following specific controls will apply:
 - a. Kingswood Road to Braeburn Street – maintain the existing kerb and gutter on the north side and undertake half road reconstruction on the south side (with all other appropriate works as indicated above).
 - b. Braeburn Street to Mariposa Circuit – full reconstruction introducing appropriate priority adjustment at intersections and traffic calming measures to ensure that high speed travel is minimised. The alignment of the road within the existing 21m road reserve should be generally closer to the southern boundary.
 - c. O’Connell Lane to Ulm Road – reconstruction as Local Minor Road as shown in the Road Hierarchy Plan with no intersections to O’Connell Lane. The alignment within the existing 21m road reserve should be generally closer to the southern boundary to provide clearer access to the major services.
2. The works in Caddens Road shall be undertaken in conjunction the works in the adjacent subdivision immediately to the south of that portion of Caddens Road.
3. Embellish through landscaping the closed portion of Caddens Road immediately to the east of Ulm Road and fronting Lot 1 DP583439 and maintain access to Lot 1 by providing a driveway within the road closure. Timing: This should be undertaken in conjunction with the timing of the adjacent subdivision works immediately to the south of that portion of Caddens Road.
4. Provide two new accesses:
 - a. The eastern end near Hermitage Court (to access existing Gipps Street)
 - b. The western end near Cadda Ridge Drive (to access existing Bringelly Road / The Northern Road).
5. Street trees to be provided along the road reserve.

E17.3.3 North-South Road Corridor

The North South Road will be built in two distinct phases: an initial **Interim Phase**, which will service the development of Orchard Hills North; and a longer term **Ultimate Phase**, which will service the broader subregion and supports movement to and from the future Orchard Hills South area and the educational and health specialist precinct in the north.

Objectives - Interim Phase

- a. Create the first portion of a major north-south link road that supports movement within Orchard Hills North

Controls - Interim Phase

1. An initial element of the North-South Road to the north of the East-West Road will be constructed as part of the Orchard Hills North development;
2. The North-South Road is to initially form a connection between O'Connell Lane at Caddens Road and the East West Road;
3. In its initial form, the road shall comprise 3 x travel lanes: 2 x lanes travelling north and 1 x lane travelling south;
4. The road reservation for the interim solution is to provide sufficient width for the delivery of the ultimate North South Road ;
5. No direct driveway access is to be permitted from the North-South Road (Interim Phase);
6. The section of the North-South Road to the south of the East-West Road is not required as part of the Orchard Hills North development, but the land is to be preserved for future works. The design of the subdivisions adjacent to this section of road reservation must take account the potential future construction of this road.

Objectives - Ultimate Phase

- a. The North-South Road is to ultimately form a connection between O'Connell Lane at Caddens Road (and beyond - to the north) and the M4 Motorway (and beyond - to the south);
- b. The Orchard Hills North development is to assist in the creation of the ultimate phase of a major north-south link road that supports movement to and from the future Orchard Hills South with the educational and health specialist precinct in the north.

Controls - Ultimate Phase

1. Within Orchard Hills North, the road reservation for the ultimate solution of the North South Road is to provide sufficient width for 4 x travel lanes, a central median and 2 x cycleways – in accordance with **Figure E17.8** above;
2. No driveway access is to be permitted from the North South Road (Ultimate Phase);
3. The section of the North-South Road to the south of the East-West Road is identified as a longer term strategic transport corridor and is to be preserved for future works.
4. The design of the subdivisions adjacent to this section of road reservation must:
 - a. take account the potential future construction of this road;
 - b. confirm the route alignment of the North-South Road; and
 - c. confirm the boundaries of any M4 Western Motorway bridge abutments on the southern boundary of the site

5. When constructing the North-South Road (Ultimate Phase) the relevant delivery authority will need to take account of the road reservation width identified in **Figure E17.8** above and take account of the potential impact on adjoining properties (residential and open space), in terms of:
 - a. Minimise the requirement for additional lands;
 - b. Minimise to loss of significant vegetation;
 - c. Riparian integrity, drainage / overland flows;
 - d. Possible over-shadowing; and
 - e. Acoustic impact.
6. Should the North-South Road (Ultimate Phase) be approved, designed and constructed prior to the residential subdivision along its western and/or eastern boundary, then the relevant applicant for the residential subdivision and associated works will need to take account of the potential impact on adjoining properties (residential and open space), in terms of:
 - a. Any required amendments to the proposed local road network;
 - b. Riparian integrity, drainage / overland flows;
 - c. Possible over-shadowing; and
 - d. Acoustic impact.

Note: Refer also to Section E17.5.17: Road Traffic Noise

E17.3.4 East-West Road Corridor

Objectives

- a. Create the first portion of a major east-west road that supports movement though the site, from The Northern Road to Kent Road/Gipps Street.

Controls

1. The East-West Road will ultimately connect between The Northern Road in the west with the intersection of Caddens Road/Cadda Ridge Drive to the east.
2. The Road is to provide a road reservation for 4 lanes, median and footpath and shared cycleway (refer to **Figure E17.9** and **Figure E17.10** above)
3. No driveway access is to be provided from the East West Corridor (west of the North-South Road/O'Connell Lane extension).
4. To facilitate effective development patterns, interim road connections from new local streets may be provided to the East-West Road with all movements permitted.

E17.3.5 Intersection Treatments

Objectives

- a. To ensure that the intersection treatments provide safe intersections and clear way-finding within the estate.

Controls

1. The intersection of any Minor Local Road and a Major Local Road shall give priority to the Major Local Road.
2. The intersection of East-West Road with the North-South Road shall be designed to take account of the future signalisation of the “T” intersection. Initially it shall be operated as a priority control “Give Way” (subject to detailed traffic assessment at the time of its construction).
3. All intersection designs shall comply with the standard engineering practice and traffic requirements.
4. Where roundabouts are shown on the structure plan, they shall be designed to accommodate suitable pedestrian/cyclist crossings.
5. Traffic management at the intersection of the east-west road and retail centre is to include traffic control measures, including a roundabout.

E17.3.6 Existing Roads – Castle Road, Ulm Road, Kingswood Road

Objectives

- a. Maintain these existing roads as a local major road form through the development.

Controls

1. The existing roads are to be reconstructed in association with the adjacent residential subdivision. Where development is planned for on both sides of the road, the works are to provide for half road construction with kerb and gutter, stormwater drainage, footpath, street trees and street lighting, in conjunction with the development on that side of the road.
2. Where these roads are indicated as Major Local Roads in the Road Hierarchy, the verge widths will be adjusted to maintain the existing road reserve width (where the nominated width in **Figure E17.11** is wider than the existing road reserve).
3. For Castle Road (west of Kingswood Road to the boundary of the Orchard Hills North Precinct – approximately 350m) and Kingswood Road (between Castle Road and Caddens Road – approximately 490m) the upgrades shall include full width construction. The northern side of Castle Road and the western side of Kingswood Road in these sections are included within the Orchard Hills North S7.11 CP.
4. Between Castle Road and the East-West Road, Kingswood Road will be widened to the nominated Major Local Road width and formation.
5. North of the East-West Road, Ulm Road is nominated as a Minor Local Road and the verge widths will be widened appropriately (with no reduction in overall existing road reserve).

E17.3.7 Pedestrian and cycle network

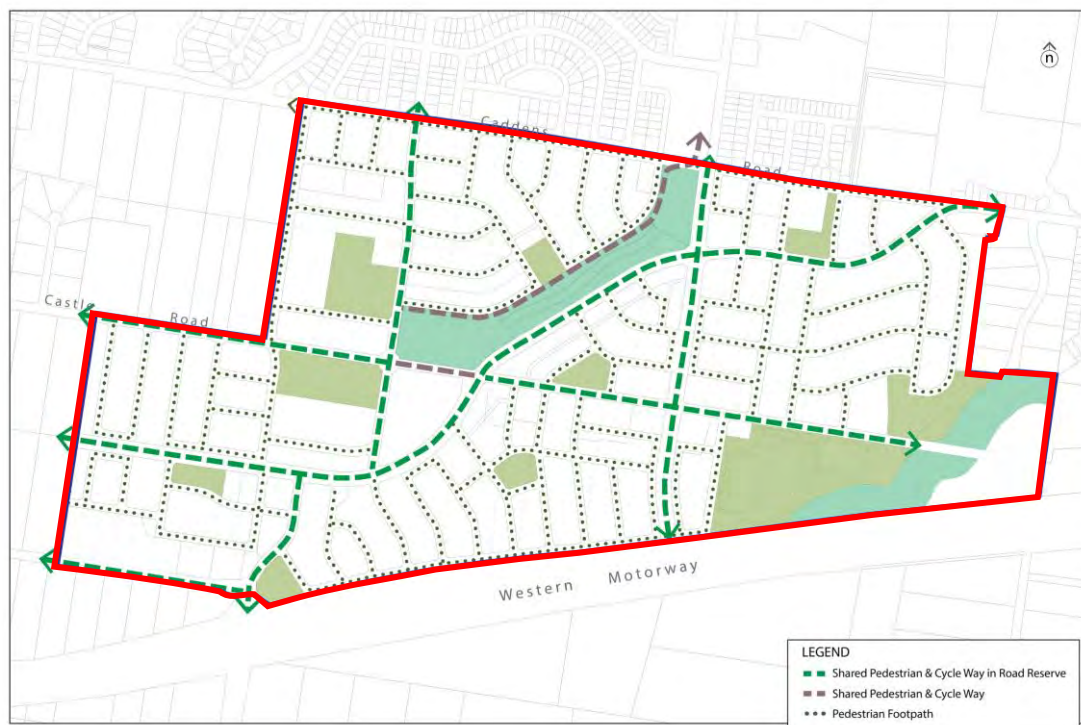
Objectives

- To promote active transport options by providing safe and convenient routes to and from key focal points within the site and beyond to existing and/or new connections.
- To provide convenient, safe and publicly accessible bicycle/pedestrian paths so to promote an active and healthy lifestyle.
- To provide a connection to the Caddens development to the north

Controls

- Key pedestrian and cycleway routes are to be provided generally in accordance with **Figure E17.13** below.
- The minimum width of off-street shared cycle and pedestrian pathways is to be 2.5m.
- The minimum width of pedestrian footpaths is 1.5m.
- All pedestrian and cycleway routes and facilities are to be consistent with the Planning Guidelines for Walking and Cycling (DOP & RTA 2004).
- Pedestrian and cycle routes and facilities in public spaces are to be safe, well lit, clearly defined, functional and accessible to all.
- 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.
- Pedestrian and cycle pathways are to be constructed as part of road infrastructure works with detailed designs to be submitted with DAs.

Figure E17.13: Pedestrian and Cycle Network Plan



Source: Design and Planning

E17.3.8 Public Transport

Objectives

- a. To promote the use and expansion of public transport opportunities through the site
- b. To ensure clear and safe pedestrian links to public transport stops.
- c. Allow for the majority of residential lots to be within 400m walking distance from an existing or proposed bus stop.

Controls

1. As per the standard approach by TfNSW for greenfield residential development, the location and number of bus stops/shelters will be determined in consultation with the relevant authorities (e.g. TfNSW and Council). A minimum carriageway width of 3.5m is to be provided along all bus routes and roundabouts on bus routes are to be designed to accommodate bus manoeuvrability.
2. Bus stops are to be provided on-street with shade. Bus shelters are to be provided at all bus stops and installed at the subdivision construction stage.
3. Subject to consultation with the relevant authorities (e.g. TfNSW and Council), every bus stop along east- west and north-south routes shall be provided with bus shelters.
4. Bus stops are to be located in areas of high pedestrian and vehicle activity and designed to ensure a high level of passive surveillance, such as north south link and east west road, and at the Village centre.
5. Bus stops are to be compliant with the Disability Discrimination Act 1992 and installed at subdivision construction stage
6. The location of bus stops is to achieve a high level of access to key places of interest such as the Village Centre, Claremont Creek corridor and playing fields, as well as surrounding residential and commercial development.
7. Pedestrian Connections and Bicycle Facilities are to be provided in accordance with the Transport, Access and Parking Section of the Penrith DCP.
8. A Travel Plan shall be developed and monitored for the Orchard Hills North development. The Travel Plan will include key initiatives and measures designed to reduce the need to travel, re-think the mode of travel and to re-time and re-route journeys. Special emphasis shall be placed on active travel options (eg walking and cycling) and trips to / from the proposed primary school and the Village Centre. The Travel Plan is required to be lodged with the subdivision DA for the proposed public primary school site and/or the Village Centre site.

E17.4 Public realm

E17.4.1 Public realm

Objectives

- a. The public realm spaces shall comply with the NSW Government Architect Greener Places, draft Greener Place Design Guide and the Penrith Sport and Recreation Strategy.
- b. Create a strong integrated landscape network that capitalises on the sites' physical attributes, heritage values and integrates street landscaping with public open space areas.
- c. Preserve and enhance existing areas of significant ecological value such as riparian corridors, wetlands and habitat vegetation and integrate them into open space areas where possible.
- d. Capitalise on the views and vistas shaped by the existing topography to create a variety of spatial experiences that exploit view opportunities from and within the site.
- e. Provide a diverse mix of open space and public domain amenity for the community, with active open spaces and well embellished local parks.
- f. Open space should be provided on or along ridge line high points to enhance the ridgeline vegetation and preserve views.

