Hawkesbury City Council Growth Centres Precinct

Development Control Plan

NSW GOVERNMENT | Planning & Environment

To view an electronic version in PDF format, visit: www.planning.nsw.gov.au

Department of Planning and Environment

Disclaimer

Contents

1. Introduction 8

1.1 Name and application of this plan 8
1.2 Purpose of this plan 8
1.3 Structure of this plan 8
1.4 Relationship to other planning documents 12
1.4.1. The Act and the Growth Centres SEPP 12
1.4.2. Hawkesbury City Council planning documents 12
1.4.3. Growth Centres Biodiversity Certification 13
1.4.4. Summary of applicable planning documents 13
1.5 Consent authority 13
1.6 Exempt and Complying Development 13
1.7 Development Application Process 15
1.7.1 Development Application Process 15
1.7.2 Lodging a Development Application 16
1.7.3 Notification of Development Applications 16
1.7.4 Variations to Development Controls 16

2. Environmental and Design Considerations for Development 18

2.1 Site analysis 18
2.2 Environmental Considerations 18
2.2.1 Flooding 18
2.2.2 Salinity and soil management 24
2.2.3 Aboriginal and European heritage 27
2.2.4 Native vegetation and ecology 30
2.2.5 Bushfire hazard management 33
2.2.6 Site contamination 33
2.2.7 Odour assessment and control 33
2.3 Site responsive design 34
2.3.1 Cut and fill 34
2.3.2 Sustainable building design 35
2.4 Water Cycle Management 36
2.4.1 Stormwater management 36

3. Precinct Planning Outcomes 40

3.1 Introduction 40
3.2 Vision 40
3.3 The Indicative Layout Plan 40

4. Neighbourhood and Subdivision Design 43

4.1 Residential Density and Subdivision 43
4.1.1 Residential Density 44
4.1.2 Block and Lot Layout 46
4.1.3 Battle-axe lots 52

4.1.4 Corner Lots 55
4.1.5 Environmental Living Lots 56
4.2 Subdivision Approval Process 56
4.3 Construction Environmental Management 59
4.4 Movement Network 59
4.4.1 Street layout and design 59
4.4.2 Laneways 66
4.4.3 Shared Driveways 70
4.4.4 Access to arterial and sub-arterial roads 72

5. Development in the Residential and Environment Protection Zones 75

5.1. Dwelling design controls 75
5.1.1 Summary of Key Controls 75
5.1.2 Streetscape and architectural design 81
5.1.3 Front setbacks 85
5.1.4 Side and rear setbacks 87
5.1.5 Dwelling Height, Massing and Siting 90
5.1.6 Landscaped Area 90
5.1.7 Private Open Space 91
5.1.8 Garages, Site Access and Parking 92
5.1.9 Visual and acoustic privacy 93
5.1.10 Fencing 95
5.2. Additional controls for certain dwelling types 96
5.2.1 Residential development adjacent to transmission easements 96
5.2.2 Attached dwellings 96
5.2.3 Secondary dwellings, studio dwellings and dual occupancies 97
5.2.4 Multi dwelling housing 99
5.2.5 Residential flat buildings, manor homes and shop top housing 100
5.3. Other development in residential and environment protection zones 103
5.3.1 General requirements 103
5.3.2 Educational Establishments and Places of Worship 104
5.3.3 Neighbourhood Shops 106
5.3.4 Seniors Housing 107
5.3.5 Farm Buildings and Outbuildings 108

6. Centres Controls 110

6.1 Introduction 110
6.2 Development controls 110
6.2.1 Streetscape and architectural design 110
6.2.2 Building bulk, scale and design 114
6.2.3 Signs 115
6.2.4 Acoustic and visual privacy 116
6.2.5 Safety, surveillance and maintenance 116
6.2.6 Site servicing 117
6.2.7 Traffic circulation, parking and access 118
6.2.8 Residential flat buildings, manor homes and shop top housing 119

Appendices

Appendix A – Glossary

Appendix B – Riparian Protection Area Controls

Appendix C – Salinity Management Plan

Appendix D –Preferred Plant Species

Appendix E – Lodgement Requirements

Figures

Figure 1-1 Land Application Map 10
Figure 1-2 Vineyard Precinct in the context of the North West Growth Area 11
Figure 1-3 Development Approval process 15
Figure 2-1 Flood Planning Area 22
Figure 2-2 Indicative horizontal extent of the *1% AEP proposed regional flood level* 23
Figure 2-3 Areas of potential salinity 26
Figure 2-4 Aboriginal cultural heritage 28
Figure 2-5 European cultural heritage 29
Figure 2-6 Riparian Protection Area 32
Figure 2-7 Maximum cut and fill within residential lots 35
Figure 2-8 Water Cycle Management 38
Figure 3-1 Vineyard Precinct Indicative Layout Plan 41
Figure 4-1 Example of how to calculate Net Residential Density 43
Figure 4-2 Distinct and coherent streetscapes occur in varying proportions in density bands 45
Figure 4-3 Residential Structure 48
Figure 4-4 Measurement of minimum lot widths and lot area 50
Figure 4-5 Two examples of lot subdivision for 'sets' of attached terraces 52
Figure 4-6 Examples of locations of battle-axe lots 53
Figure 4-7 Examples of driveways and shared driveways for battle-axe lots 54
Figure 4-8 Corner lots 55
Figure 4-9 Sample of a Building Envelope Plan (BEP) 58
Figure 4-10 Sample of a Public Domain Plan (PDP) 58
Figure 4-11 Precinct Road Hierarchy 62
Figure 4-12 Typical collector road 63
Figure 4-13 Typical local street 63
Figure 4-14 Typical access street 64
Figure 4-15 Indicative location and design of roundabout at Harkness Road and Commercial Road 64
Figure 4-16 Indicative location and design of roundabout at Harkness Road and new collector road 65
Figure 4-17 Indicative location and design of roundabout at Commercial Road and new collector road 65
Figure 4-18 Indicative location of off road shared pedestrian and bicycle pathways 66
Figure 4-19 Laneway principles 68
Figure 4-20 Sample lane layouts 69
Figure 4-21 Sample laneways showing maximum number of secondary dwellings or strata studios 70
Figure 4-22 Indicative examples of shared driveways 72
Figure 5-1 The combination of built form, lot size, garaging and landscaping creates different streetscapes 82
Figure 5-2 Streetscape design principles 84
Figure 5-3 Minimum front setback distances 85

Figure 5-4 Minimum front setbacks for dwellings fronting open space or drainage land 86
Figure 5-5 Minimum setbacks for corner lot dwellings 86
Figure 5-6 Dwelling and open space siting principles for different lot orientations 88
Figure 5-7 Battle axe lot without any street frontage setbacks 89
Figure 5-8 Battle axe lot fronting access denied road setbacks 89
Figure 5-9 Soft landscaped area and principal private open space 91
Figure 5-10 Measures to attenuate noise 93
Figure 5-11 Strategies for minimising noise transmission 95
Figure 5-12 Fencing design for corner lots 96
Figure 6-1 Centres Hierarchy 111
Figure 6-2 Awnings 113
Figure 6-3 Preferred locations for signs 116

Tables

Table 1-1 Structure of the Hawkesbury City Council Growth Centres DCP 2017 8
Table 1-2 Guide to the controls in this DCP 12
Table 2-1 Water quality and environmental flow targets 37
Table 4-1 Typical characteristics of residential net densities 44
Table 4-2 Minimum lot size by density bands 49
Table 4-3 Minimum lot frontages by density bands 49
Table 4-4 Subdivision Approval Process 56
Table 4-5 Street Types 61
Table 5-1 Summary of lot and dwelling types 76
Table 5-2 Summary of key controls for lots with frontage width ≥4.5m for rear accessed dwellings 77
Table 5-3 Summary of key controls for lots with frontage width ≥ 7m and < 9m for front accessed dwellings 78
Table 5-4 Summary of key controls for lots with frontage width ≥ 9m and ≤15m for front accessed dwellings 79
Table 5-5 Summary of key controls for lots with frontage width > 15m for front accessed dwellings 80
Table 5-6 Summary of key controls for lots in the Environmental Living Zone 81
Table 5-7 Noise levels permitted within habitable rooms for residential premises impacted by traffic and rail noise 94
Table 5-8 Key controls for secondary dwellings and studio dwellings 98
Table 5-9 Key controls for multi dwelling housing 100
Table 5-10 Key controls for residential flat buildings, manor homes and shop top housing 101
Table 5-11 Car parking requirements for places of public worship and educational establishments 106
Table 6-1 Parking requirements in centres 118

1. Introduction

1. Introduction

1.1 Name and application of this plan

This Development Control Plan (DCP) is the Hawkesbury City Council Growth Centres Precinct Development Control Plan 2017. It has been prepared pursuant to the provisions of Section 72 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

This DCP applies to all development within land identified as Stage 1 of the Vineyard Precinct, as illustrated in **Figure 1-1**. **Figure 1-2** illustrates the Vineyard Precinct in the context of the North West Growth Area (NWGA).

This DCP was adopted by the Secretary (or delegate) of the Department of Planning and Environment on 8 January 2018 and came into force on 18 January 2018.

1.2 Purpose of this plan

The purpose of this DCP is to:

a. Communicate the planning, design and environmental objectives and controls against which Hawkesbury City Council (Council) will assess Development Applications (DAs);

b. Ensure the orderly, efficient and environmentally sensitive development of the Precinct as envisaged by the North West Land Use and Infrastructure Implementation Plan and *State Environmental Planning Policy (Sydney Region Growth Centres) 2006* (the Growth Centres SEPP); and

c. Promote high quality urban design outcomes within the context of environmental, social and economic sustainability.

1.3 Structure of this plan

Table 1-1 provides a summary of the content of each of the seven parts and the appendices.

Table 1-1 Structure of the Hawkesbury City Council Growth Centres DCP 2017

Part	Summary
1 – Introduction	Sets out the aims and objectives of the DCP, identifies the land to which the DCP applies, explains the structure of the document, the relationship of the DCP to other planning documents, and explains procedures for exempt and complying development and submitting a DA.
2 - Environmental and Design Considerations for Development	Sets out the matters to be addressed when carrying out a site analysis to inform the design of subdivisions and other developments. This part of the DCP provides the considerations and requirements for development in relation to the physical constraints of the land.
3 – Precinct Planning Outcomes	Sets out the vision for the Precinct and the general structural elements of the Indicative Layout Plan which development should comply with.
4 – Neighbourhood and Subdivision Design	Provides objectives and controls related to residential subdivision design including the residential density and character, neighbourhood design, movement network, street and laneway design, the subdivision approval process and construction environmental management.
5 – Development in the Residential and Environment Protection Zones	Establishes the objectives and controls that guide residential development, including dwelling houses, semi-detached, and attached dwellings, multi unit housing, secondary and studio dwellings, dual occupancies, manor homes, residential flat buildings and shop top housing. Also covers residential amenity controls such as streetscape, safety, privacy, sustainable building design and fencing. This part also contains controls applying to non-residential development such as schools, place of worship, neighbourhood shops, seniors housing and farm and outbuildings.
6 – Centres Controls	Provides objectives, controls and design principles for the town centre.

Appendix A – Glossary	Explains the terms used in the DCP.
Appendix B – Riparian Protection Area Controls	Provides details of the management of the riparian zones along the main creek lines in the Precinct, and the management of stormwater quantity and quality from development, to achieve environmental objectives for waterways.
Appendix C – Salinity Management Plan	Provides details to guide subdivision and building DAs and works, to minimise the potential of developments increasing the risk of, and impacts from, soil and groundwater salinity.
Appendix D – Preferred Plant Species	Provides a list of plant species that are preferred for use in landscaping within the Precinct.
Appendix E – Lodgement Requirements	Provides a checklist of the lodgement requirements for all DAs.

Notes to readers are provided throughout this document. These notes are intended to provide additional guidance and explanation of the provisions. If further guidance is required on the interpretation of provisions in the DCP, readers should refer to the definitions or contact Council for advice.