Controls

1. A concept landscape master plan is to be provided for the site with the first development application and detailed with each separate development application a landscape plan for each of the public realm areas. An indicative landscape master plan is shown at **Figure E17.14** below.
2. The riparian park and detention basins are to be located within low lying areas and should include the integration of rain gardens and detention basins within these parkland environments with WSUD principles.
3. Maintain and improve the existing stands of threatened ecological communities, namely the Cumberland Plain Woodland (CPW) in the Riparian Park and the Sydney Coastal River Flat Forest (SCRFF) along the riparian corridor by incorporating and consolidating the existing vegetation into the landscaped open space.
4. The location of furniture and facilities are to consider Crime Prevention through Environmental Design (CPTED) Principles and passive surveillance is achieved.
5. Provide for the location and quantity of public open space in general accordance to **Table E17.2** below.

Table E17.2: Quantum of open space/public realm

Land use	Approximate area (hectares)
Active Open space	7.26
Passive Open space	8.51
Total	15.77

Figure E17.12: Public Realm: Indicative Landscape Master Plan



Legend

- Residential Land
- Landscape Area
- Site Boundary

Source: Place Design

E17.4.2 Active local open space

Objectives

- a. To provide for the active recreational district park facilities to support an active and healthy lifestyle of the community.
- b. To provide one primary multipurpose sporting and recreational activities open space that reflects seasonal demands.
- c. Active playing areas are provided with facilities and infrastructure to support various sporting events, including amenities for spectators.
- d. Active playing areas are differentiated as separate places by plantings, paths and other landscape elements.
- e. Connect the active open space areas with the broader site through a network of pedestrian and cycle pathways.
- f. To include gender friendly and accessible facilities that support training, competition and events.
- g. Define the interface between the active local open space areas and the residential lots to benefit passive surveillance while maintaining the amenity of the residents.
- h. Ensure better maintenance and orderly conservation of active open space areas by encouraging the frequent use of these spaces by the residents and visitors.

Controls

1. The active sports field should provide for two playing fields with an oval overlaid, car parks and amenities for spectators and users, and may encroach, to the satisfaction of council, into the riparian corridor as outlined in **Figure E17.15**.
2. An amenities building of a minimum 557m² (inclusive of 50m² covered area) in size is to be provided that is accessible and gender friendly.
3. All Playing Fields must be floodlit consistent with the OHN Open Space Strategy.
4. Sports fields must be level and have no slopes greater than 1:100 for active use areas.
5. The active open space sport fields should include automated subsurface irrigation as well as harvesting and reuse of stormwater as outlined in the OHN Stormwater Strategy.
6. Ensure passive surveillance of active open space areas is provided by maintaining visual connection between adjoining uses.
7. Facilitate pedestrian access and public use of the active open space areas through the provision of suitable lighting and accessible footpaths to inspire the sense of ownership and belonging.
8. A Ball Stop Fence shall be provided in front of Claremont Creek.
9. Develop the pedestrian and active cycle network as outlined in **Figure E17.16**.

Figure E17.13: Active Local Open Space

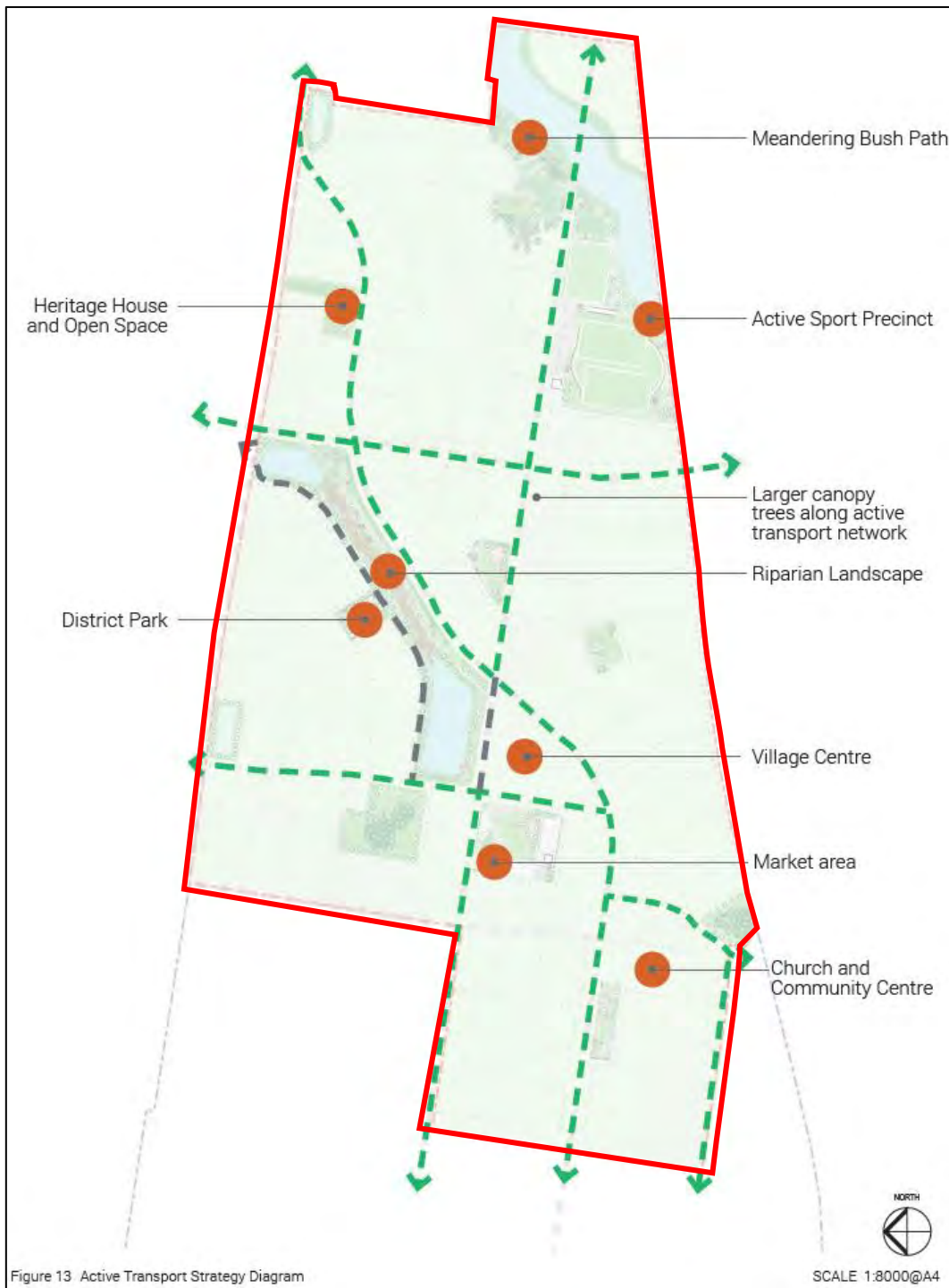


Legend

- Residential Land
- Landscape Area
- Site Boundary

Source: Place Design

Figure E17.14: Pedestrian and Active Pathway Network



Legend

- Shared Pedestrian & Cycle Way in Road Reserve
- Shared Pedestrian & Cycle Way
- Pedestrian Footpath

Source: Place Design

E17.4.3 Passive local open space

Objectives

- a. Local open spaces will be designed with the NSW Government's best practice inclusive play guidelines 'Everyone Can Play'.
- b. To create accessible and a diversity of public open spaces that provides both passive and informal active open spaces.
- c. Retain, within the identified bushland open space areas, existing vegetation so to conserve the natural features of the park, and supplement with suitable complementary plantings.
- d. To provide high amenity areas for adjacent residential development.
- e. Parks are to be located as focal points within residential neighbourhoods and be designed with facilities to accommodate a range of age groups and abilities, as outlined in **Figure E17.17**.
- f. Local open space creates linkages with the broader pedestrian and bicycle networks.
- g. Where open space areas adjoin heritage items, their relationship should be considered and reflected in the design and use of the open space area.

Controls

1. Where possible, passive local open space should be co-located with community and education facilities, be highly accessible and linked by pedestrian and / or cycle routes
2. Local open space should be bordered by streets on all sides with houses oriented towards them for surveillance
3. Ensure surveillance of passive open space areas is provided by maintaining visual connection between adjoining uses and the provision of suitable lighting.
4. Preserve the curtilage of heritage items adjoining the open space areas by maximising surveillance of the heritage buildings through more pedestrian movement in the vicinity and around the sites.
5. Parks integrated with the natural landscape should allow for active and passive use and achieve NSW Government "Everyone Can Play Guidelines".
6. Parks should be provided with trees and shade structures/sails and be designed to take into account the hot days through the selection of trees, durable material selection and lighter colours for play equipment and park furniture.
7. Local open space should include furniture to support accessibility, accessible paths, play spaces and signage for way finding.
8. Play spaces should be provided in local and district open space within approximately 5-minute walking distance.
9. Shade sails are to be provided over all play equipment and address Council's Shade Facilities at Play spaces Policy.
10. The design and planning of open spaces should include public art and landscaping to reflect/interpret the Aboriginal/environmental awareness/European heritage and be placed sensitively to minimise disturbance to this area.
11. Open space and community centre north of the village centre should be designed to integrate and link the riparian open space to the village centre and provide space for activation, such as markets, outdoor cinema and the like.
12. Local open space should be provided with a range of activities to be used by all age groups and abilities, and generally in accordance with the framework outlined in **Figure E17.18**, and as outlined in Orchard Hills North – Open Space Strategy by Place Design Group October 2021.

Figure E17.15: Passive Local Open Space

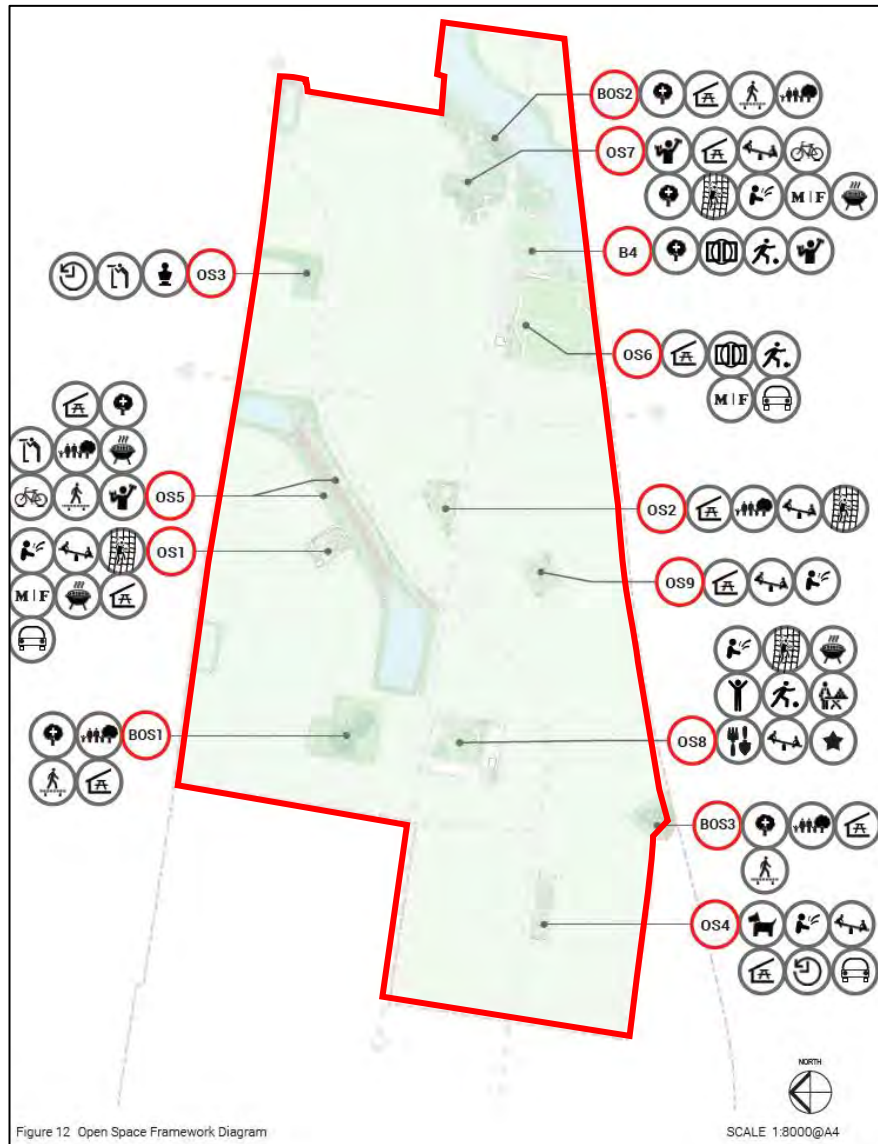


Legend

- Residential Land
- Landscape Area
- Site Boundary

Source: Place Design

Figure E17.16: Open Space Activation



- | | | |
|-------------------|--------------------|-----------------|
| Boardwalk/Bridges | Toddler Play | Playing Fields |
| Picnic Shelters | Juniors Play | Kickabout Space |
| Family Park | Senior Play | Fitness |
| Barbeque | Mixed Recreation | Market Space |
| Community Garden | Cycleway | Sports Courts |
| Heritage Building | Dog Off Leash Area | Event Space |
| Public Art | Look Out | Toilet/Amenity |
| Parking | Revegetation Zone | |

Source: Place Design

E17.4.4 Bushland open space

Objective

- a. Protect and conserve existing stands of remnant vegetation communities within a local open space with low levels of passive interaction in the open space.
- b. Consider the opportunities for providing interpretive signage in bushland open space to acknowledge the history and importance of the natural assets.