Figure 1-1 Land Application Map

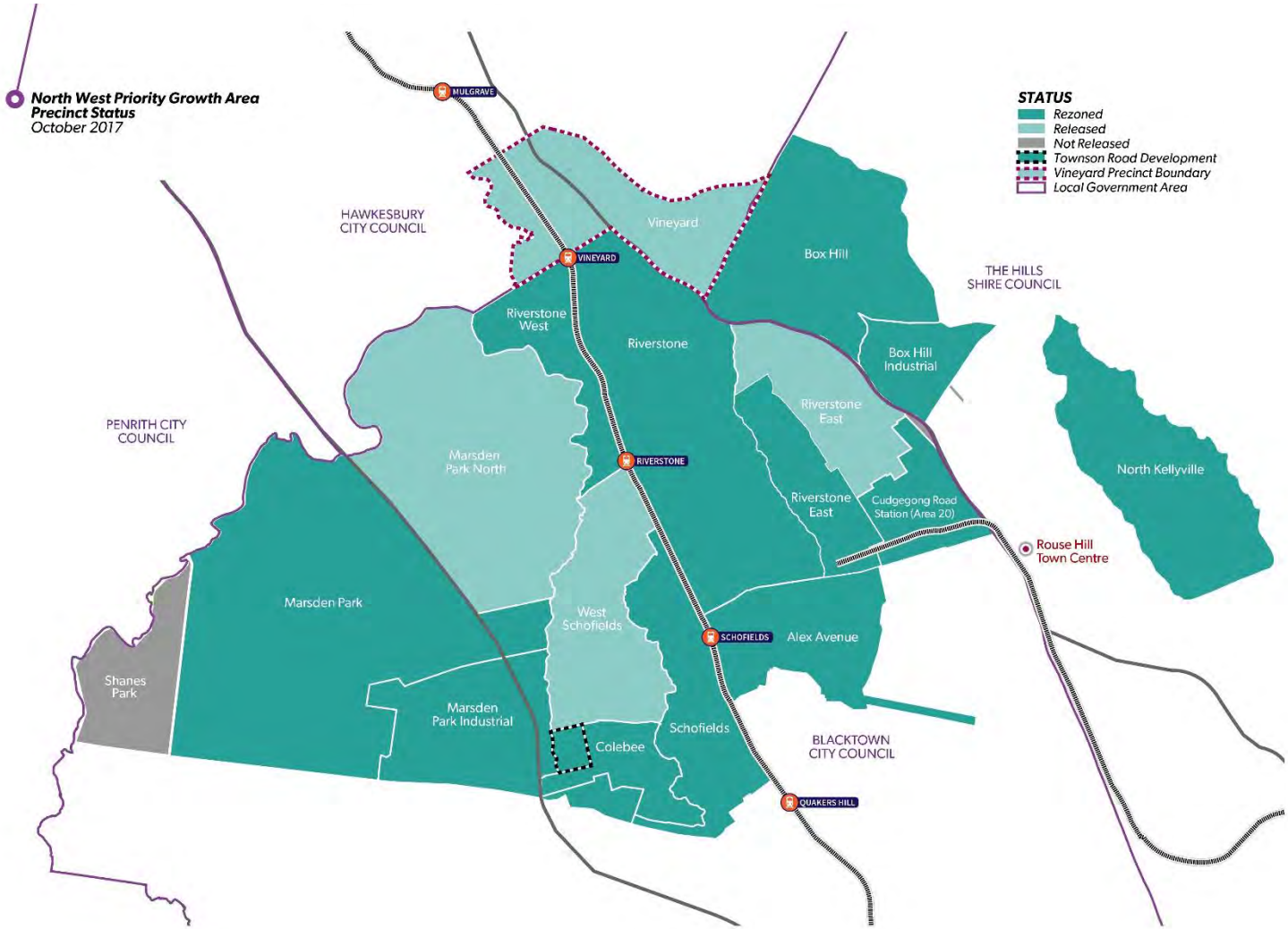


Figure 1-2 Vineyard Precinct in the context of the North West Growth Area

Table 1-2 summarises the controls that are applicable to the main types of development identified in this DCP.

Table 1-2 Guide to the controls in this DCP

Relevant DCP Part	Residential Subdivision	Dwelling House	Dual Occupancy Secondary Dwelling Studio Dwelling	Attached Dwelling	Semi-Detached Dwellings	Multi Dwelling Housing	Residential Flat Buildings Manor Home	Non-residential Development *	Shop top Housing	Retail/ Commercial Development
Part 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Part 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Part 3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Part 4	✓									
Part 5.1		✓	✓	✓	✓	✓	✓		✓	
Part 5.2		✓	✓	✓	✓	✓	✓		✓	
Part 5.3								✓		✓
Part 6									✓	✓
Appendices	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Note: *Applies to non-residential development on land in the residential and environment protection zones

1.4 Relationship to other planning documents

1.4.1. The Act and the Growth Centres SEPP

This DCP has been prepared under the EP&A Act. It has been prepared to provide additional objectives, controls and guidance to applicants proposing to undertake development in the Vineyard Precinct, and for Council's reference in the assessment of DAs. It should be read in conjunction with the Growth Centres SEPP. The Growth Centres SEPP and the Vineyard Precinct Plan provide the statutory planning controls for development in the Precinct. This DCP is consistent with, and supports those controls, by providing more detail in relation to how development is to occur in the Precinct.

1.4.2. Hawkesbury City Council planning documents

Hawkesbury Local Environmental Plan 2012 and the Hawkesbury Development Control Plan 2002 do not apply to land to which this DCP applies[1], except where specifically referred to in the Growth Centres SEPP and this DCP. Some other design standards and guidelines of Council continue to apply, such as Council's *Civil Works Specifications*. Where existing policies, procedures and guidelines continue to apply to the Vineyard Precinct, these are specifically referred to in the relevant parts of this DCP. In the event of an inconsistency between this DCP and referenced Council policies, procedures and guidelines, this DCP prevails to the extent of the inconsistency.

[1] Hawkesbury Local Environmental Plan 2012 and the Hawkesbury Development Control Plan 2002 continue to apply to land outside of Stage 1 of the Vineyard Precinct.

1.4.3. Growth Centres Biodiversity Certification

The *Biodiversity Conservation Act 2016* (BC Act) provides for the protection of threatened species and threatened ecological communities in NSW. Typically, threatened species and ecological community issues are addressed during both the rezoning of land and when DAs are submitted to, and assessed by Council. However, the BC Act also provides for planning instruments to be "certified", meaning that the assessment of threatened species and ecological communities is done at the rezoning stage and does not need to be further considered at the DA stage. This approach provides for more strategic assessment and management of threatened species and ecological community issues, and streamlines the DA process.

Biodiversity Certification was conferred upon the Growth Centres SEPP on 14 December 2007 via the gazettal of a Biodiversity Certification Order signed by the then Minister for Climate Change and the Environment. The Order requires 2,000 hectares (ha) of "existing native vegetation" (ENV) to be retained across the North West and South West Growth Centres. A BC Act assessment will be required to be undertaken for any clearing of ENV within Non-Certified Areas and vegetation removal may need to be offset in accordance with the Biodiversity Certification Ministerial Order.

The Vineyard Indicative Layout Plan, Precinct Plan and this DCP have been prepared in accordance with the Biodiversity Certification Order. The majority of land within the Growth Centre Precincts is certified, meaning that development can occur without the need for further assessment under the BC Act. The Precinct Plan contains controls to restrict the clearing of ENV and this is the principal mechanism for ensuring consistency with the Biodiversity Certification Order. This DCP contains other objectives and controls in relation to the protection and enhancement of native vegetation, consistent with the Biodiversity Certification Order.

1.4.4. Summary of applicable planning documents

Applicants proposing to undertake development in the Precinct, and Council when assessing DAs, should refer to:

- the Growth Centres SEPP, as amended, including the Vineyard Precinct Plan at the relevant Appendix;
- this DCP;
- the relevant Section 94 Contributions Plan; and
- the Growth Centres Biodiversity Certification Order, December 2007 and related amendments to the BC Act.

1.5 Consent authority

Council is the consent authority for all development on land to which this DCP applies unless otherwise authorised by the EP&A Act. Council will use this DCP in its assessment of DAs.

1.6 Exempt and Complying Development

The EP&A Act enables certain forms of development to be classified as either exempt development or complying development through environmental planning instruments.

- **Exempt development** is development of a minor nature that can be undertaken without the need for development consent.
- **Complying development** is development that, providing that certain criteria are met, can be assessed through the issuance of a complying development certificate.

The *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008* and the associated *Housing Code* provides controls for the siting and design of detached housing on lots 300m² and larger, as well as alterations and additions to existing residential dwellings up to two storeys.

Development that meets the criteria in the *Housing Code* is complying development and this DCP does not apply.

The *NSW Commercial and Industrial Code* outlines how internal modifications to commercial and industrial premises in certain zones can meet the complying development criteria.

Where a development does not meet the requirements of these Codes, consent is required and this DCP applies.

1.7 Development Application Process

1.7.1 Development Application Process

The DA process is summarised in **Figure 1-3.**

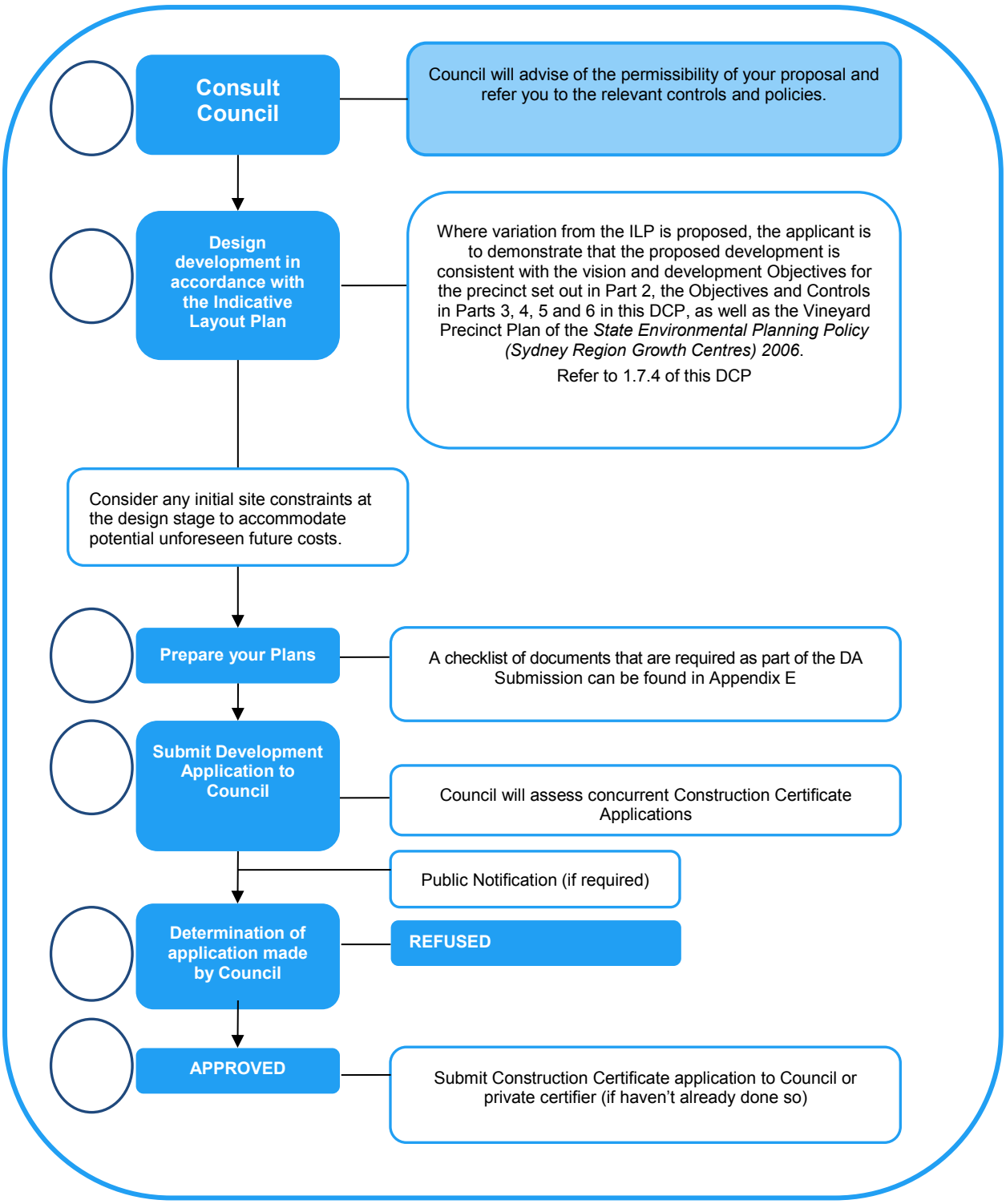


Figure 1-3 Development Approval process

1.7.2 Lodging a Development Application

The documents that are to accompany a DA are listed in **Appendix E** to this DCP.

1.7.3 Notification of Development Applications

DAs shall be notified in accordance with the relevant chapter of the Hawkesbury Development Control Plan 2002 or such other Development Control Plan (or equivalent) that might replace it.

1.7.4 Variations to Development Controls

Council may grant consent to a proposal that does not comply with the controls in this DCP, providing the intent of the controls is achieved. Similarly, Council may grant consent to a proposal that varies from the Indicative Layout Plan (ILP) where the variation is considered to be minor and the proposal remains generally consistent with the ILP. As such, each DA will be considered on its merits.

Where variation from the ILP is proposed, the applicant is to demonstrate that the proposed development is generally consistent with the Objectives and Controls in Parts 2, 3, 4, 5 and 6 (as relevant), as well as the Vineyard Precinct Plan under the Growth Centres SEPP.

Where a variation is sought it must be justified in writing indicating how the development is meeting the intent of the objectives of the relevant control and/or is generally consistent with the ILP.

A proposed departure from the development controls contained in this DCP will only be considered where written justification is provided for such departure which demonstrates:

- connectivity of the road network;
- why the controls are unreasonable or unnecessary in the circumstances;
- how the development will achieve the aims and objectives of the DCP, ILP and Precinct Plan under the Growth Centres SEPP despite the proposed departure; and
- what innovative and improved outcomes will be achieved by the development to justify the departure.

2. Environmental and Design Considerations for Development

2. Environmental and Design Considerations for Development

2.1 Site analysis

Site analysis for each individual lot is an important part of the design process. Development proposals need to illustrate design decisions which are based on careful analysis of the site conditions and their relationship to the surrounding context. By describing the physical elements of the locality and the conditions impacting on the site, opportunities and constraints for development can be understood and addressed in the design.

A Site Analysis Plan must be submitted with any DA and should show the existing features of the site and its surrounding area, together with supporting written material. At a minimum, the Site Analysis Plan must show the following features (for further guidance refer to **Appendix E**):

- the position of any proposed building(s) in relation to site boundaries and any other structures and existing vegetation and trees on the site;
- any easements over the land;
- location of services (electricity, sewer, stormwater, gas, telecommunications);
- the location, boundary dimensions, site area and north point of the land;
- location of existing street features adjacent to the property, such as trees, planting, street lights, street/road intersections;
- contours and existing levels of the land in relation to buildings and roads and, whether the proposed development will involve any changes to these levels;
- location and uses of any buildings on sites adjoining the land, as well as trees located adjacent to shared boundaries; and
- a concept stormwater plan.

2.2 Environmental Considerations

The following parts contain matters to be addressed in relation to existing site characteristics when planning new development.

2.2.1 Flooding

Definitions

Annual Exceedance Probability (AEP) means the chance of a flood of a given or larger size occurring in any one year, usually expressed as a percentage.

Commercial development means any of the following development types child care centres, community facilities, food and drink premises, health consulting rooms, home based child care, home businesses, home industries, home occupations, information and education facilities, neighbourhood shops, places of public worship, public administration buildings, recreational facilities (indoor), respite day care, veterinary hospitals,

Flood planning area means the area so described in **Figure 2-1** or any other area of land adopted by Council for the purposes of this DCP.

Floodway means those areas of the floodplain where a significant discharge of water occurs during floods. They are often aligned with natural defined channels. Floodways are areas that even if only partially blocked, would case a significant redistribution of flood flow, or a significant increase in flood levels.

Habitable floor means:

- in a **residential situation**: a room used for normal domestic activities and includes a bedroom, living room, lounge room, music room, television room, kitchen, dining room, sewing room, study, playroom and sunroom. It excludes a bathroom, laundry, water closet, food-storage pantry, walk in wardrobe, corridor, hallway, lobby, photographic darkroom, clothes drying room, and other spaces of a specialised nature that are occupied only infrequently; and
- in all **other situations:** an area used for offices, the display or sale of goods and services and/or to store valuable possessions susceptible to flood damage in the event of a flood and/or an area that is likely to be occupied frequently or for extended periods.

Recreation or Non-Urban Uses means any of the following development types environmental facilities, kiosks, markets, recreational facilities outdoor.

Residential development means any of the following development types: attached dwellings, bed and breakfast accommodation, dual occupancy, dwelling houses, exhibition homes, manor homes, multi dwelling housing, residential flat buildings, secondary dwellings, semi-detached dwellings, shop top housing, studio dwellings.

1% AEP existing regional flood level means the flood level as shown in map titled *Vineyard ILP 1% AEP Existing Regional Flood Depth (Tail Water 17.3m AHD)*, drawing number VY_EXR_100yr_360m_D, dated 31/10/2017 contained in Appendix D to *Water Cycle Management Report Vineyard Precinct, October 2017* prepared by Mott MacDonald.

1% AEP proposed regional flood level means the flood level as shown in map titled *Vineyard ILP 1% AEP Proposed Regional Flood Depth (Tail Water 17.3m AHD)*, drawing number VY_PRR_100yr_360m_D, dated 31/10/2017 contained in Appendix D to *Water Cycle Management Report Vineyard Precinct, October 2017* prepared by Mott MacDonald.

Flood planning level means the following:

- the *1% AEP proposed regional flood level* plus any applicable freeboard, or
- any other 1% AEP related flood level plus any applicable freeboard adopted by Council for the purposes of this DCP.

Note: The *Water Cycle Management Report Vineyard Precinct, October 2017* prepared by Mott MacDonald proposes a range of waterway realignments and stormwater management devices to achieve the *1% AEP proposed regional flood level*. Such realignments and management devices will be built over time as funding and delivery arrangements permit. Where *the 1% AEP existing regional flood level* is greater than the *1% AEP proposed regional flood level* developers will need to manage existing flooding onsite with temporary solutions until such time as the relevant realignments and management devices are realised. This may involve the installation of temporary works such as temporary on-site detention and temporary flood storage works and the delayed development of part of the subject site. The horizontal extent of the *1% AEP proposed regional flood level* is indicatively shown in **Figure 2-2**.

Objectives

a. To minimise the flood risk to life and property with the use of land.

b. To allow development on land that is compatible with the land's flood hazard.

c. To allow development that will not have a significant adverse effect on flood behaviour.

Controls – Riverine flooding - General

1) In general, Council will not support development, including the filling of land, within a *floodway* due to its function as the main flow path for flood waters once the main channel has overflowed and the possibility that a significant threat to life and property exists in a major flood.

Controls – Riverine flooding - Subdivision

2) Each lot created by the subdivision of land within a residential zone is to be located wholly at a level at or above the *flood planning level* unless it is also a subdivision to which control 3) applies.
3) Each lot created by the subdivision of land within the E4 Environmental Living zone must have an area of land with a level at or above the *flood planning level* sufficient in area for the erection of a dwelling house. The dwelling house area may be on land zoned E4 Environmental Living or on land that is zoned for residential purposes if the lot contains such zoned land.
4) All lots created by the subdivision of land must provide vehicular access with a level at or above the *flood planning level* from the proposed dwelling area to a public road.

Note: Controls 2) – 4) do not apply to:

- a lot created for a public purpose, a lot created as neighbourhood property in a community title subdivision or common property in a strata title subdivision
- a lot created in the E4 Environmental Living zone as a result of part or parts of the property being subdivided for public purposes and no additional lots for the purposes of erecting a dwelling are created within the E4 Environmental Living zone

5) Roads serving residential and environmental living areas are to be located at or above the *flood planning level*.

Controls – Riverine flooding - Building

6) DAs are to demonstrate:
    - whether the land is within a floodway or flood storage area;
    - whether the proposed building materials are flood compatible;
    - whether the building is structurally adequate to withstand the likely impacts of flood water, including buoyancy forces;
    - whether the buildings are to be sited in the optimum position to avoid flood waters and allow evacuation;
    - whether the orderly and safe evacuation of people from the development can be achieved;
    - whether proposed structures or the filling of land are likely to affect flood flows;
    - whether earthworks required to maintain the capacity of the floodplain and flood flow velocities will impact on soil salinity and soil stability; and
    - the potential impact of the development, including earthworks, on native vegetation.
7) For development on land designated as being within a floodway (other than agriculture, cultivation and minor alterations to existing buildings), DAs are to demonstrate that:
    - the development will not increase flood hazard or damage to other properties or adversely affect them in any way, by the provision of a report from a professional civil engineer

experienced in hydraulics; and

- the building can withstand the force of flooding, by the provision of a detailed report from a professional structural engineer.

8) For *residential development* and *commercial development, habitable floor* levels are to be at or above the *flood planning level*.

9) For *recreation or non-urban uses*:
   - all permanent structures are to have flood compatible building components and flood compatible building methods up to and including the *flood planning level*;
   - an Engineer's report is to be provided certifying that the permanent structures can withstand the forces of floodwater, debris and buoyancy up to and including the *flood planning level*. In the case of alterations or additions to an existing development, the structure to be certified is that which is proposed to be newly constructed; and
   - the minimum surface level of open car parking spaces, carports or garages, shall be as high as practical. The driveway providing access between the road and parking space shall be as high as practical and generally rising in the egress direction.

10) For additions or alterations to an existing dwelling that existed at the date of commencement of this DCP:
   - any additional floor area shall not exceed 40% of the *habitable floor* area that existed at the date of commencement of this DCP;
   - additional *habitable floor* levels are to be at or above the *flood planning level*. Where this is not practical due to compatibility with the floor level of the existing building, compatibility with the height of adjacent buildings, or the need for access for persons with disabilities, a lower floor level may be considered. In these circumstances, the floor level is to be as high as practical and no lower than the existing *habitable floor* level;
   - a restriction is to be placed on the title of the land, pursuant to S.88B of the Conveyancing Act, where the lowest *habitable floor* area is elevated above finished ground level, confirming that the undercroft area is not to be enclosed, where Council considers this may potentially occur;
   - building additions and alterations are to have flood compatible building components and flood compatible building methods up to and including the *flood planning level*; and
   - an Engineer's report is to be provided certifying that the building additions can withstand the forces of floodwater, debris and buoyancy up to and including the *flood planning level*.

Note: Where development is proposed within or adjacent to land that is shown on **Figure 2-1**, Council may require a more detailed flood assessment to be undertaken by the applicant to confirm the extent of the flood affectation on the subject land.