Controls

1. Retain the existing endangered and critically endangered communities as a natural bushland open space, refer to **Figure E17.19**.
2. Provide additional supplementary planting, natural pedestrian walkways through the natural environment and places for respite.

Figure E17.19: Bushland Open Space



Legend

-  Residential Land
-  Landscape Area
-  Site Boundary

Source: Place Design

E17.4.5 Riparian corridor open space

Objectives

- a. Riparian corridor open space complements and supports the public realm
- b. Enhance the character of major drainage routes through revegetation of those corridors to retain the conservation value of the landscape.
- c. To link and extend the access and movement network for bicycles and pedestrians, where practicable.
- d. Provision of contiguous corridors of public open space with an expanded urban tree canopy positively contributing to mitigating the urban heat island effect.
- e. Retain vegetation with significant conservation value

Controls

1. Werrington Creek and tributaries are first order streams and require a 20m wide Vegetated Riparian Zone (VRZ) centred over the new creek.
2. Claremont Creek is a fourth order stream and requires a 40m wide VRZ. The creek is to be maintained as a natural open channel and offsetting is permitted within the site for the establishment of a riparian corridor, so to manage the biodiversity value and still deliver the necessary flood management outcomes
3. Shared pedestrian and cycle paths should be designed and located to retain significant vegetation and provide a definitive edge to the riparian planting.
4. Planning and design of the riparian corridor open space shall include WSUD so to retain water within the landscape to provide a cooling effect.
5. The width of Werrington Creek is to match the existing width at the interface with Caddens Road.
6. The development should be generally consistent with **Error! Reference source not found.**

Figure E17.17: Riparian Corridor Open Space



Legend

- Residential Land
- Landscape Area
- Site Boundary

Source: Place Design

E17.4.6 Biodiversity

The Orchard Hills North Investigation Area is known to contain areas of Cumberland Plain Woodland and River-flat Eucalypt Forest. Cumberland Plain Woodland is listed as a critically endangered ecological community under both the NSW Biodiversity Conservation Act 2016 (BC Act) and Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), while River-flat Eucalypt Forest is listed as an endangered ecological community under both the BC Act and critically endangered under the EPBC Act.

Objectives

- a. To ensure that important natural features inform the urban structure of the place.
- b. To protect, restore and enhance the environmental values and functions of the environmental biodiversity areas, watercourses and riparian corridors and open space.
- c. Protect remnant vegetation to preserve threatened flora and fauna species and threatened communities and provide additional pockets of native vegetation that inter-connects with the open space areas
- d. Develop land consistent with the required outcomes of the Cumberland Plain Conservation Plan

Controls

1. Significant flora and fauna species, ecological communities and their habitats are to be preserved.
2. Development shall be designed to retain existing bushland and fauna habitats, including where corridors and linkages are determined as habitats.
3. Werrington Creek is regarded as a first order watercourse. The overall width of riparian zone will be 20m centred over the new creek.
4. A Vegetation Management Plan (VMP) is to be prepared for Werrington and Claremont Creeks.
5. Claremont Creek is regarded as a fourth order watercourse. Existing native vegetation within the riparian corridor is to be retained and no works are proposed within 40m of top of bank. Isolated drainage outlets may encroach upon creek in which case a rehabilitation plan will be prepared for any disturbed areas in accordance with the guidelines of NRAR.
6. Future development applications (DA) within land identified as 'Certified – Urban Capable Land' in the State Environmental Planning Policy (Biodiversity and Conservation) 2021 shall be required to demonstrate that specific mitigation measures for threatened ecological communities and species will be implemented.
7. If future DAs are progressed outside of the Biodiversity and Conservation SEPP and an assessment finds that there is likely to be a significant effect on threatened species, applicants will be required to submit a Biodiversity Development Assessment Report (BDAR), with reference to the specific requirements under the BC Act 2016.

Figure E17.18: Biodiversity Areas



Legend

- Residential Land
- Landscape Area
- Site Boundary

Source: Place Design

E17.4.7 Street Furniture and public art

The proposed open spaces within Orchard Hills North can be enriched by a public art strategy which reflects local heritage and cultural values. Public art can take a number of forms including permanent, temporary, ephemeral, and performance art.

Objectives

- a. To visually define and promote attractive public spaces.
- b. Celebrate the history, sense of place and locality of Orchard Hills North.
- c. To enhance public spaces so that they are vibrant, safe and welcoming.
- d. To create a sense of identity for Orchard Hills North by creating open space as distinctive places which reflect local heritage and the local environment.
- e. To ensure that high quality furniture is provided in open space areas to provide a consistent and clear identity.

Controls

1. Street furniture is to enhance pedestrian comfort, convenience and amenity and to form an integral element of the streetscape.
2. The design and selection of materials for street furniture should be sustainable, low maintenance and resistant to graffiti and vandalism, and where possible include smart technology.
3. The provision of street furniture in public spaces must include, as appropriate:
 - a. Seats/benches
 - b. Litter bins.
 - c. Drinking fountains, water refill and dog bowl
 - d. Lighting.
 - e. Information signs.
 - f. Bicycle racks.
 - g. Planter boxes
 - h. Tree guards
 - i. Other items suitable to the function of each public space.
4. Street furniture throughout precincts should be consistent in design and style and have a distinct rural character and be of natural materials and finishes.
5. Street furniture is to be located and designed to allow accessibility, in accordance with A51428:1-4 and the Disability Discrimination Act 1992.
6. Location and detailing of all proposed street furniture and public art is to be indicated on the Landscape Plans submitted with Development Applications.
7. Public art to be provided in open spaces should reflect the local heritage and cultural values of the site, and suitable for the chosen site and low maintenance.
8. The location of furniture and facilities are to consider Crime Prevention through Environmental Design (CPTED) Principles and passive surveillance is achieved.

E17.4.8 Street landscaping

Objectives

- a. Streetscape character and tree species should reflect the natural character and landform of the site, while accommodating the functional needs of pedestrian, cycle and vehicle movement along each of the roads.
- b. The streetscape character should reinforce and enhance the road hierarchy.
- c. The street tree character and indicative species for the various street types should be in accordance with those identified in the Open Space Strategy.

Controls

1. Street trees should be in accordance with the requirements set out in Penrith DCP 2014.
2. Existing mature trees located within developable areas should be conserved on site as part of the landscaped area of future development.
3. No disturbance to existing ground levels should occur within the drip line of any significant trees.
4. Existing native vegetation in riparian corridors will be protected and corridors revegetated to provide habitat and movement for flora and fauna species.
5. Street trees should be provided at a rate of one tree for every 10m of site frontage. Species selection should be appropriate to the character and constraints of the precinct, drought tolerant with low water requirements and provide canopy for shade.
6. Street trees are provided at minimum size of 75 litres and fitted with tree guards.
7. Split road medians are to be planted with low maintenance native planting species at the base and the top of the retaining wall.
8. Native endemic riparian species are planted along the local roads near the open spaces and within the low-lying areas adjacent to the riparian corridors and various detention basins.
9. Deciduous tree species to be planted along the east – west roads to ensure access to winter sun and native evergreen trees have been proposed to the north – south streets.
10. Street trees adjacent Bushland Open Spaces are to have a tighter spacing to deter vehicular entry.

E17.4.9 Rural Fire Service facility

The existing Rural Fire Service (RFS) facility is located on Council-owned land, on an existing rural road (Castle Road) within the Orchard Hills North development area. The land is zoned RE1 Public Recreation and is bounded to the east and to the south by areas of Active Open Space. The RFS facility provides a valuable rural resource and the Council supports it continuing to operate in its current location for the foreseeable future. There are no plans for the RFS facility to be developed for any alternative use/s at this stage.

Objectives

- a. The existing Rural Fire Service (RFS) facility shall be retained in its current location and continue to operate and provide services to the local community whilst the Orchard Hills North area transitions from a rural to an urban setting.

Controls

1. The design of Active Open Space areas immediately to the east and the south of the RFS facility should take into the account the zoning of the land and the potential for its use in the longer term for additional open space and public recreation use/s.
2. The potential future land use/s of the existing RFS facility will be determined by Council at the appropriate time.

E17.4.10 Canopy Cover

Objectives

- a. Contribute towards the Greater Sydney Region Plan (GSRP) and Western City District Plan's (WCDP) identified target of 40% tree canopy
- b. Give effect to the objectives of the Greening our City Premier's Priority (2019) to plant one million trees and increase green cover by 2022, to combat the urban heat island effect and increase resilience to a changing climate.
- c. Provide for new trees and where practical retain existing trees as landscape elements to ensure the community benefits from urban amenity, cooler neighbourhoods, improved air and water quality and to enhance biodiversity on the site.
- d. Ensure that opportunities for increased tree canopy cover are considered and provided for appropriately, to maximise comfort and enhance the liveability, health and well-being of both the community and the environment.
- e. Create neighbourhoods with a distinctive character and support landscaped oriented development.
- f. Increased tree canopy cover is to be targeted on both public and private land, specifically the following locations:
 - i. Local open space parks and the boundaries of playing fields
 - ii. Riparian corridors and drainage reserves
 - iii. All street / road types
 - iv. Car parks in the village centre
 - v. Private residential allotments (front or rear garden - depending on lot size and orientation)

Controls

1. Development is to demonstrate alignment with the strategy to deliver 40% tree canopy.
2. Each individual residential allotment shall be required to contain a minimum of 1 tree (existing or new) with a minimum container pot size of 25L.
3. Street trees are required for all streets except for any perimeter roads located within APZ's. Street planting is to:
 - a. Be in accordance with the preferred species published by Council;
 - b. Contribute to target goals for canopy cover and tree planting;
 - c. Be consistently used to distinguish between public and private spaces and between different classes of street within the street hierarchy;

- d. Minimise risk to utilities and services and comply with Council's specifications for installation of appropriate root barriers;
 - e. Have a minimum container pot size of 100L;
 - f. Be durable and suited to the street environment and, wherever appropriate, include indigenous species (and preferably be Evergreen);
 - g. Maintain adequate lines of sight for vehicles and pedestrians, especially around driveways and street corners;
 - h. Provide appropriate shade and cooling in summer and solar access in winter;
 - i. Provide an attractive and interesting landscape character, increase active transport amenity, and clearly define public and private areas, without blocking the potential for street surveillance;
 - j. Ensure that trees are not located within the carriageway. Blister construction with kerb and guttering located in the kerbside parking lane to accommodate canopy tree planting will be supported where appropriate; and
4. A person will not cut down, fell, uproot, kill, poison, ringbark, burn or otherwise destroy a tree with a trunk diameter greater than 50mm without approval from Council authorising such works. This control extends to a public authority except in relation to the pruning of a tree growing on, overhanging, or encroaching onto land owned by Council or which is under its care, control and management.
 5. For clearing not covered by a biodiversity certification approval, trees removed must be replaced at a ratio of at least 2:1 (new to existing) to contribute to canopy cover targets.
 6. When assessing development, Council should consider:
 - a. The opportunity to provide new trees, and retain existing trees on the proposed development site to contribute to canopy targets;
 - b. The proponent's approach to incorporating and protecting existing trees as part of the development design to enhance urban amenity and provide established urban canopy across the development;
 - c. Whether an efficient water source for trees has been incorporated into the development design; and
 - d. Provision of enough deep soil zones for trees.
 7. Future development applications (DA) for land subdivision in Orchard Hills North shall be required to demonstrate the approaches and specific measures proposed in support of achieving a 40% canopy cover target, on both public and private land, including but not limited to, the location, species, and minimum pot size of proposed canopy cover trees for the following areas:
 - a. Roads (both existing and proposed);
 - b. Areas of passive and active open space (including any areas of car parking);
 - c. Drainage basins and riparian corridors (existing and proposed);
 - d. The Village Centre (including any areas of car parking and urban plazas);
 - e. The school site (including any areas of car parking and play spaces);
 - f. Individual residential allotments.

Refer also to **Section E17.7.1 (Urban heat island)**.

E17.5 Residential Development

Orchard Hills North will provide a broad mix of housing types ranging from larger environmental living lots (minimum of 2,000m²) to traditional detached residential lots (primarily 300-600m²) and smaller compact and attached housing lots (220m²) that will be designated for integrated housing.