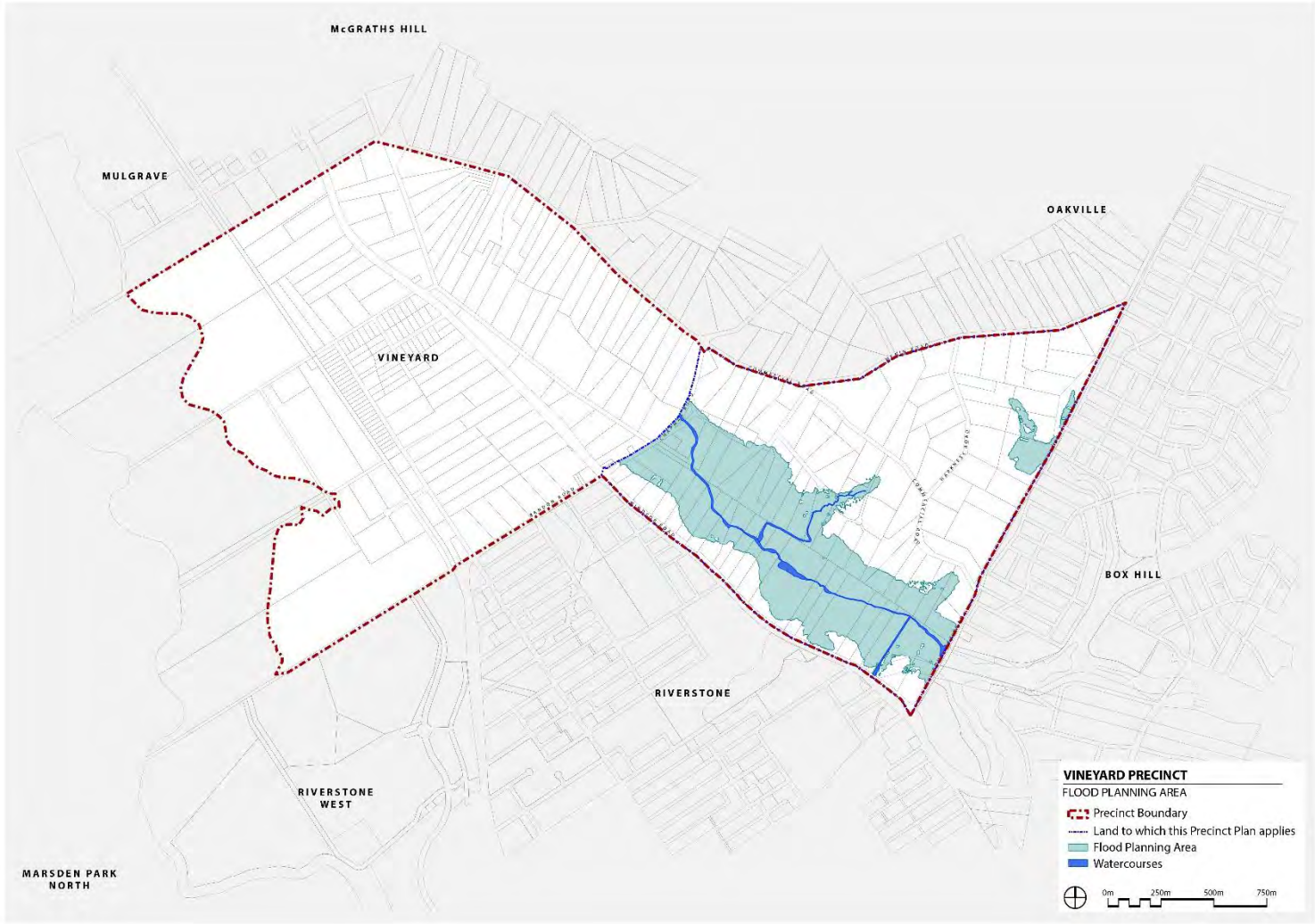


Figure 2-1 Flood Planning Area

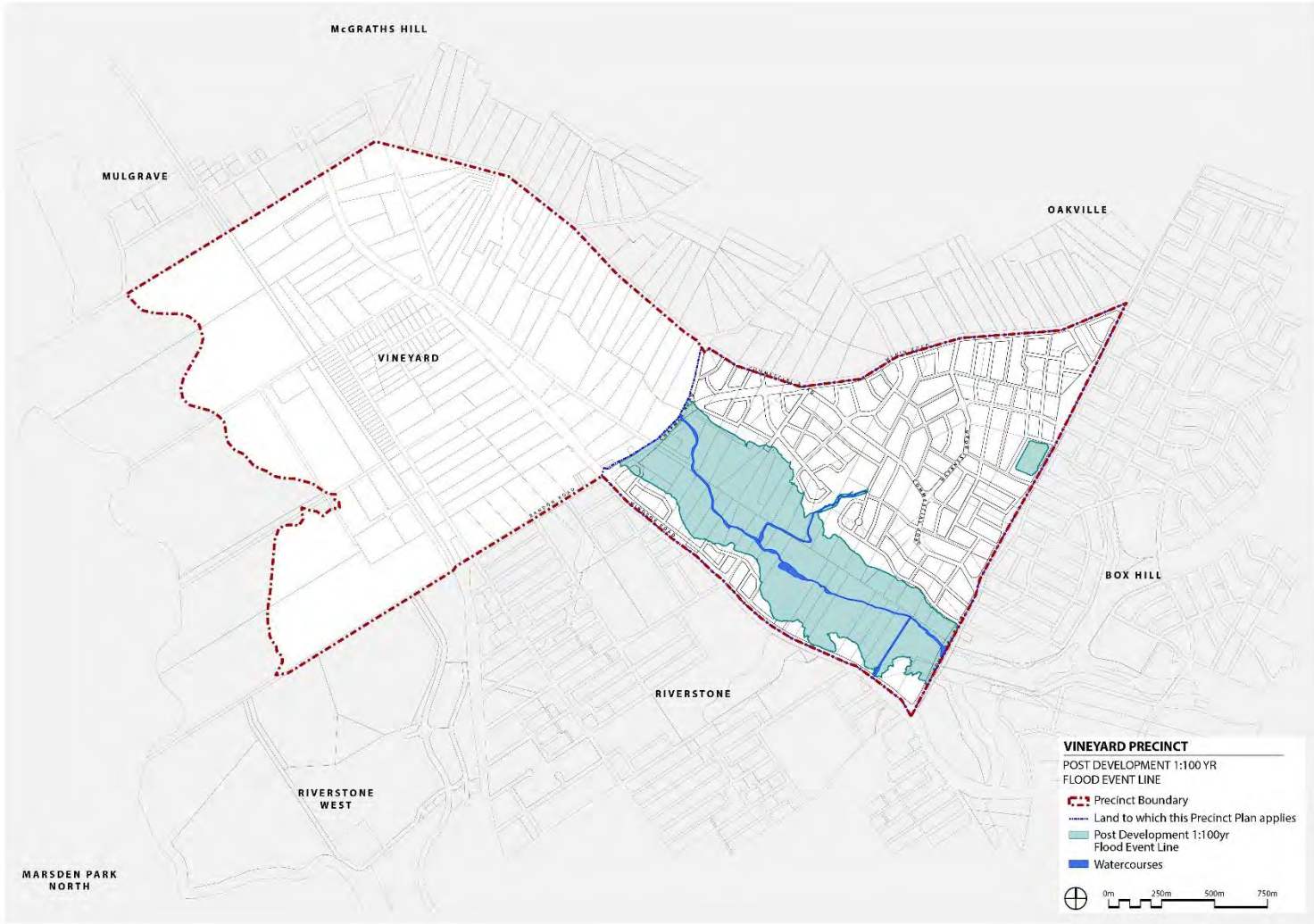


Figure 2-2 Indicative horizontal extent of the *1% AEP proposed regional flood level*

2.2.2 Salinity and soil management

Objectives

a. To manage and mitigate the impacts of, and on, salinity and sodicity.

b. To minimise the damage caused to property and vegetation by existing saline soils, or processes that may create saline soils.

c. To ensure development will not significantly increase the salt load in existing watercourses.

d. To prevent degradation of the existing soil and groundwater environment, and in particular, to minimise erosion and sediment loss and water pollution due to siltation and sedimentation.

Controls - Subdivision

1) DAs are to demonstrate how salinity shall be considered during the planning, design and carrying out of earthworks, rehabilitation works and during the siting, design and construction of all development, including infrastructure:
   - to protect development and other works from salinity damage; and
   - to minimise the potential impacts that development and other works may have on salinity.
2) Every DA on land identified in **Figure 2-3** as being in an 'Area where management measures will be required due to moderately saline or very saline soils, or soils which are mildly aggressive to concrete' or an 'Area where a salinity report is required' are to be accompanied by a salinity report prepared by a suitably qualified person. The report is to cover the conditions of the site, the impact of the proposed subdivision or development on any saline land, the land's suitability for future development and the mitigation measures that will be required during the course of construction. The qualified person is to certify the project upon completion of the works.
3) Investigations and sampling for salinity are to be conducted in accordance with the requirements of *Site Investigations for Urban Salinity* (Department of Land and Water Conservation, 2002). Where applicable, the salinity report shall also report on the issues of soil aggressivity and sodicity and any mitigation measures required. All works are to comply with the *Western Sydney Salinity Code of Practice*, WSROC, 2004.
4) A comprehensive Salinity Management Plan must be submitted based on the findings of the site specific investigation and prepared in accordance with the *Western Sydney Salinity Code of Practice*, WSROC, 2004 and **Appendix C**. All DAs are to demonstrate that the recommendations of the Salinity Management Plan have been incorporated into the development.
5) Salinity and sodicity management actions are to complement Water Sensitive Urban Design (WSUD) strategies, improving or at least maintaining the current condition, without detriment to the waterway environment.
6) All developments must incorporate soil conservation measures to minimise soil erosion and siltation during construction and following completion of development. Soil and Water Management Plans, prepared in accordance with *Managing Urban Stormwater: Soils and Construction*, Landcom ('The Blue Book'), are to be submitted with each DA.

Controls - Building

7) All development must comply with the Salinity Management Plan developed at the subdivision phase. The actions/works from the Salinity Management Plan must be certified upon completion of the development. DAs must demonstrate compliance with the Salinity Management Plan.
8) Salinity shall be considered in the siting, design and construction of buildings (including: drainage,

vegetation type and location, foundation selection and cut and fill activities), to ensure the protection of the building from salinity damage and to minimise the impacts development may have on the salinity process, and must have regard to the recommendations of the Salinity Management Plan.

9) In salinity prone areas materials for pipe infrastructure, foundations and brickwork must have sulfate resistant properties to cope with the saline conditions.
10) Applications for new buildings must be consistent with any conditions of consent for the subdivision of the land in relation to the management of soil salinity, sodicity and aggressivity, and with the Salinity Management Plan.
11) Salt tolerant plant species are to be chosen for landscaping purposes.

Figure 2-3 Areas of potential salinity

2.2.3 Aboriginal and European heritage

Objectives

a. To manage Aboriginal heritage values to ensure enduring conservation outcomes.

b. To ensure areas identified as archaeologically or culturally significant are managed appropriately.

Controls – Aboriginal Heritage

1) **Figure 2-4** identifies sites of known Aboriginal Heritage and areas of high and moderate–high Aboriginal archaeological potential.
2) In order to ensure that a person undertaking any development or activities on land does not harm Aboriginal objects, DAs must identify any areas of Aboriginal heritage value that are within or adjoining the area of the proposed development, including any areas within the development site that are to be retained and protected (and identify the management protocols for these).
3) Developments or other activities that will impact on Aboriginal heritage may require consent from the Office of Environment and Heritage under the *National Parks and Wildlife Act 1974* and consultation with the relevant Aboriginal communities.
4) Any DA that is within or adjacent to land that contains a known Aboriginal cultural heritage site, as indicated on **Figure 2-4,** must consider and comply with the requirements of the *National Parks and Wildlife Act 1974.* An Aboriginal Heritage Impact Permit (AHIP) issued under Part 6 of the *National Parks and Wildlife Act 1974* (NPW Act) is required for any works which directly affect these sites.
5) Where the necessary consents have already been obtained from the Office of Environment and Heritage, the DA must demonstrate that the development will be undertaken in accordance with any requirements of that consent.

Notes: Applicants should consult with the Office of Environment and Heritage to determine requirements for assessment and approval where developments or other works are to be carried out on or near Aboriginal heritage sites identified on the Aboriginal cultural heritage sites figure.
Council or Office of Environment and Heritage may require additional investigations to be undertaken as part of a DA to confirm the presence of Aboriginal cultural heritage on the land.
Where works uncover items that may be of Aboriginal cultural heritage, the developer is to consult with Office of Environment and Heritage to determine an appropriate course of action.

Controls – European Heritage

6) Applications for subdivision and building on land identified as a heritage item on **Figure 2-5** are to be accompanied by a report from a suitably qualified heritage consultant detailing the results of archaeological investigations undertaken to confirm the presence of archaeological material relating to the heritage site. Where archaeological material is identified, the proposal is to address the requirements of the *Heritage Act 1977***.**
7) Any DA on, adjacent to or in the vicinity of, land identified as a heritage item on **Figure 2-5** is to be consistent with the relevant Heritage Conservation chapter of the Hawkesbury Development Control Plan 2002 or such other Development Control Plan (or equivalent) that might replace it.
8) A Heritage Impact Statement is to be submitted with any DA on, adjacent to or in the vicinity of, land identified as a heritage item on **Figure 2-5.**

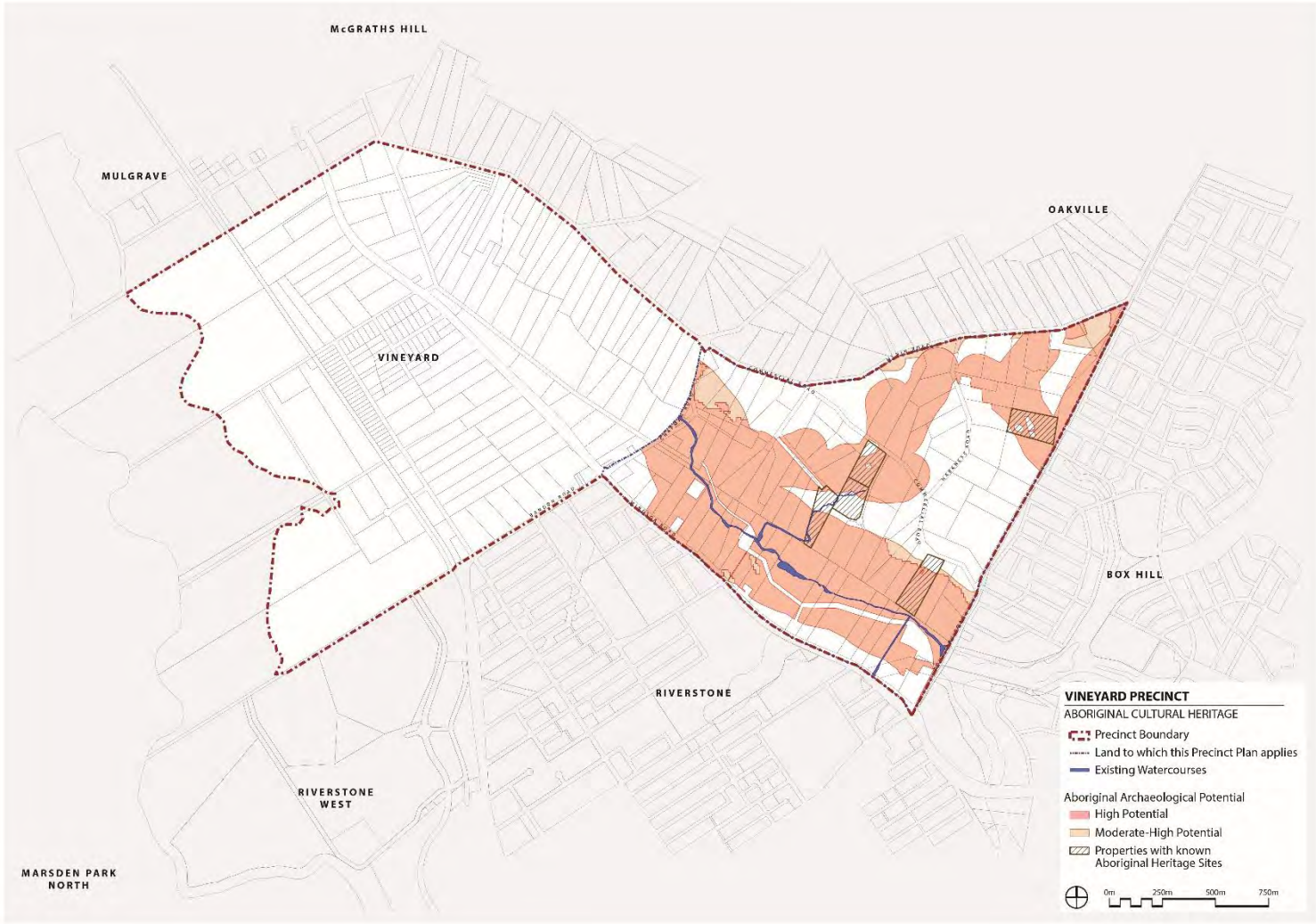


Figure 2-4 Aboriginal cultural heritage

Figure 2-5 European cultural heritage

2.2.4 Native vegetation and ecology

Objectives

a. To conserve and rehabilitate the remaining native vegetation within the Precinct.

b. To ensure that native vegetation contributes to the character and amenity of the Precinct.

c. To preserve and enhance the ecological values of the Precinct and ecological links to surrounding areas.

Controls

1) Where relevant, DAs are to contain a map showing the location, extent and area of any Existing Native Vegetation (ENV) within non-certified land located on the development site.

2) DAs for land that contains a Riparian Protection Area, a threatened species, or a threatened ecological community is to be accompanied by a Vegetation Management Plan (VMP) for the rehabilitation and conservation of native vegetation and habitat. The VMP is to be prepared in accordance with **Appendix E** of this DCP.

3) A landscape plan is to be submitted with all DAs, including subdivision, identifying:

   - all existing trees on the development site and those that are proposed to be removed or retained;
   - the proposed means of protecting trees to be retained during both construction of subdivision works and construction of buildings;
   - proposed landscaping including the locations and species of trees, shrubs and ground cover to be planted; and
   - the relationship of the proposed landscaping to native vegetation that is to be retained including factors such as the potential for weed or exotic species invasion and the contribution of the proposed landscaping to the creation of habitat values and ecological linkages throughout the Precinct.

4) The selection of proposed trees and other landscaping plants is to consider:

   - the preferred trees in **Appendix D** to this DCP;
   - the use of locally indigenous species where available;
   - the re-use of native plants or top soil removed during subdivisions works or earthworks; and
   - the contribution to the management of soil salinity, groundwater levels and soil erosion.

5) Native trees and other vegetation are to be retained where possible by careful planning of subdivisions to incorporate native vegetation and wildlife corridors into areas such as road reserves and private or communal open space.

6) Where practical, prior to development commencing, applicants are to:

   - provide for the appropriate re-use of native plants (including but not limited to seed collection) and re-use of topsoil that contains known or potential native seed bank; and
   - relocate native animals from development sites. Applicants should refer to OEH's *Policy on the Translocation of Threatened Fauna in NSW*.

7) All subdivision design and bulk earthworks are to consider the need to minimise weed dispersion and promote weed eradication. A Weed Eradication and Management Plan, outlining weed control measures during and after construction, is to be submitted with any subdivision DA.

8) Within land that is in a Riparian Protection Area as shown on **Figure 2-6**:

   - all existing native vegetation is to be retained and rehabilitated, except where clearing is required for essential infrastructure;

- native vegetation is to be conserved and managed in accordance with the Riparian Protection Area controls of **Appendix B** to this DCP; and
- development is to be carried out in accordance with the Riparian Protection Area controls of **Appendix B** to this DCP.

9) Land subject to Condition 12 of the Growth Centres Biodiversity Certification Order must not be cleared unless it is in accordance with a plan of management or unless such clearance has been agreed to by the OEH.

10) Vegetation to which Part 3 of *State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017* applies is the same vegetation that must not be ringbarked, cut down, lopped, topped, removed, injured, wilfully destroyed or cleared without a development consent or permit granted by Council as described in the relevant chapter of the Hawkesbury Development Control Plan 2002 or such other Development Control Plan (or equivalent) that might replace it.

Figure 2-6 Riparian Protection Area

2.2.5 Bushfire hazard management

Objectives

a. To prevent loss of life and property due to bushfires by providing for development that is compatible with bushfire hazard.

b. To encourage sound management of bushfire prone areas.

Controls

1) DAs must demonstrate compliance with *Planning for Bushfire Protection 2006* for development located on 'bushfire prone land'.
2) In addition to complying with the requirements of *Planning for Bushfire Protection 2006* Asset Protection Zones (APZs):

- are to be located wholly within the Precinct;
- may incorporate roads;
- are to be located wholly outside of the Riparian Protection Area; and
- are not to burden Council owned or managed land (other than roads).

2.2.6 Site contamination

Objectives

a. To minimise the risks to human health and the environment from the development of potentially contaminated land.

b. To ensure that potential site contamination issues are adequately addressed at the subdivision stages.

Controls

1) Prior to granting development consent, Council must be satisfied that the site is suitable, or can be made suitable, for the proposed use having regard to land contamination.
2) All DAs where the site has not been investigated for contamination shall be accompanied by a Stage 1 Preliminary Site Investigation prepared in accordance with *State Environmental Planning Policy No 55 – Remediation of Land* and the *Contaminated Land Management Act, 1995*.
3) Where the site has known contamination or a Stage 1 Preliminary Site Investigation identifies potential or actual site contamination a Stage 2 Detailed Site Investigation must be prepared in accordance with *State Environmental Planning Policy No 55 – Remediation of Land* and the *Contaminated Land Management Act, 1995*. A Remediation Action Plan (RAP) will be required for areas identified as contaminated land in the Stage 2 Detailed Site Investigation.
4) All investigation, reporting and identified remediation works must be in accordance with the protocols of the NSW EPA's *Guidelines for Consultants Reporting on Contaminated Sites*.
5) Council will require a Site Audit Statement (SAS) (issued by an Accredited Site Auditor) where remediation works have been undertaken to confirm that a site is suitable for the proposed use.

Note: All applicants should consider and assess contamination hazards on their land in accordance with the *Contaminated Land Management Act, 1995* and *State Environmental Planning Policy No 55 – Remediation of Land*, both of which override any controls in this DCP.

2.2.7 Odour assessment and control

Prior to the commencement of this DCP the Vineyard Precinct was used mostly for rural purposes. The Precinct, and nearby rural areas, contain a number of existing rural uses that have the potential to generate odour and other associated impacts that may affect the amenity of nearby urban areas. While these activities may cease operation at some point in the future (such as when the land is developed for urban

purposes) the timing of cessation of odour generating land uses is not known. Developers and buyers of property within the Precinct should be aware that their property may be subject to odour impacts from these uses for an indeterminate period of time.

Objectives

a. To minimise nuisance caused by odour generating activities.

Controls

1) Where a proposed development has the potential to create an odour nuisance or is likely to be affected by an odour nuisance Council will consider whether the development is appropriate and will also consider the need for the applicant to provide additional supporting information with the DA.
2) Commercial or apartment buildings are to be orientated and designed to provide adequate air flow around the building and, if required, encourage air flow in a particular direction (e.g. away from outdoor café areas). Dead end courtyards or long narrow spaces perpendicular to the prevailing winds where air can lay dormant and stagnate should be avoided.
3) Where necessary, a barrier such as continuous dense landscaping (bunds and vegetation) is to be provided to assist in odour dispersion from nearby odour sources.
4) Buildings should be designed so that living and work spaces such as bedrooms and offices do not face odorous sources. Apartment buildings should have non-opening windows on the odorous side of the building and duct cleaner air into the building from the non-odorous side and out to the odorous side.
5) Separation buffers or development restrictions may be removed if an odour source ceases operation.

2.3 Site responsive design

2.3.1 Cut and fill

Objectives

a. To minimise the extent of cut and fill within the Precinct.
b. To protect and enhance the aesthetic quality of the area by controlling the form, bulk and scale of land forming operations.
c. To ensure that fill material is not contaminated and does not adversely affect the fertility or salinity of soil, or the quality of surface water or groundwater.
d. To ensure that the amenity of adjoining residents is not adversely affected by any land forming operation.

Controls

1) DAs are to illustrate where it is necessary to cut and/or fill land and provide justification for the proposed changes to the land levels.
2) Earthworks shall be undertaken to a maximum of 500mm excavation or fill from the present surface level of the property.
3) Council will assess proposals for excavation or fill greater than 500mm having regard to the visual impact of the proposed earthworks.
4) On sloping sites, site disturbance is to be minimised by use of split level or pier foundation building designs. Council will consider greater cut for basement garages.
5) A Site Validation Report is required to be submitted to Council prior to the placement of imported fill on site.
6) DAs are to demonstrate that the importation of fill shall comply with the *Site Investigation for Urban*

Salinity, Department of Water and Energy and the *Guidelines for the NSW Site Auditor Scheme (2nd edition) – Soil Investigation Levels for Urban Development Sites in NSW*, DECC Contaminated Sites Guidelines.

7) Where cut is proposed on the boundary of a lot, retaining walls are to be constructed with side fence posts integrated with its construction (relevant construction details are required with retaining wall approval). Otherwise retaining walls must be located a minimum of 450mm from the side or rear boundary of the lot containing the cut.
8) Where cut is proposed, retaining walls within residential allotments are to be no greater than 600mm high at any point on the edge of any residential allotment. A combined 1200mm maximum retaining wall height is permissible between residential lots (2 x 600mm). Where terraced walls are proposed the minimum distance between each step is 0.5m. A variation to the retaining wall heights can be considered with supporting justification.
9) The maximum height of voids within individual allotments is 3m, as illustrated in **Figure 2-7**.
10) All retaining walls proposed for the site are to be identified in the DA.
11) Filling on lots must be either contained within the 'building footprint' or no closer than 2 metres from a property boundary and up to 500mm in depth.