Orchard Hills North will promote diverse housing forms that utilise the constraints and opportunities of the land and structure planning to meet the increasingly diverse demands of the local community.

E17.5.1 Subdivision and neighbourhood design

Objectives

- a. Provide a diverse range of housing forms and densities that respond to community needs with 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 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.

Controls

1. Subdivision layout should create a recognisable, open and networked street hierarchy that responds to natural topography, the location of existing significant trees and solar design principles.
2. Preferred lot orientation is either on a north-south or east-west axis. Where there are other forms of amenity available, such as views or an outlook over open space, an alternative lot orientation can be considered.
3. 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 10m wide and above, no more than five lots in a row should have the same frontage.
4. Development consent for any development on land zoned R1 General Residential to which this clause applies must include a single development application that is both of the following:
 - a. the subdivision of land into residential lots, and/or
 - b. the erection of an attached dwelling or a dwelling house on each lot resulting from the subdivision, but only if the size of each lot is less than 300m².
5. The minimum area for corner lots is 400m².
6. Integrated housing applications are required for all development with a lot size less than 300m².
7. All applications for subdivision proposing residential allotments with a site area less than 300m² are to be accompanied by development plans for the proposed dwellings on those lots.
8. Council *may* waive the requirement in control 7 where an application for subdivision creates no more than 2 lots with a site area equal to or less than 300m² per dwelling where it is satisfied that the subdivision application demonstrates (through use of restrictions such as Building Envelope Plans [BEPs] confirming the preferred locations for garages, driveways, and principle private open space and the like) will result in an appropriate built form that complies with the relevant provisions of this DCP. Where this occurs, 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.

9. Indicative lot dimensions for all dwelling types are set out in **Table E17.3** below.

Table E17.3: Indicative lot dimensions

Dwelling Type	Lot area(m2)	Lot width (m)
Detached	450	15+
Detached	312.5	12.5
Built to boundary	225	9 - 12.5
Semi-detached	225	8.5 - 10
Attached	220	7.5 - 10

10. On lots greater than 300m² 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.

E17.5.2 Site grading, earthworks and retaining walls

Orchard Hills North is characterised by its topography, with prominent ridgelines and valleys, as well as creek lines. To achieve a site responsive and efficient urban design outcome, these features will need to be considered, with an appropriate site grading response.

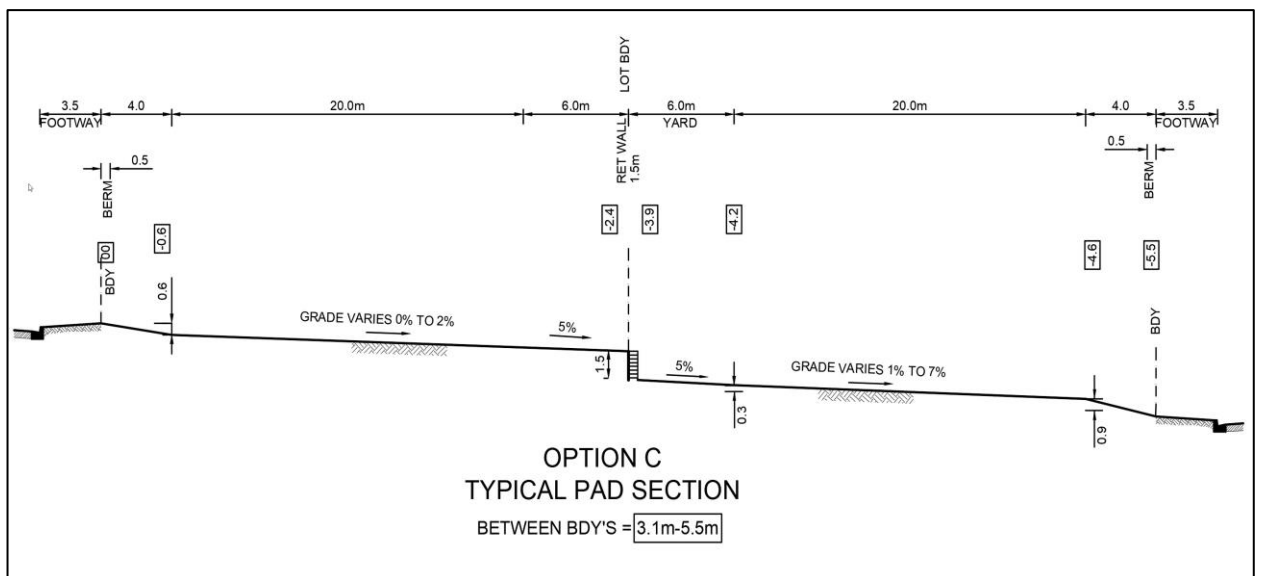
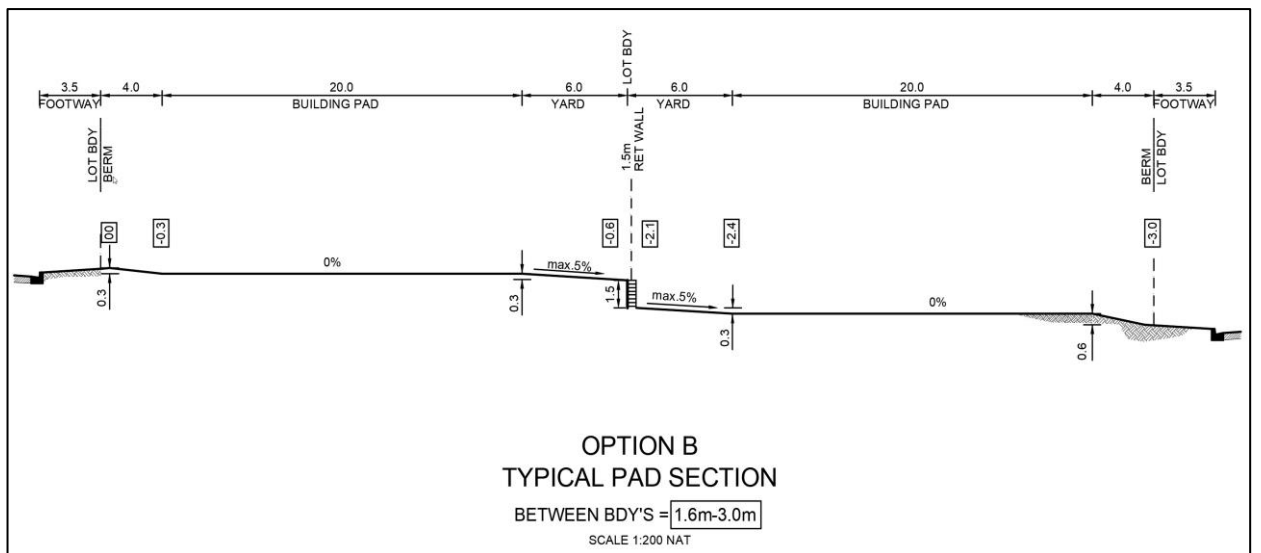
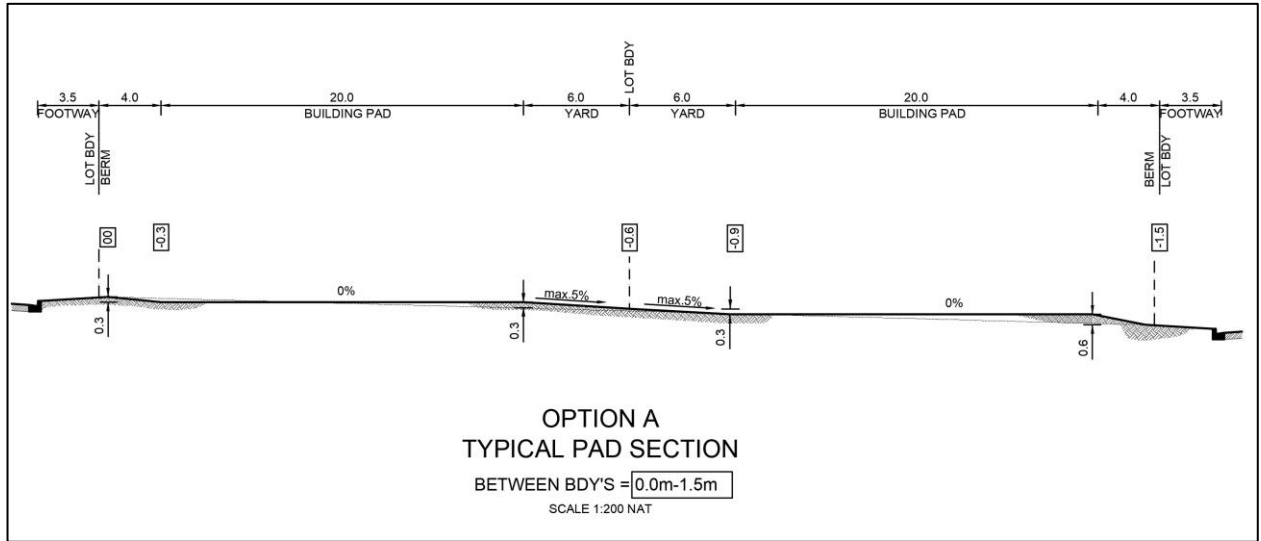
Objectives

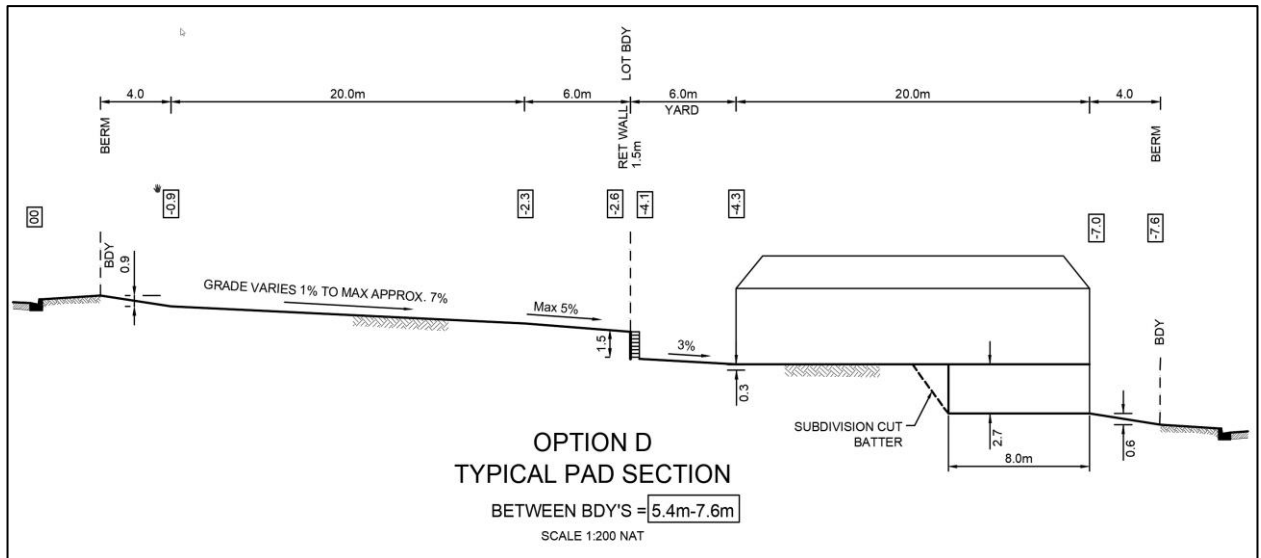
- Development should respond to the site's natural topography and general landform, minimizing excavation and potential visual impacts.
- Take into account and respond to site features such as riparian corridors, remnant bushland, heritage structures and prominent views i.e. The Blue Mountains.
- Minimise the incidence of cut and full and alterations in finished ground levels after subdivision site grading works.
- Encourage appropriate dwelling design to suit the topography of lots.
- Protect adjoining properties from potential structural instability by proposed excavation.
- Lessen the visual impact of retaining walls on allotment boundaries.

Controls - General land Subdivision

- Fill is to ensure soil profiles provide for optimum planting conditions
- Bulk earthworks excavation and retaining wall construction is to be completed as part of initial subdivision works as far as possible.
- 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).
- Typical grading solutions should generally meet the following sections, set out in **Figure E17.22**:

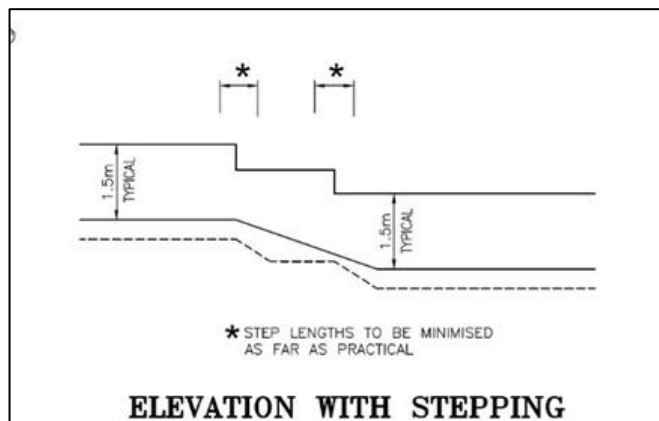
Figure E17.19: Typical Grading Solutions





5. Retaining wall heights are measured from the top of the footing to the top of wall.
6. Rear boundary retaining walls for development on slopes should typically not exceed 1.5m in height.
7. Side boundary retaining walls for development on cross slopes should not exceed 1.5m in height.
8. For options B, C and D, no retaining wall shall be provided within 6m of the rear boundary, other than that constructed as part of the original subdivision. This will be created as a Restriction as to User on the associated Deposited Plan and Section 88b instrument.
9. Tiered retaining walls shall be a maximum height of 1.8m.
10. Lots with side retaining shall have the property boundaries aligned and not stepped. Where two adjoining (across rear boundary) lots both have side retaining walls, the property boundaries should preferably be aligned to minimise overall retaining wall heights.
11. Where tiered retaining walls are permitted, the minimum landscaped depth between each step is 1m.
12. The maximum height of a retaining wall on a front boundary should not exceed 1m. Retaining walls should not restrict access to a lot or impede service connections.
13. Steep lots (>10% grade after retaining walls are considered) should have a minimum lot size of 450m².