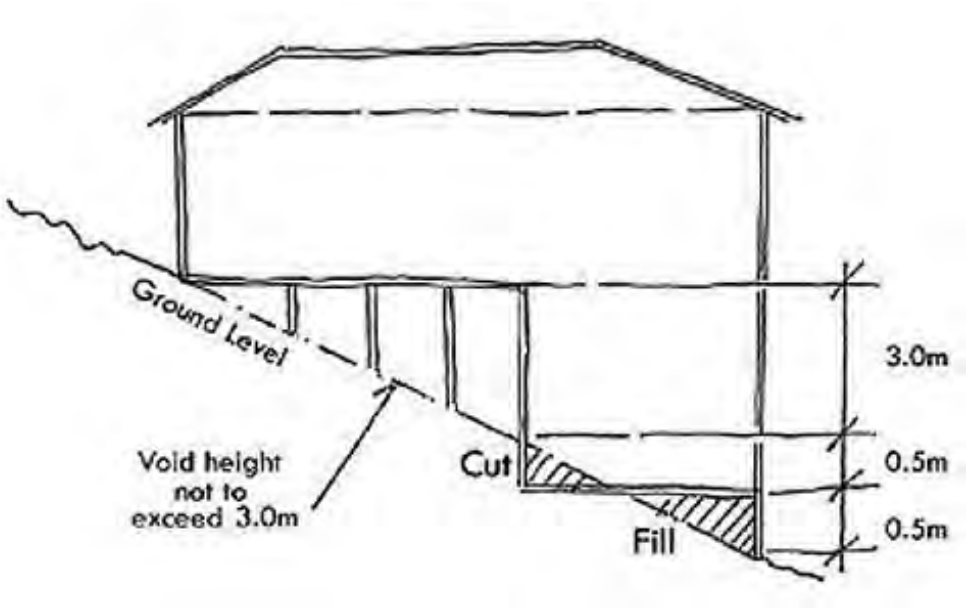


Figure 2-7 Maximum cut and fill within residential lots

2.3.2 Sustainable building design

Objectives

a. To maximise microclimate benefits to residential lots.
b. To enhance streetscape amenity.
c. To minimise energy usage and greenhouse emissions and encourage the adoption of renewable energy initiatives.
d. To minimise the use of non-renewable resources and minimise the generation of waste during construction.

Controls

1) New residential dwellings, including a residential component within a mixed use building and serviced apartments intended, or capable of being, strata titled, are to be accompanied by a BASIX Certificate and are to incorporate all commitments stipulated in the BASIX Certificate on the

submitted plans in accordance with *State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004*.

2) At least 50% of plants used in landscaping must consist of native species of local provenance.

3) Plant species are to be selected from the preferred species listed at **Appendix D** to this DCP.

4) Outdoor clothes lines and drying areas are required for all dwellings and can be incorporated into communal areas for multi-dwelling development and residential flat building developments and mixed use development.

5) Dwelling and private open space location and orientation must be consistent with the siting principles of **Figure 5-6.**

2.4 Water Cycle Management

2.4.1 Stormwater management

Objectives

a. To manage the flow of stormwater from urban parts of the Precinct to replicate pre-development flows.

Controls

1) Stormwater management is to be designed and implemented with all subdivisions.
2) Stormwater is to be managed and associated infrastructure provided in accordance with the provisions of *Water Cycle Management Report, October 2017* prepared by Mott MacDonald or other water cycle management plan (or equivalent) approved by Council and the Hawkesbury City Council's *Civil Works Specifications*.
3) In order to achieve the stormwater quality and quantity objectives for the precinct all dwellings are to be provided with a 3000L minimum rainwater tank which must be plumbed for internal use.
4) Management of 'minor' flows using piped systems for the 20% AEP (residential land use) and 5% AEP (commercial land use) shall be in accordance with Hawkesbury City Council's *Civil Works Specifications*. Management measures shall be designed to:

    - prevent damage by stormwater to the built and natural environment;
    - control stormwater to minimise localised flooding and reduce nuisance flows to a level that is acceptable to the community;
    - provide a stormwater system that can be economically maintained and that uses open space in a compatible manner;
    - minimise urban water run-off pollutants to watercourses; and
    - meet the standards for a 20% AEP flood level for residential development.

5) Management of 'major' flows using dedicated overland flow paths such as open space areas, roads and riparian protection areas for all flows in excess of the pipe drainage system capacity and above the 20% AEP shall be in accordance with Hawkesbury City Council's *Civil Works Specifications*. Management measures shall be designed to:

    - prevent both short term and long term inundation of habitable dwellings;
    - control localised flooding from storm events to maintain access to lots, maintain the stability of the land form and to control erosion;
    - provide for the orderly and safe evacuation of people away from rising floodwaters;
    - meet the standards for the *flood planning level*;
    - where practical, development shall attenuate up to the 50% AEP peak flow for discharges into the local tributaries. This will be achieved using detention storage within water quality

features and detention basins;

- the developed 1% AEP peak flow is to be reduced to pre-development flows through the incorporation of stormwater detention and management devices; and
- the trunk stormwater system is to be designed in accordance with the Water Cycle Management strategy shown in
- , satisfy the requirements of **Appendix B** – Riparian Protection Area Controls and achieve the water quality targets in **Table 2-1**.

6) Where appropriate detention basins are to be planted with wetland species of local provenance for the purposes of establishing suitable wetland / aquatic habitat.

Table 2-1 Water quality and environmental flow targets

	WATER QUALITY % reduction in pollutant loads				ENVIRONMENTAL FLOWS Stream erosion control ratio[1]
	Gross Pollutants (>5mm)	Total suspended solids	Total phosphorous	Total nitrogen	
Stormwater management Objective	90	85	65	45	3.5-5.0: 1
'Ideal' stormwater outcome	100	95	95	85	1:1

[1] This ratio should be minimised to limit stream erosion to the minimum practicable. Development proposals should be designed to achieve a value as close to one as practicable, and values within the nominated range should not be exceeded. A specific target cannot be defined at this time.

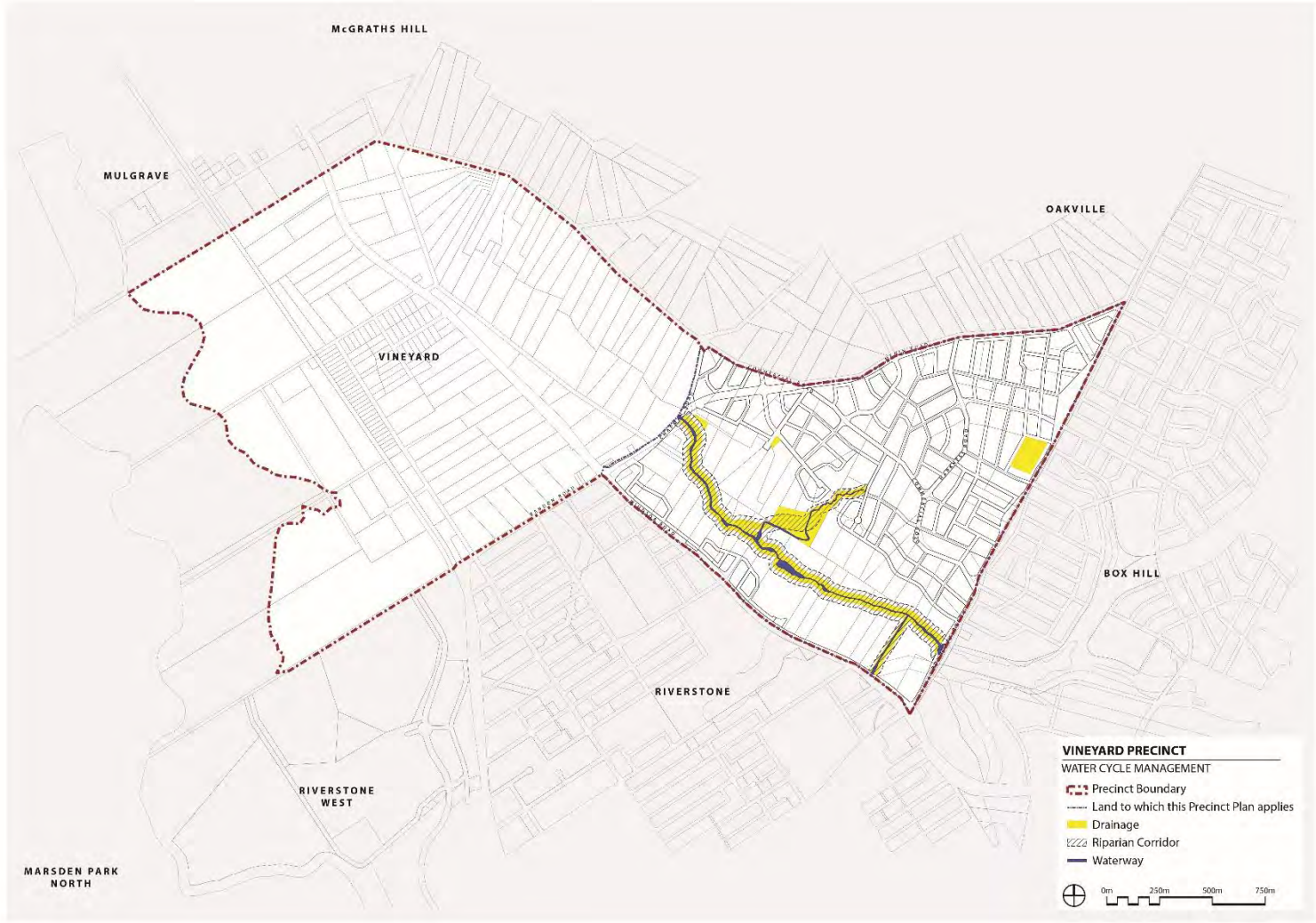


Figure 2-8 Water Cycle Management

3. Precinct Planning Outcomes

3. Precinct Planning Outcomes

3.1 Introduction

This Part of the DCP defines Precinct wide planning outcomes. It also outlines the matters to be considered when undertaking site analysis for subdivision planning. These controls should be considered during the initial stages of subdivision planning to determine the suitability and the development potential of land.

3.2 Vision

Planning for the Vineyard Precinct responds to the need for new and diverse housing in Sydney that is well connected to major centres and employment, protects natural assets and encourages sustainable living. Consideration of the surrounding context, history and natural environment has informed the precinct planning process.

The Precinct will consist of a mix of housing types that will allow for greater choice for different household types. It predominantly provides for low density housing, with some medium density around the village centre and open spaces.

Places of significant heritage value, particularly the Pitt Town Common House, have been integrated into the planning of the Precinct to ensure protection through a sensitive design approach. The village centre will support retail, commercial and community services to promote community interaction.

Regional public transport accessibility has been provided through road connections to the nearby Vineyard railway station and a regional bus network along the major roads. A safe and permeable street network will promote accessibility, connectivity and social interaction. The provision of cycle ways and pedestrian connections, as well as public transport connections to surrounding centres, will promote a community that is less dependent on private vehicle use.

3.3 The Indicative Layout Plan

The Indicative Layout Plan (**Figure 3-1**) forms the basis for urban development in the Precinct by setting out:

- the road network;
- the open space and drainage networks;
- the locations of land uses including residential development, a school, open space, drainage land and a retail centre;
- areas requiring protection because of environmental or heritage values; and
- the density and types of housing that are preferred in various parts of the Precinct.

Objectives

a. To ensure that development occurs in a coordinated manner consistent with the North West Land Use and Infrastructure Implementation Plan and the Vineyard Precinct ILP.

Controls

1) All DAs are to be generally in accordance with the ILP.
2) If any variations to the general arrangement of the ILP are proposed, the applicant must demonstrate, to Council's satisfaction, that the variation is consistent with the precinct planning vision (**Part 3.2**).

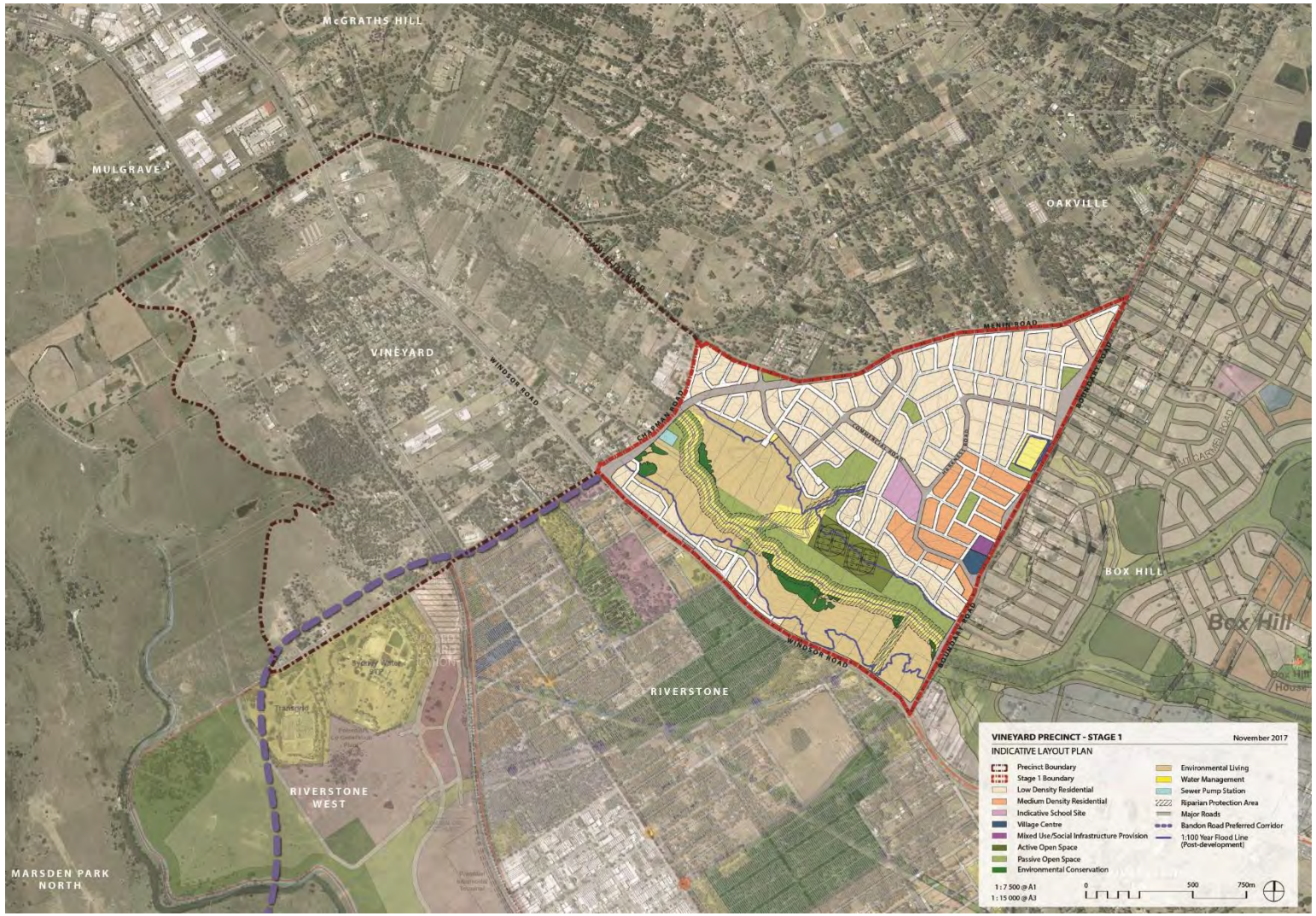


Figure 3-1 Vineyard Precinct Indicative Layout Plan

4. Neighbourhood and Subdivision Design

4. Neighbourhood and Subdivision Design

4.1 Residential Density and Subdivision

The Growth Centres are subject to residential density controls as detailed in the Residential Density Maps in the SEPP. This part of the DCP provides guidance on the typical characteristics of the residential density bands.

Net Residential Density means the number of dwellings proposed to be located on land to be developed divided by the net developable area in hectares of the land to be developed. Net Developable Area means the land occupied by the development, including internal streets plus half the width of any adjoining access roads that provide vehicular access, but excluding land that is not zoned for residential purposes. An example of how to calculate Net Residential Density is shown below in **Figure 4-1**.

Figure 4-1 Example of how to calculate Net Residential Density

Net Residential Density is an averaging statistic. The average dwelling density target in the SEPP should be achieved across the identified area with a diversity of lot and housing types. However, this does not mean that all streets offer the same housing and lot mix. Built form intensity should vary across a neighbourhood in response to the place: more intense around centres or fronting parks, less intense in quieter back streets. In lower density areas, there will be a higher proportion of larger lots and suburban streetscapes but there may also be some streets with an urban character. In higher density areas, urban streets with more attached housing forms will be more common but there will also be some suburban streetscapes.

In recognition of different objectives and street characters at varying densities, certain built form controls vary by density bands. Refer to Part 5 Development in the Residential and Environment Protection Zones of this DCP.

4.1.1 Residential Density

Objectives

a. To ensure density targets are met.

b. To provide guidance to applicants on the appropriate mix of housing types and appropriate locations for certain housing types.

c. To establish the desired character of the residential areas.

d. To promote housing diversity and affordability.

Controls

1) All applications for residential subdivision and the construction of residential buildings are to demonstrate that the proposal meets the residential density requirements and contributes to meeting the overall dwelling target of the Vineyard Precinct.

2) Residential development is to be generally consistent with the residential structure as set out in **Figure 4-3 Residential Structure** and the typical characteristics of the corresponding Density Band in **Table 4-1**.

Table 4-1 Typical characteristics of residential net densities

Net Residential Density dw/Ha	Typical Characteristics
15-18dw/Ha	• Generally located away from centres and transport. • Predominantly detached dwelling houses. • Typically single and double storey dwellings. • Mainly garden suburban streetscapes. (See Figure 4-2).
20-30dw/Ha	• Focused areas of a mix of smaller lot dwelling types close to centres. • Typically single, double and three storey dwellings. • Mainly suburban streetscapes and urban streetscapes. (See Figure 4-2).

Garden Suburban

Suburban

Urban

Figure 4-2 Distinct and coherent streetscapes occur in varying proportions in density bands

3) Residential development in the Environmental Living area, on **Figure 4-3** is to:

- consist primarily of single dwellings on larger lots, reflecting the environmental sensitivity and visual character of these parts of the Precinct;
- emphasise high quality housing design to make the most of the environmental characteristics of the surrounding area;
- be designed and located to minimise impacts on flood prone land and risks to property from flooding;
- avoid impacts on Existing Native Vegetation and other remnant native vegetation;
- consider relationships to adjoining land uses including public open space and drainage infrastructure;
- be designed to respond to constraints from infrastructure; and
- consider views to and from the land and surrounding parts of the Precinct.

4) Non-residential development in the residential areas is encouraged where it:

- contributes to the amenity and character of the residential area within which it is located;
- provides services, facilities or other opportunities that meet the needs of the surrounding residential population, and contributes to reduced motor vehicle use;
- will not result in detrimental impacts on the amenity and safety of surrounding residential areas, including factors such as noise and air quality; and
- is of a design that is visually and functionally integrated with the surrounding residential area.

Note: The Vineyard Precinct Plan permits certain non-residential development within the residential and environment protection zones. Other parts of this DCP provide more detailed objectives and controls for these types of development.

4.1.2 Block and Lot Layout

Objectives

a. To establish a clear urban structure that promotes a 'sense of neighbourhood' and encourages walking and cycling.

b. To efficiently utilise land and achieve the target dwelling yields for the Precinct.

c. To emphasise the natural attributes of the site and reinforce neighbourhood identity through the placement of visible key landmark features, such as parks, squares and landmark buildings.

d. To optimise outlook and proximity to public and community facilities, parks and public transport with increased residential density.

e. To encourage variety in dwelling size, type and design to promote housing choice and create attractive streetscapes with distinctive characters.

f. To accommodate a mix of lot sizes and dwelling types across the Precinct.

g. To establish minimum lot sizes for different residential dwelling types.

Controls

Blocks

1) Subdivision layout is to create a legible and permeable street hierarchy that responds to the natural site topography, the location of existing significant trees and site features, place making opportunities and solar design principles.

2) Pedestrian connectivity is to be maximised within and between each residential neighbourhood with a particular focus on pedestrian routes connecting to public open space, bus stops and railway stations, educational establishments and community/recreation facilities.

3) Street blocks are to be generally a maximum of 250m long and 70m deep. Block lengths in excess of 250m may be considered by Council where pedestrian connectivity, stormwater management and traffic safety objectives are achieved. In areas around town centres, the block perimeters should generally be a maximum of 520m (typically 190m x 70m) to increase permeability and promote walking.

Lots

4) Minimum lot sizes for each dwelling type are to comply with the minimum lot size provisions permitted by the Growth Centres SEPP, summarised in **Table 4-2**. In certain density bands, variations to some lot sizes may be possible subject to Part 4 of the Vineyard Precinct Plan in the Growth Centres SEPP.
5) Minimum lot frontages applying to each density band will comply with **Table 4-3**. Lot frontage is measured at the street facing building line as indicated in **Figure 4-4**.

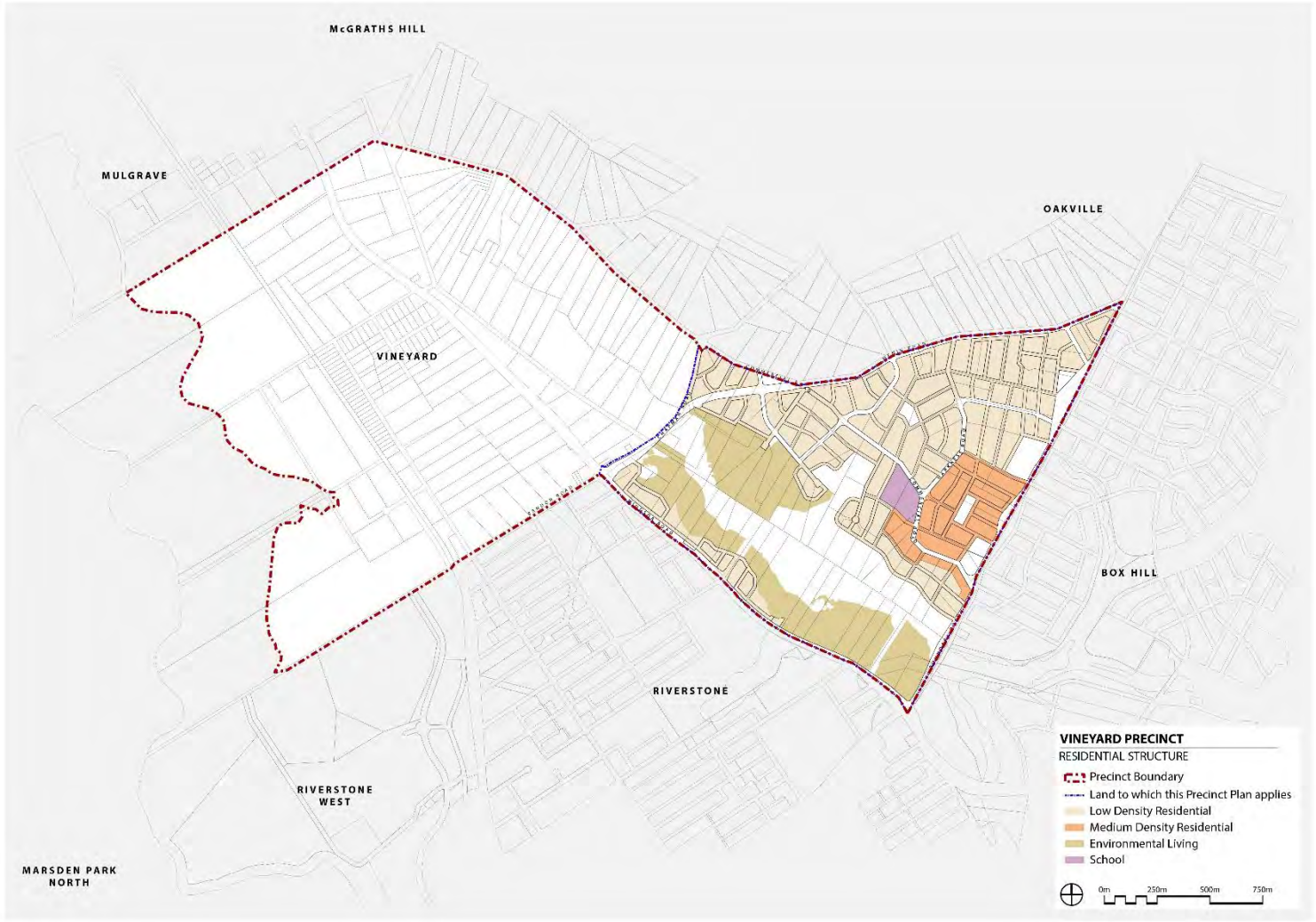


Figure 4-3 Residential Structure

Table 4-2 Minimum lot size by density bands

	R2 Low Density Residential	R3 Medium Density Residential
Residential density range (dwellings/ha)	**15-18**	**20-30**
Dwelling House (base control)	300	300
With Building Envelope Plan (BEP)	250	225
As Integrated DA	250	125
Locational criteria* (BEP or Integrated DA)	225	N/A
Studio Dwelling	No minimum lot size as strata development not subject to minimum lot size controls	
Secondary Dwelling	450	In principal lot
Dual Occupancy	500	400
Semi Detached Dwelling	200	125
Attached Dwelling	375*	375
Multi Dwelling Housing	375*	375
Manor Homes	N/A	600
Residential Flat Buildings	N/A	2000

Notes:

* On land zoned R2 Low Density Residential with a minimum residential density of 15dw/ha, the minimum development lot size for the purposes of a dwelling house can be varied to 225m^2 in places that satisfy one of the following locational criteria. Attached and multi dwelling housing is also permissible on land zoned R2 Low Density Residential with a minimum residential density of 15dw/ha that also satisfies one of these criteria:

a. adjoining land within the RE1 Public Recreation zone or land that is separated from land within the RE1 Public Recreation zone only by a public road;

b. adjoining land within the B2 Local Centre zone or the B4 Mixed Use zone or land that is separated from land the B2 Local Centre zone or the B4 Mixed Use zone only by a public road;

c. adjoining land that is set aside for drainage or educational purposes, or is separated from that land only by a public road; and is within 400m of land in the B2 Local Centre zone or the B4 Mixed Use zone.