Figure E17.20: General Elevations



14. Steep lots will require the submission of a Building Envelope Plan (BEP) at the relevant Development Application stage.
15. In cases where the front to back gradient across a block exceeds 10%, split level dwelling construction is required in addition to the benching of lots.
16. Split level roads should be considered to reduce gradients through lots.

Additional Controls: related to Dwellings proposed on lots that already have retaining walls as part of the subdivision construction

17. Where a lot already has a side retaining wall (supporting the adjacent side lot), then the combined height of the existing wall and any proposed wall on that same side of the lot shall not exceed 1.5m. This will be created as a Restriction as to User on the associated Deposited Plan and Section 88b instrument.
18. Where a lot already has a rear retaining wall (supporting the adjacent rear lot), then the combined height of the existing wall and any proposed wall at the rear yard area shall not exceed 1.8m. The proposed wall shall be located at least 1m in front of the existing wall and shall have a maximum height of 1.0m. This will be created as a Restriction as to User on the associated Deposited Plan and Section 88b instrument.

Additional Controls: related to Dwellings once subdivision and earthworks has occurred

19. Any additional retaining walls to lift the levels of the rear yard or the dwelling shall not reduce (when considered with potential fencing on those walls) the solar access and privacy of any adjacent lots.
20. Dwelling construction may make appropriate use of Drop Edge Beams where required.

E17.5.3 Developing on sloping land

Objectives

- a. To ensure that dwellings are of high quality and respond to topography of the site.
- b. To provide appropriate bulk and scale of dwellings on slopes that exceed 10%.
- c. To provide amenity for the residents of the dwelling due to good design of the built form and private open space.

Controls

The subdivision layout for slopes in excess of 10% is to be generally as depicted in **Figure E17.24** below

Figure E17.21: Indicative Subdivision Layout for Slopes in Excess of 10%



Source: J Wyndham Prince

1. For sites with significant slopes a split-level building design is to be used to minimise excavation and backfilling.
2. Floor levels/building platforms are to be stepped in response to the existing topography of the site.
3. All retaining walls forward of the garage line must be constructed with masonry materials and finished to complement the house design.
4. Lots 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).
5. 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.
6. 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.
7. Variations in setbacks and building design may be considered where they will not compromise the objectives of this section and will contribute to a varied and attractive streetscape.

E17.5.4 General residential built form design

Objectives

- a. Buildings are to be high quality and be designed to enhance the desired built form so to respond to the topography.
- b. Dwellings are environmentally sustainable and achieve benchmark sustainability outcomes.
- c. 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 encourage efficient and sustainable use of land.

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.
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, and dark coloured roofs are not supported.

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 is compatible with the streetscape in terms of design, built form, scale and bulk.
7. The repetition of identical housing designs in a group of dwellings, other than for attached dwellings, is not to be provided.
8. Garbage bin storage and clothes drying areas are to be concealed from view and shown on site plans.
9. Second storey side setbacks as per **Table E17.4** below.

Table E17.4: Second storey side setbacks

Dwelling Type	Lot width (m)	2 nd storey side setback
Detached	15+	1.2m
Detached	12.5	1.2m
Built to boundary	8.5 - 12.5	2.4m from the adjoining built to boundary side boundary
Semi-detached	8.5 - 10	1.2m on the unattached side
Attached	7.5 - 10	zero

Figure E17.22: Streetscape Design Principles

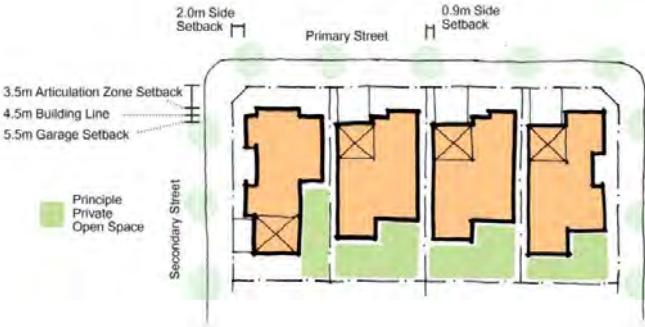





E17.5.5 Residential typology and built form

Objectives

- To provide a variety of housing typologies streetscapes that respond to the character of different precincts, the diversity of edge conditions, house types and road hierarchies.
- To provide building setbacks to the street, side and rear of a residential lot to respond to the topography, contemporary housing type and provide variety to the streetscape.
- To reduce the dominance of garages on the streetscape.
- To encourage eaves, verandahs, balconies and other feature elements on the front facades of dwellings.
- To minimise the impacts of development on neighbouring properties in relation to views, privacy, and overshadowing.
- To ensure that development on corner lots is visually significant and promotes a strong and legible character.

Table E17.5: Development Type Principles

Development Form Design Principles	Objectives
	<p>Detached</p> <ul style="list-style-type: none"> Allow for landscaped side setbacks to provide visual separation between dwellings and more spacious streetscape environment
	<p>Semi-detached</p> <ul style="list-style-type: none"> Have the appearance of a larger home but are comprised of 2 dwellings on separate Title. When located at a corner, have distinct entries for each dwelling, on different street frontages if there are opportunities to do so.
	<p>Built to boundary (Zero lot line)</p> <ul style="list-style-type: none"> Allow separation between dwellings for access and servicing.
	<p>Attached</p> <ul style="list-style-type: none"> Provide for parking with a rear loaded garage via laneway or shared driveway. Rear of lot is generally orientated to the north. Studios Be located above garages that are accessed from rear lanes or shared driveways. Provide casual surveillance over rear lanes or shared driveways.

Controls

Setback controls

1. Dwellings are to be consistent with the minimum front, side and rear setback controls in **Tables E17.7 – E17.10** and the front setback principles diagram at **Figures E17.26** and **E17.27**.
2. The controls are based on lot width and the type of housing as outlined in **Table E17.6** below.

Table E17.6: Allotment requirements

Access	Lot Width	
Rear Access	≥ 7.5m	Table 7
Front Access	8.5m – 10m	Table 8
	≥10 - 15m	Table 9
	15m	Table 10

Figure E17.23: Front Setbacks



Figure E17.24: Front Setback – Corner Lot

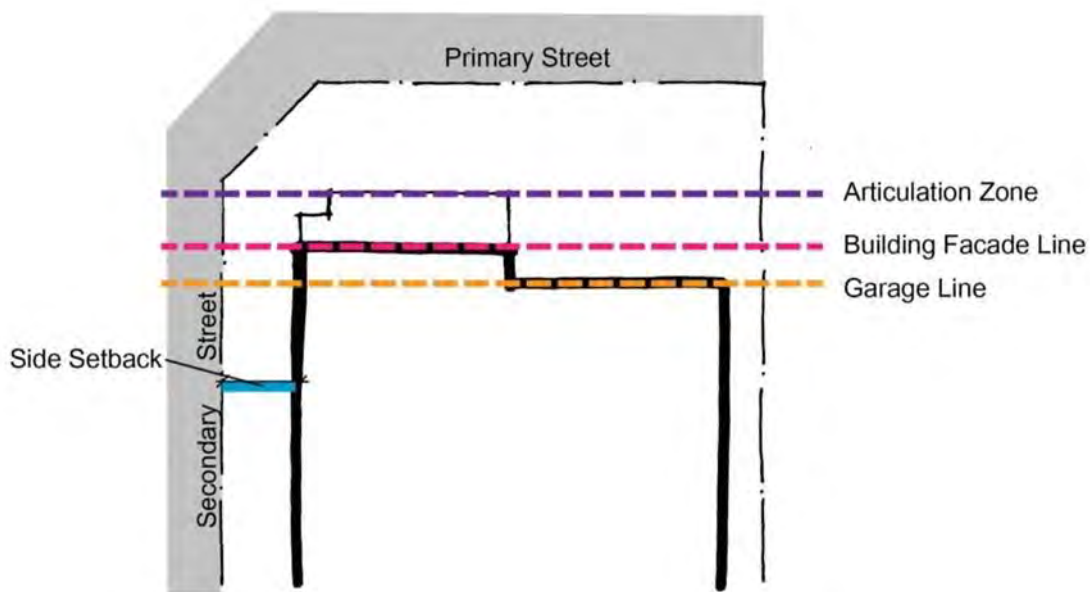


Table E17.7: Rear access dwellings lots

Element	Control	
Lot Frontage	≥ 7.5m	
Minimum Dwelling Setbacks		
Front setback	3.0m to building façade line 2.0m to articulation zone	
Side setback	0m – Zero Lot, attached/semi-detached dwelling	0.9m – Detached dwelling If a lot is burdened by zero lot boundary, the side setback must be within an easement: - 0.9m (single storey zero lot wall) - 1.2m (double storey zero lot wall)
Maximum length of zero lot line on boundary	18m (excludes rear garages) upper level only. No limit to ground floor	
Secondary Street Frontage (Corner Lots)	1.0m	
Rear setback	0.5m (rear loaded garages to lane, zero to articulation zone)	
Other requirements		
Building Height	2 storeys	
Soft Landscaped Area	Minimum of 15% of lot area. Minimum of one tree in the front and rear setback.	

Element	Control
Principal Private Open Space	16m ² minimum area and 3.0m minimum dimension
Garages and Car Parking	Rear loaded garage or car space only Minimum garage width 3m (single) and 5.5m (double) 1-2 bedroom dwelling will provide at least 1 car space 3 bedroom or more dwellings will provide at least 2 car spaces

Table E17.8: 8.5m - 10m wide lot - front access dwellings

Element	Control
Lot Frontage	8.5m – 10m
Minimum Dwelling setbacks	
Front setback	4.5m to building façade line; unless it is an attached dwelling then it is 3m to the building façade line 3.0m to articulation zone 5.5m to garage line and minimum 1m behind the building line
Side setback	0m – Zero Lot, attached/semi-detached dwelling 0.9m – Detached dwelling If a lot is burdened by zero lot boundary, the side setback must be within an easement: 0.9m (single storey zero lot wall) 1.2m (double storey zero lot wall)
Maximum length of zero lot line on boundary	15m
Secondary Street Frontage (Corner Lots)	2.0m
Rear setback	4.0m ground floor 6.0m upper floor However, if it is an attached dwelling then the rear setback is 0.5m
Other requirements	
Building Height	2 storeys
Soft Landscaped Area	Minimum of 15% of lot area. Minimum of one tree in the front and rear setback.
Principal Private Open Space	16m ² minimum area and 3.0m minimum dimension
Garages and Car Parking	Single, tandem are permitted. Double garages are permitted where street infrastructure is not compromised.

Table E17.9: ≥10m - less than 15m wide lot - front access dwellings

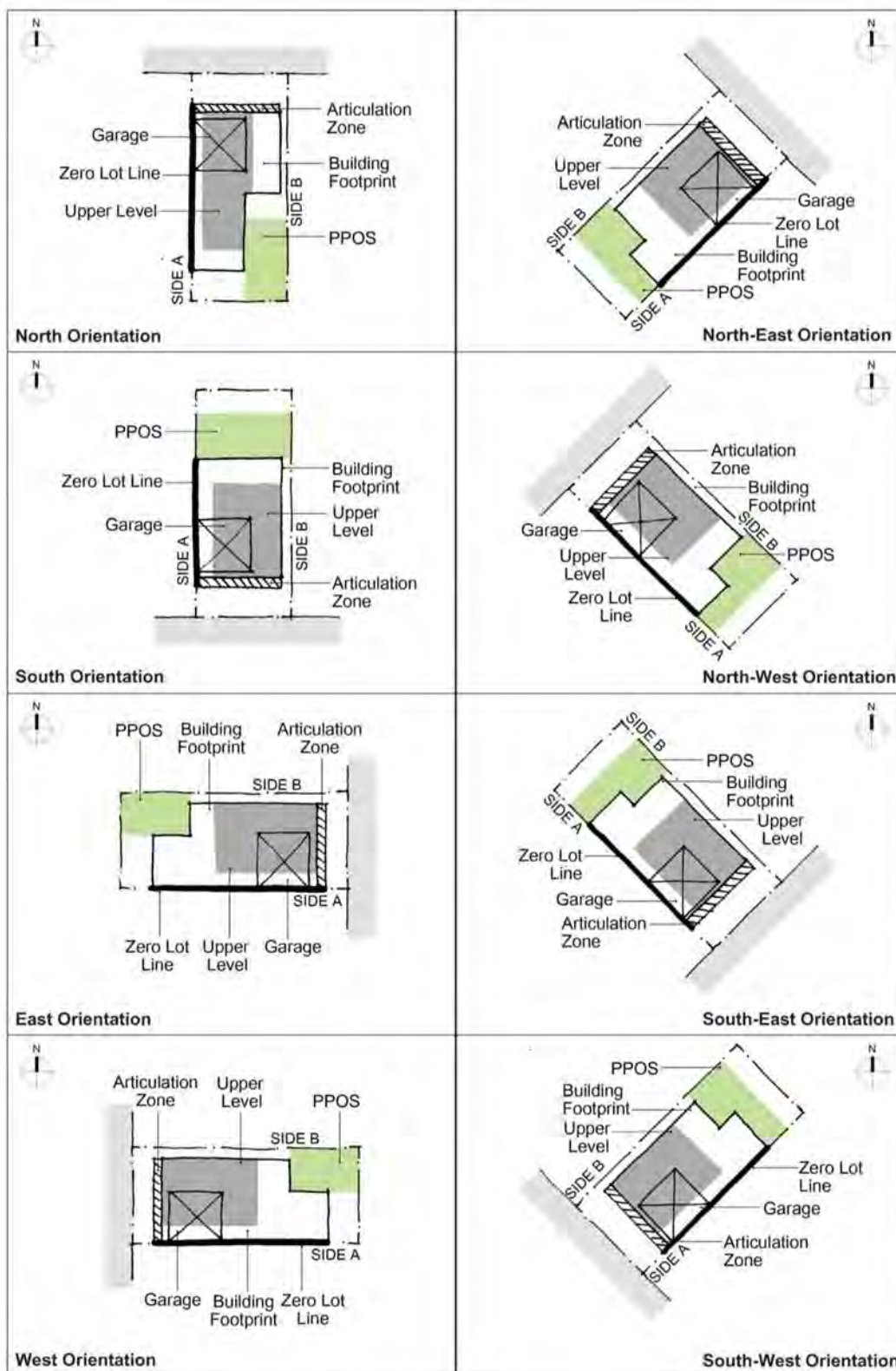
Element	Control		
Lot Frontage	≥10m and less than 15m		
Minimum Dwelling Setbacks			
Front setback	4.5m to building façade line; unless it is an attached dwelling then it is 3m to the building façade line 3.0m to articulation zone 5.5m to garage line and minimum 1m behind the building line		
Side setback	Detached boundary: 0.9m ground floor 1.2m upper floor	Lots with a zero lot boundary (side A): Ground Floor: 0m (side A), 0.9m (side B)	0m – semi-detached or attached dwelling Detached boundary: 0.9m ground floor 1.2m upper floor
Maximum length of zero lot line on boundary	11m		
Secondary Street Frontage (Corner Lots)	2.0m		
Rear setback	4.0m ground floor 6.0m upper floor However, if it is an attached dwelling then the rear setback is 0.5m		
Other requirements			
Site Coverage	Single storey buildings 60% Lot ≤350m ² , the upper level no more than 40% of lot area Lot ≥350m ² , the upper level no more than 35% of lot area		
Building Height	2 storeys		
Soft Landscaped Area	Minimum of 25% of lot area. Minimum of one tree in the front and rear setback.		
Principal Private Open Space	24m ² minimum area and 4.0m minimum dimension		
Garages and Car Parking	Front or rear accessed single, tandem or double garages permitted. Triple garages are not permitted.		

Table E17.10: 15m+ wide lot – front access dwellings

Element	Control
Lot Frontage	15m+
Minimum Dwelling Setbacks	
Front setback	4.5m to building façade line; unless it is an attached dwelling then it is 3m to the building façade line 3.0m to articulation zone 5.5m to garage line and minimum 1m behind the building line
Side setback	4.5m to building façade line; 3.0m to articulation zone; 5.5m to garage line and minimum 1m behind the building line
Secondary Street Frontage (Corner Lots)	2.0m
Rear setback	4.0m ground floor 6.0m upper floor
Other requirements	
Site Coverage	Single storey buildings 50% Upper level no more than 30% of lot area.
Building Height	2 storeys
Soft Landscaped Area	Minimum of 25% of lot area. Minimum of one tree in the front and rear setback.
Principal Private Open Space	30m ² minimum area and 4.0m minimum dimension
Garages and Car Parking	Front or rear accessed single, tandem or double garages permitted. Triple garages are not permitted.

Indicative illustrations of the controls are outlined in the **Figure E17.28** below.

Figure E17.28: Indicative illustrations of setbacks, private open space and building footprint



Articulation Zone

1. Architectural elements which address the street frontage should be incorporated in the 'articulation zone'.

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. leaves 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.

Corner Lots

1. 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.
2. 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.
3. Any building contiguous (sharing a common border) with Caddens Road is to be set back 4.5m from the boundary to Caddens Road.
4. Garages are to be set back a minimum of 1m behind the front building facade line.
5. Garages on secondary streets are to be set back 1m behind the dwelling façade on the secondary street.

E17.5.6 Shop top housing

All shop top housing must comply with the requirements of the relevant State Environmental Planning Policy (SEPP) for apartment design.

Objectives

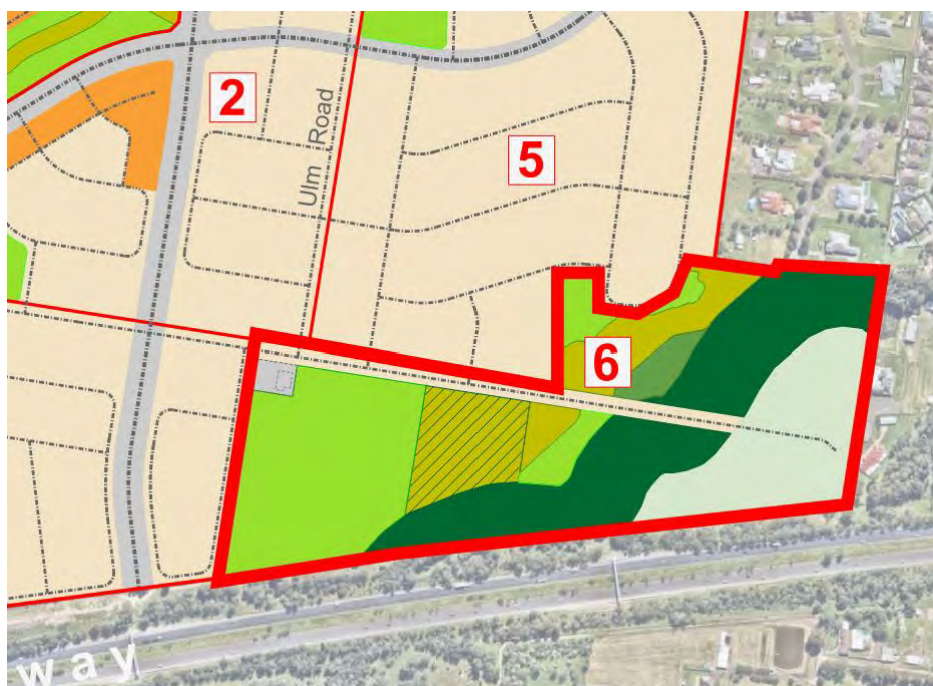
- a. To establish a high-quality medium density housing environment where all dwellings have a good level of amenity.
- b. To support a variety and choice of housing forms close to the Village centre and open space
- c. To encourage active street frontages and activate streets.

Controls

1. Mixed use and shop top housing developments are to be located within the village centre (B2 zone) and comply with the Apartment Design Guide planning and design standards.
2. To provide visual interests and reduce building bulk, facades are to be articulated (via balconies, blade walls, stepped facades and the like).
3. Balconies are to orientate to the public open space areas to provide surveillance.

E17.5.7 Dwellings located in Precinct 6

Figure E17.25: Dwellings Located in Precinct 6



Source: Design and Planning

Objectives

- Larger lot housing to reflect the environmental sensitivity and visual character of the area.
- High quality housing design to make the most of the environmental characteristics of the surrounding area including public open space and drainage infrastructure.
- Designed and located to minimise impacts on flood prone land, and risks to property from flooding.

Controls

- Table E17.11** contains the main development controls for residential development in Precinct 6. They key controls should be read in conjunction with the relevant controls in this DCP.

Table E17.11: Residential development in the Precinct 6

Element	Control
Minimum Dwelling setbacks	
Front setback	4.5m to building façade line; 3.0m to articulation zone; 5.5m to garage line and minimum 1m behind the building line
Side setback	<u>Ground floor:</u> 1.5m if lot width less than 24m 2.5m if lot width greater than 24m <u>Upper floor:</u>

Element	Control
	1.5m (Side A) if lot width less than 24m and 3m (Side B) 2.5m (Site A) if lot width greater than 24m and 3m (Side B)
Secondary Street Frontage (Corner Lots)	4.5m
Rear Setback	6.0m ground floor 10.0m upper floor
Other Requirements	
Site coverage	Single storey buildings 35% Two (or more) storey dwellings: 25% ground floor and 15% upper floors
Building height	2 storeys
Soft landscape area	Minimum of 25% of lot area
Principal Private Open Space	30m ² minimum area and 4.0m minimum dimension
Garages and Car Parking	Front or rear accessed single, tandem or double garages permitted Triple garages permitted where at least one garage door is not visible from the street or where the total width of the garages is less than 50% of the total width of the building façade.

E17.5.8 Secondary dwellings

Objectives

- b. To encourage a diversity of affordable housing product.
- c. To provide housing and accommodation options for a range of family types and age groups.
- d. To promote innovative housing solutions compatible with the surrounding residential environment.
- e. To provide passive surveillance of rear lanes and shared driveways.

Controls

1. The maximum floor space for a secondary dwelling is 60m².
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.

E17.5.9 Dual occupancy

Refer to section 2.2 of Part D2 of the Penrith DCP 2014.

E17.5.10 Multi dwelling housing

Refer to section 2.4 of Part D2 of the Penrith DCP 2014.

E17.5.11 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.

This section of the DCP should be read in conjunction with the controls in Table 6-10.

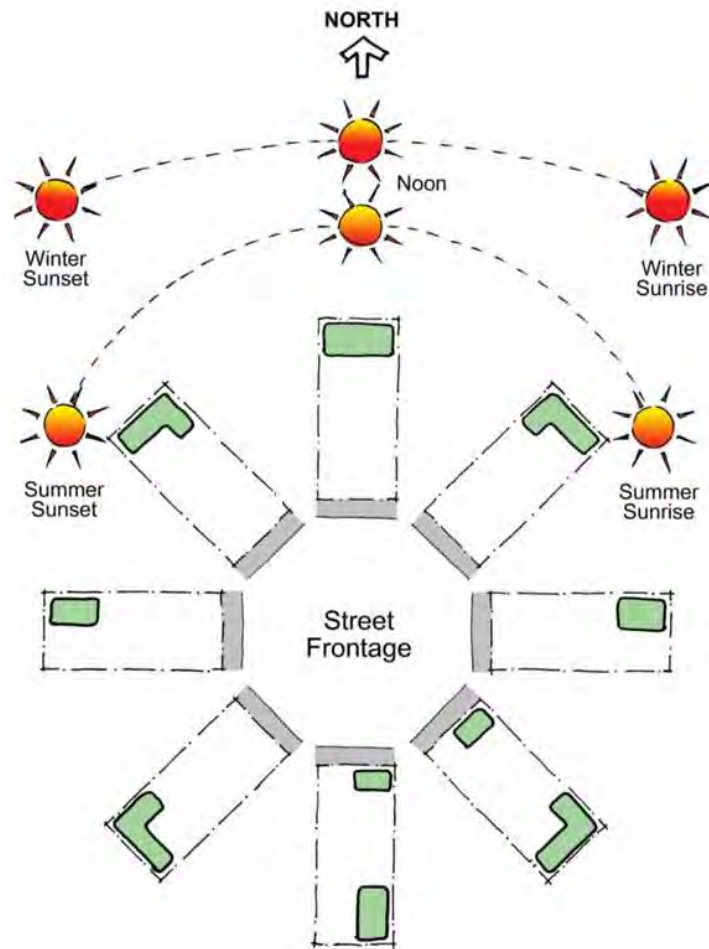
Objectives

- 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.

Controls

1. 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 E17.28.
2. 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).
3. For a secondary dwelling that incorporates one dwelling substantially above the other, the ground level dwelling is to comply with the controls in Table 6-10. The upper-level dwelling is to have a balcony accessed directly off the living space with a minimum area of 8m² plus a minimum 5m² at the ground level with space for clothes drying.

Figure E17.26: Private Open Space Siting Diagram



This section of the DCP should be read in conjunction with the controls in Table E17.6- E17.10 of this DCP.

Objectives

- a. To enhance the landscape character of the area.
- b. To provide permeability and limit stormwater runoff.

Controls

1. 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.
2. Note: For the purpose of this section, soft landscaping is essentially permeable soft soil areas but may include gardens over basements and the like. Deep soil zones are areas of natural ground retained within a development, uninhibited by artificial structures and with relatively natural soil profiles. Deep soil zones have important environmental benefits, including:
 - a. Promoting healthy growth of large trees with large canopies,
 - b. Protecting existing mature trees, and

- c. Allowing infiltration of rainwater to the water table and reduction of stormwater runoff.
3. 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.
4. A deep soil zone should be provided to accommodate trees and significant planting, contiguous with the adjacent property. The minimum pot size of trees to be planted is 45 litres.
5. To prevent accumulation of water and concentration of salts, subsoil drains are to be installed for each residency and connected to the stormwater system.
6. Low water demand drought resistant vegetation is to be used in common landscaped areas, including native salt tolerant trees.
7. Garbage bin storage and clothes drying areas are to be concealed from public realm and shown on site plans.

E17.5.12 Fencing

Objectives

- a. Provide privacy to both residents and neighbours.
- b. Boundary fencing is of a high quality and does not detract from the streetscape.
- c. Fencing is consistent with the street and the design and style of the dwelling.
- d. Ensure casual surveillance of open space.

Controls

1. 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. Fencing should be a maximum of 1.8m
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. The type, style and design of the fencing must complement surrounding buildings and the landscape design.

E17.5.13 Garages, driveways, parking and access

Objectives

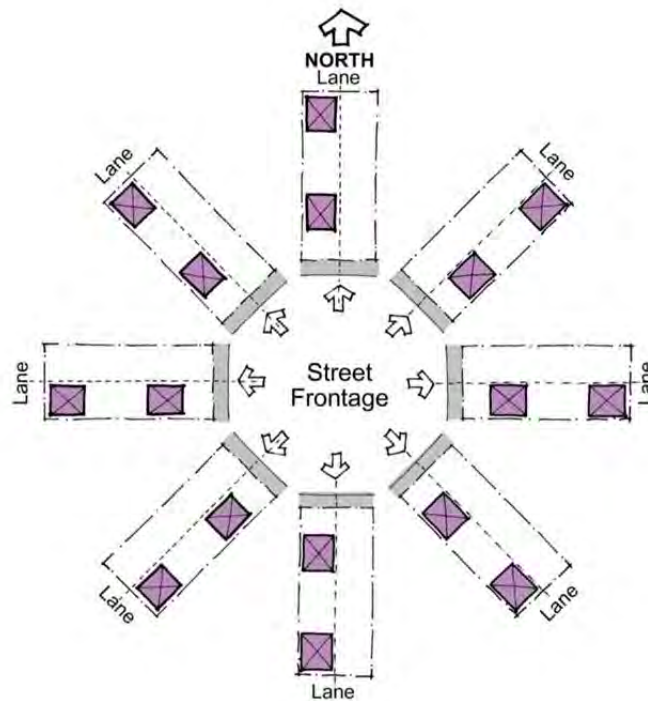
- a. Provide sufficient, safe and secure parking for residents and visitors.
- b. Reduce the visual impact of garages, carports and parking areas on the streetscape and improve dwelling presentation.
- c. Garages do not dominate the frontage of the house.

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

Controls

1. Garages are to be sited as per the preferred siting diagram at **Figure E17.31**.
2. No direct access is permitted to the North South, East West Roads and the M4.
3. At least one car parking space must be located behind the building façade line where the car parking space is accessed from the street on the front property boundary.
4. 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.
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 2.
7. Garages are to comply with AS 2890.1 Off Street parking, including:
 1. minimum internal width between main walls of 3m for a single garage;
 2. minimum internal width between main walls of 5.5m for a double garage.
8. Stencil-Crete or dark coloured surfaces 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 3m from street trees (for new plantings). Note that existing street trees are not to be removed to conform to this requirement.
10. Driveways must comply with relevant Australian Standards (AS 2890.1).
11. Entry and access from sites should provide for appropriate traffic sight distance in both directions.
12. Where possible, the garage for a corner lot should be accessed from the secondary street.

Figure E17.27: Garage Location Principles



E17.5.14 Shared driveways

Controls

1. Shared driveways are to be constructed as one of three general types, depending on block geometry and garages to be accessed. Refer to examples in **Figure E17.32** below.
2. Shared driveways are to have the smallest configuration possible to serve the required parking facilities and vehicle turning movements.
3. The driveway crossing the verge between the property boundary and the kerb is to have a maximum width of 5.4m.
4. The location of driveways is to be determined with regard to dwelling design and orientation, and tree bays and is to maximise the available on-street parking.
5. Driveways are not to be within 0.5m of any drainage facilities on the kerb and gutter.
6. Shared driveways are to have soft landscaped areas on either side, suitable for infiltration.

Figure E17.28: Shared Driveway Principles



E17.5.15 Residential amenity

Objectives

- a. Minimise the impacts of development on the visual privacy and acoustic amenity of adjoining properties, the streetscape and public domain
- b. Protect the acoustic amenity of dwellings on collector roads and adjacent to the M4.
- c. To manage and address the land use interface between Orchard Hills North and properties fronting Hermitage Court.

Controls

1. Direct overlooking of main habitable areas and private open spaces of adjacent dwellings should be minimised through building layout, window and balcony location and design, and the use of screening devices, including landscaping.
2. Habitable room windows with a direct sightline to the habitable room windows in an adjacent dwelling within 3m are to:

- i. be obscured by fencing, screens or appropriate landscaping; or
 - ii. be offset from the edge of one window to the edge of the other by a distance sufficient to limit views into the adjacent window; or
 - iii. have sill height of 1.7m above floor level; or
 - iv. have fixed opaque glazing in any part of the window below 1.7m above floor level.
3. The design of dwellings must minimise the opportunity for sound transmission through the building structure, with particular attention given to protecting bedrooms and living areas.
4. In attached dwellings, bedrooms of one dwelling are not to share walls with living spaces or garages of adjoining dwellings, unless it is demonstrated that the shared walls and floors meet the noise transmission and insulation requirements of the Building Code of Australia.
5. The internal layout of residential buildings, window openings, the location and design of outdoor living areas and elements (i.e. courtyards, balconies and retaining walls), and building plant equipment should be designed to minimise noise impact and transmission and enhance visual amenity.
6. A 1.0m wide continuous landscape buffer is to be provided, at subdivision stage, at the shared boundary between Orchard Hills North and the rear of properties fronting Hermitage Court.

E17.5.16 Safety and surveillance

Objectives

- a. Promote public safety and security through passive surveillance of public spaces.
- b. The siting and design of buildings and spaces reduces the opportunity for crime.
- c. Development encourages people to use streets, parks, cycleways, footpaths, the hilltop avenue and other public places without fear of personal risk.

Controls

1. Dwellings should be designed to overlook streets, lanes and other public or communal areas to provide casual surveillance.
2. For passive surveillance, at least one living area of a dwelling should overlook the street or public open space. In the case of corner lots habitable windows are also be oriented to overlook the secondary street or any cycleway or pedestrian path.
3. 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.

E17.5.17 Road Traffic Noise

Objectives

- a. Ensure that the amenity of all residential development and other sensitive land uses is not significantly affected by road traffic noise;

- b. Ensure that the traffic associated with development does not significantly impact upon the amenity of surrounding land uses;
- c. Ensure that any subdivisions are designed to minimise the impact of road traffic noise on any residential development or other sensitive land uses.
- d. Protect the acoustic amenity of all sensitive receivers within 100m of the East West Road, the North-South Road and the M4.

Controls

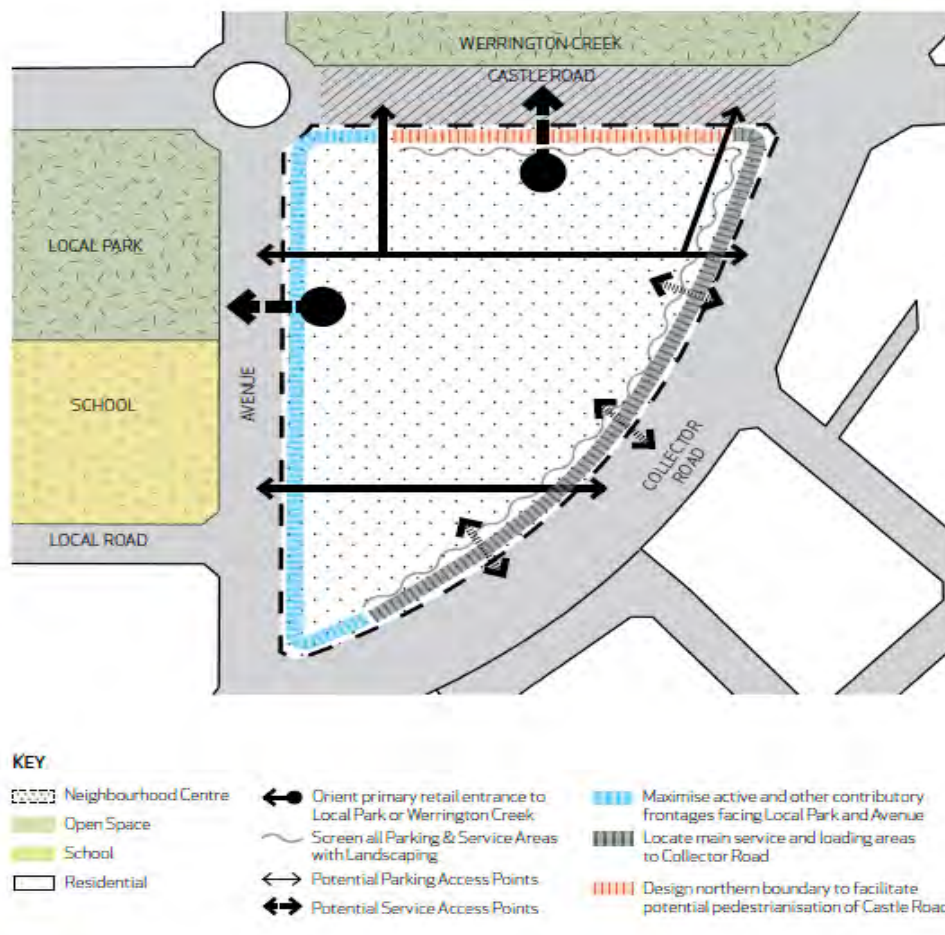
1. For all development applications that propose residential subdivision and/or the development of sensitive receivers within 100m of the East West Road, the North-South Road, or the M4 Western Motorway, the applicant is required to provide a Noise Impact Statement prepared by a suitably qualified acoustic consultant in accordance with the requirements set out in the DA Submission Requirements Appendix of the Penrith DCP 2014. Subdivision proposals are to address the objectives and controls set out in the Noise and Vibration section of the Penrith DCP 2014.
2. Residential subdivision and development must be designed to comply with the NSW Road Noise Policy, Development near Rail Corridors, Busy Roads Interim Guideline and AS/NZS 2107:2000 Acoustics – Recommended design sound levels for reverberation times for building interiors and other standards that may apply at the time. Where relevant, Section 88B restrictions that impose noise criteria and controls may be required.
3. To mitigate the impacts of traffic noise from the East West Road, the North-South Road, or the M4 Western Motorway on new development, the following measures are to be used;
 - a. Subdivision layout that positions sensitive receivers such as active and passive recreational space away from locations highly noise affected by road traffic noise;
 - b. dwelling setbacks;
 - c. internal dwelling layouts designed to minimise noise in living and sleeping areas;
 - d. fencing constructed with a suitably solid mass, and
 - e. locating courtyards and principal private open space areas away from the noise source in order to comply with the NSW Road Noise Policy
4. The Noise Impact Statement should demonstrate acoustic protection measures necessary to achieve relevant internal and external acoustic goals for all sensitive receivers, in accordance with EPA and Department of Planning Criteria, as well as relevant Australian Standards.
5. The Noise Impact Assessment should set out the separate architectural and physical treatments proposed for the following:
 - a. Each individual residential lot / dwelling within 10m of the East West Road, the North-South Road and the M4 (likely to be highly noise affected during peak traffic periods);
 - b. Each individual residential lot / dwelling within 50m of the East West Road, the North-South Road and the M4 (likely to be noise affected); and
 - c. Each individual residential lot / dwelling within 100m of the East West Road, the North-South Road and the M4 (also likely to be noise affected, but to a lesser extent).
6. The separate architectural and physical treatment of each individual residential lot / dwelling identified in control 3 above, should assess internal and external measures required to achieve required noise mitigation, including but not limited to:
 - a. External wall construction

- b. Roof / ceiling construction
- c. Minimum glazing thicknesses
- d. Entry doors
- e. Ventilation options
- f. Acoustic barriers along lot boundaries (side and rear)

E17.6 Village Centre

This section applies to development on land covered by the Orchard Hills North Village Centre, as shown in **Figure E17.33** below.

Figure E17.33: Village Centre



Source: Allen Jack + Cottier

E17.6.1 Urban Layout Context

Objectives

- Create a vibrant focal and gathering point of the Orchard Hills North community.
- Develop a local centre that is of high quality, functional and provides for a mix of uses for the local community.
- Create a landscaped edge with a safe public domain/community facility linking the Werrington Creek open space to the retail centre.
- Ensure the scale of retail is complementary to local and regional retail hierarchy.
- Provide retail and mix of uses surrounded by adequate parking that facilitate safe pedestrian and public transport access to the centre.
- Provide active uses at street level which facilitate safety and passive surveillance.

E17.6.2 Land use and built form

Objectives

- a. To provide an attractive, accessible and lively community focal and gathering point for Orchard Hills North. ¹
- b. To provide appropriate interfaces from the centre to surrounding uses.
- c. To provide active uses at street level which facilitate safety and passive surveillance. ¹
- d. To ensure appropriate safe and efficient vehicular access to the site.
- e. To ensure that urban design and landscaping encourages pedestrian amenity and community activity. ¹
- f. The design of the village should acknowledge and celebrate the rural nature and recent historic / agricultural land uses of the area.

Source/Based On:

¹ Penrith Development Control Plan 2014 E1 Caddens

Controls

1. Orient major entrances to surrounding public streets and public open spaces.
2. Provide direct pedestrian access into the main retail centre entrance from an adjoining public street, without needing to cross the car park.
3. Accentuate main entrance with an activated plaza, pavement widening or other pedestrian-oriented open space.
4. The main entrance is to be fully accessible from the street into the centre, without the use of a lift.
5. Minimise surface parking adjoining the 'Avenue'.
6. Maximise active and other contributory frontages facing the 'Avenue' and the Local Park.
7. Where possible, sleeve or screen parking and service areas on other streets with contributory development (such as retail, commercial, community and/or residential uses).
8. Position necessary parking entrances away from the centre of the northern boundary, to facilitate the future pedestrianisation of Castle Road.
9. Provide service access off the Collector Road only. Avoid any circulation strategy that requires large trucks to navigate using the Avenue or surrounding Local Roads.
10. Loading [requirements] associated with the development shall be provided on-site¹, with no reliance on public roads for queuing space or the unloading of goods.
11. Provide acoustic screening to loading and service areas.
12. Screen all street-facing surface parking, blank walls and loading/service areas with architectural design treatments, the use of public art and/or dense perimeter landscaping.
13. Off-street surface parking areas are to provide an adequate amount of shade, either by trees or shade canopies, to provide amenity and minimise micro climate (heat island) impacts.¹
14. Provide 1 medium tree (minimum 8-metre height at maturity) per 8 car spaces on site, not counting car spaces otherwise covered by canopies, solar arrays, or other fixed shading.
15. Retaining walls must be a maximum of 1.5m in height, located within the lot boundaries, using materials that are appropriate for the public domain.
16. Development applications for the village centre should demonstrate how they acknowledge the rural nature and recent historic / agricultural land uses of the area in their urban design approach and architectural form; material selection; and/or nomenclature.

E17.7 Other

E17.7.1 Urban heat island

The urban heat island effect is a local climate phenomenon where urbanised areas typically experience higher air temperatures than corresponding rural areas, especially during heatwave events. Refer also **Section E17.4.10 (Canopy cover)** above.

Objectives

- a. Mitigate the urban heat island effect and reduce people's vulnerability to extreme heat through the inclusion of Green Infrastructure, Water Sensitive Urban Design (WSUD) and appropriate materials.
- b. Manage Urban Heat Island effect by implementing strategies that will increase tree canopy cover potential and sustain long term tree health.

Controls

1. Provide shade tree planting within main streets and parks
2. Incorporate street pavements that are pervious and of low reflectivity.
3. Buildings are to be designed and incorporate materials to take into account climate change, urban heat and thermal comfort.
4. Suitable shade structures, shelters and awnings are to be provided within parks and publicly accessible areas.
5. Parking areas are landscaped through appropriate tree selection and/or shade shelters where on surface parking area at the local Village Centre.
6. Buildings must incorporate increased albedo/reflective roofing materials (dark colours not permitted) and/or a range of materials that do not absorb heat in the public and private community areas.
7. Passive and automated subsurface irrigation in open space parks shall be provided.
8. Incorporate Water Sensitive Urban Design (WSUD) elements to manage the urban heat island by having:
 - i. Two open water bodies of area;
 - ii. Parks, green open spaces and playing fields;
 - iii. Vegetations along the proposed roads and streets and basins
 - iv. Vegetated drainage corridor
 - v. WSUD measures
 - vi. Light colour hard surfaces such as cool pavements, cool roofs.

E17.7.2 Water cycle management, basins and flooding

Objectives

- a. Ensure that development meets sound environmental and flood planning practices and standards.
- b. Ensure Werrington Creek and Claremont Creek are able to function as healthy, natural riparian corridors.
- c. Maintain the stability and integrity of the finished creek profile.

- d. Ensure the quality of water leaving the urban areas does not adversely impact upon the health of Werrington Creek and Claremont Creek.
- e. Ensure that the quantity of water leaving the urban area is managed and does not impact adversely on downstream creeks and properties.
- f. Ensure the design and delivery of infrastructure, servicing and development is sustainable through encouraging the use of recycled water, optimising stormwater management and maximising efficiency in the use of potable water.
- g. Ensure the design and delivery of the interface between the residential areas and the basins considers the safety and security of the residents and users.

Controls

- 1. Achieve an acceptable level of quality and management of water from the site in accordance with the prescribed statutory or Council guidelines for water management, and generally as outlined in the J. Wyndham Prince – Flood Management Strategy for Orchard Hills North precinct, dated 14 February 2023.
- 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. The detention basins adjacent to Claremont Creek and Werrington Creek should be located outside 1% AEP flood levels and above mainstream event from Claremont Creek and Werrington Creek.
- 4. Stormwater management plans are to be prepared for the catchments covering Orchard Hills North and are to demonstrate how the quantity and quality of urban run-off as a result of development will be managed.

Stormwater detention is to reduce post development flows to less than pre-development levels at key comparison locations. It should be demonstrated that there will be no increase in runoff from the site as a result of the development under all durations for all storm events up to and including the 1% AEP.

- 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 Water Sensitive Urban Design Policy (December 2013).
- 6. Bioretention systems are to facilitate water harvesting and reuse for open space to be assessed as part of future development applications (DA).
- 7. Water quality is to be managed by on-lot rainwater tanks, gross pollutant trap, ponds and rain gardens.
- 8. Erosion control and bank stabilisation measures are to be incorporated within the riparian corridor where required.
- 9. Secure the perimeter of the basins through suitable landscape treatment or fencing and sufficient lighting.
- 10. Ensure the safety and security of residents and pedestrians by providing necessary signage.
- 11. Subject to detailed design, additional lands may be required outside of the RE1 zone to provide for basins.
- 12. Subdivision and Development Applications are to address the objectives and controls set out in the Flood Planning section of the Penrith DCP 2014.

E17.7.3 Contaminated land management

Subdivision Development Applications, and all Development Applications, will need to be assessed against the requirements of section 4.4 Contaminated Land of Part C4 of the Penrith Development Control Plan 2014.

Subdivision Development Applications will be accompanied by a Stage 2 Detailed Site Investigation report as part of the submission documentation.

If the Stage 2 Detailed Site Investigation determines that a Remedial Action Plan is required, it shall be submitted as part of the application Development Application.

All remediation work shall require development consent and is Category 1 works under SEPP (Resilience and Hazards).

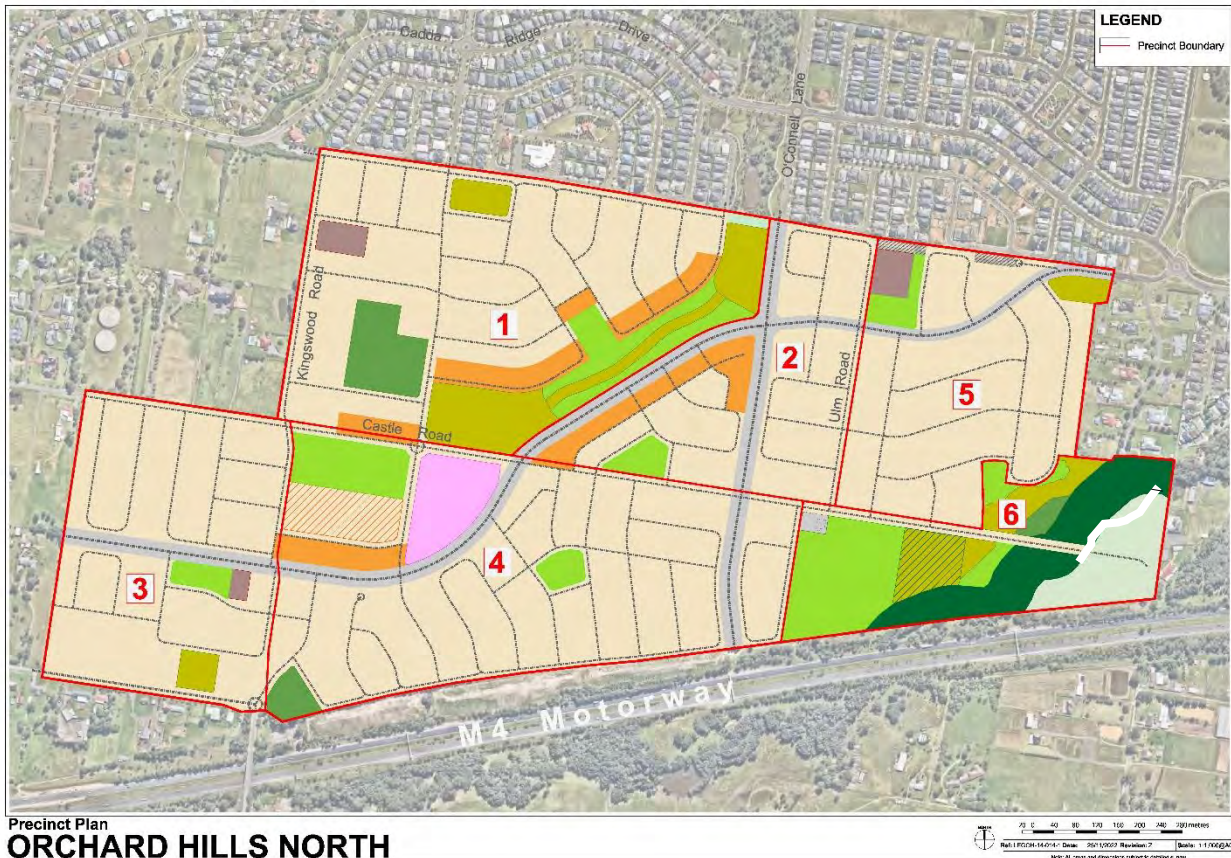
E17.7.4 Development staging

It is envisaged that the development will be staged generally in accordance with the indicative staging plan, **Figure E17.34** below, subject to infrastructure availability/provision and market demand.

The delivery of individual developments must be considered in the context of:

- a. Available and future infrastructure;
- b. Site access;
- c. Flood control;
- d. Public domain delivery;
- e. Traffic and parking limits; and
- f. As each development is delivered, the supporting infrastructure must be provided. All relevant supporting studies must be completed with each major development application.

Figure E17.34: Indicative Staging Plan



Source: Design and Planning

Objectives

- a. To facilitate the orderly delivery of the site;
- b. To ensure that adequate services are provided at each stage of development;
- c. To ensure that infrastructure anticipates future development;
- d. To manage and minimise potential adverse impacts of each major development application, including on adjoining land;
- e. To ensure that development does not exceed floor space or traffic and parking limits identified for the area.

Controls

1. A concept plan is required to accompany the development application for each stage of development, demonstrating no adverse impacts on the proposed subdivision or adjoining land.
2. Each development application for each stage of development is to identify the infrastructure provision necessary to service the development. This includes, but is not limited to:
 - a. Power,
 - b. Water and gas supply,

- c. Drainage works,
 - d. Flood control works,
 - e. Roadworks.
3. Infrastructure provision is to anticipate future development adjacent and linked to the site. The provision is to ensure that any disruption to new roads and services is minimized as future projects are brought online.
 4. Consideration of any flood studies undertaken to determine, in particular, the timing and delivery of any flood mitigation works.
 5. Major new development will require evaluation of parking and traffic generation based on the findings and limits identified in the Traffic Management and Accessibility Plan.
 6. Generally, land adjacent to existing rural areas are to be delivered last.
 7. Staging is indicative only and subject to provision of servicing infrastructure, earthworks strategy and drainage catchments.

E17.8 References

1. Place Design Group - Orchard Hills North – Open Space Strategy (October 2021).
2. J. Wyndham Prince – Flood Management Strategy for Orchard Hills North precinct, 14 February 2023.
3. SCT Consulting - Orchard Hills North Rezoning – Traffic Management and Accessibility Plan (April 2021).