Table 4-3 Minimum lot frontages by density bands

		Net Residential Density Range (dw/ha)	
		15-18	**20-30**
Minimum Lot Frontages	Front Loaded	9m	7m
	Rear Loaded	4.5m	4.5m

Note: The combination of the lot frontage width and the size of the lot determine the type of dwelling that can be erected on the lot, and the development controls that apply to that dwelling.

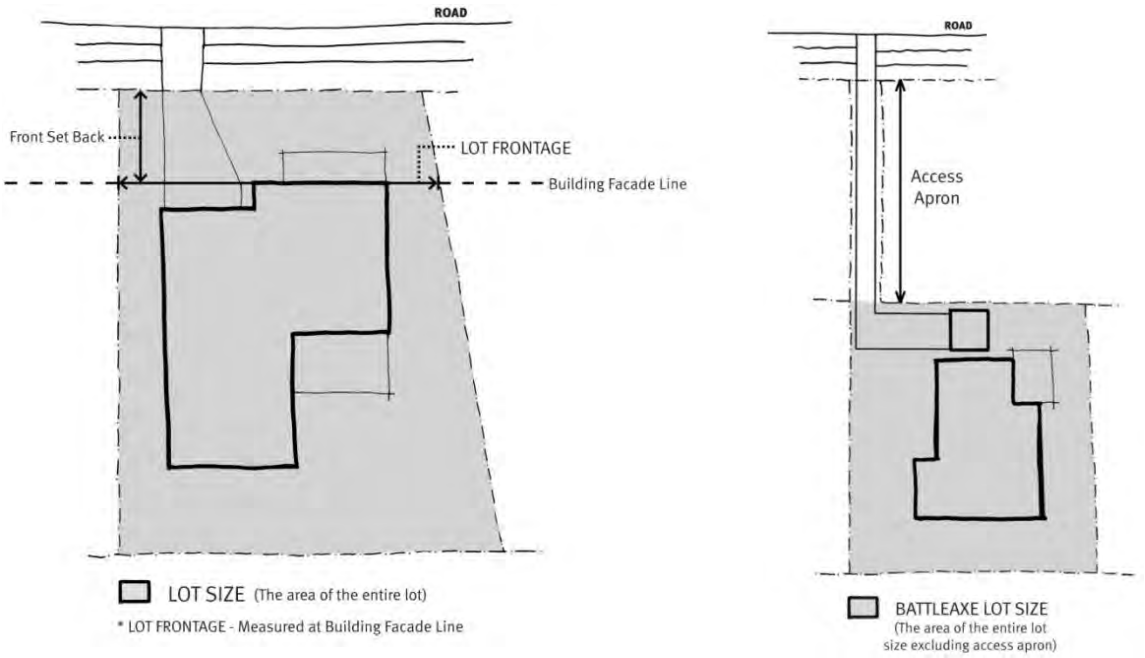


Figure 4-4 Measurement of minimum lot widths and lot area

6) A range of residential lot types (area, frontage, depth, zero lot and access) must be provided to ensure a mix of housing types and dwelling sizes and to create coherent streetscapes with distinctive garden suburban, suburban and urban characters across a neighbourhood.
7) In areas with a density range of 15-18 dw/ha no more than 40% of the total residential lots proposed in any one street block may have a frontage of less than 10m wide. Lots subdivided using Subdivision Approval Pathway B1 or B2 (Integrated Housing) for attached dwellings are exempt from this control.
8) A street block is defined as a portion of a city, town etc., enclosed by (usually four) neighbouring and intersecting streets. In the density range 20-30 dw/ha, total lot frontage for front accessed lots greater than or equal to 7m and less than 9m should not exceed 20% of any block length due to garage dominance and on-street parking impacts.
9) Lots should be rectangular. Where lots are an irregular shape, they are to be large enough and oriented appropriately to enable dwellings to meet the controls in this DCP.
10) Where residential development adjoins land zoned RE1 Public Recreation or SP2 Drainage, subdivision is to create lots for the dwelling and main residential entry to front the open space or drainage land.
11) The orientation and configuration of lots is to be generally consistent with the following subdivision principles:

    - smallest lots achievable for the given orientations fronting parks and open space with the larger lots in the back streets;
    - larger lots on corners;
    - north to the front lots are either the widest or deepest lots, or lots suitable for residential development forms with private open space at the front. Narrowest lots with north to the rear.

12) The preferred block orientation is established by the road layout on the ILP. Optimal lot orientation is east-west, or north-south where the road pattern requires. Exceptions to the preferred lot orientation may be considered where factors such as the layout of existing roads and cadastral boundaries, or topography and drainage lines, prevent achievement of the preferred orientation.
13) An alternative lot orientation may be considered where other amenities such as views and outlook over open space are available, and providing appropriate solar access and overshadowing

outcomes can be achieved.

Zero Lot Lines

14) The location of a zero lot line is to be determined primarily by topography and should be on the low side of the lot to minimise water penetration and termite issues. Other factors to consider include dwelling design, adjoining dwellings, landscape features, street trees, vehicle crossovers and the lot orientation.
15) On all lots where a zero lot line is permitted, the side of the allotment that may have a zero lot alignment must be shown on the approved subdivision plan.
16) Where a zero lot line is nominated on an allotment on the subdivision plan, the adjoining (burdened) allotment is to include a 900mm easement for single storey zero lot walls and 1200mm for two storey zero lot walls to enable servicing, construction and maintenance of the adjoining dwelling. No overhanging eaves, gutters or services (including rainwater tanks, hot water units, air-conditioning units or the like) of the dwelling on the benefited lot will be permitted within the easement. Any services and projections permitted within the easement to the burdened lot dwelling should not impede the ability for maintenance to be undertaken to the benefitted lot.
17) The S88B instrument for the subject (benefited) lot and the adjoining (burdened) lot shall include a note identifying the potential for a building to have a zero lot line. The S88B instrument supporting the easement is to be worded so that Council is removed from any dispute resolution process between adjoining allotments.

Subdivision of Shallow Lots

18) Shallow lots (typical depth 14-18m, typical area <200m^2) intended for double storey dwellings should be located only in locations where it can be demonstrated that impacts on adjoining lots, such as overshadowing and overlooking of private open space, satisfy the requirements of the DCP. For lots over 225m^2 where development is not Integrated Assessment, the Building Envelope Plan should demonstrate in principle how DCP requirements such as solar access and privacy to neighbouring private open spaces will be satisfied.

Subdivision for Attached Dwellings

19) Subdivision of lots for Torrens title attached dwellings must take into account that construction will be in 'sets'. A 'set' is a group of attached dwellings built together at the same time that are designed and constructed independently from other dwellings.
20) The maximum number of attached or abutted dwellings permissible in a set is six.
21) The composition of sets needs to be determined in the subdivision design to take into account the lot width required for a side setback to the end dwellings in each set. Examples of lot subdivisions for sets of attached terraces are illustrated in **Figure 4-5.**

Figure 4-5 Two examples of lot subdivision for 'sets' of attached terraces

4.1.3 Battle-axe lots

Objectives

a. To limit battle-axe lots to certain circumstances.

b. To ensure that where a battle-axe lot without public road or open space frontage is provided, their amenity and the amenity of neighbouring lots is not compromised by their location.

c. To enable battle-axe shaped lots or shared driveway access to lots fronting access denied roads.

Controls

1) Principles for the location of battle-axe lots are illustrated at **Figure 4-6**.

2) Subdivision layout should minimise the use of battle-axe lots without public frontage to resolve residual land issues.

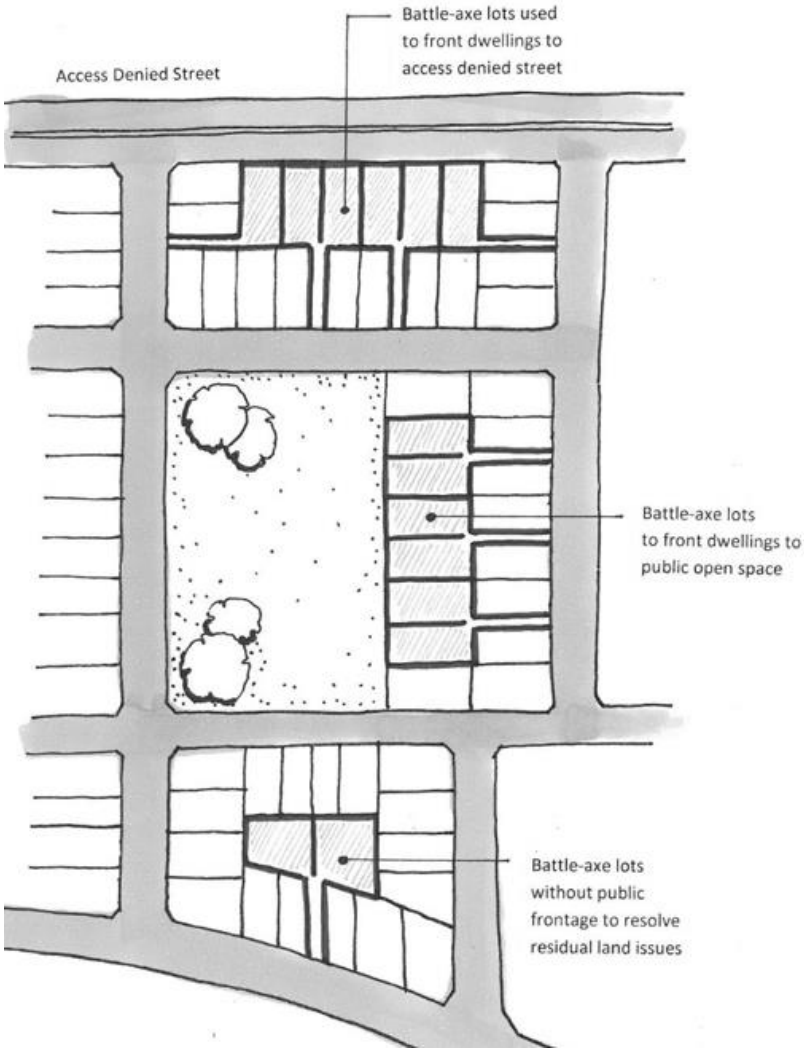


Figure 4-6 Examples of locations of battle-axe lots

3) Driveway design, including dimensions and corner splays, are to be in accordance with **Figure 4-7** and the following:

Driveway to a single battle axe lot:

- The driveway access shall be a minimum of 3.5 metres wide with paved driveway of 2.5m wide and 0.5m wide strip along either side of the driveway for services and landscaping.
- Lots along the driveway bends should allow for a splay to accommodate a 3m radius driveway curve for safe vehicle turning.

Access to multiple battle axe lots (shared driveway):

- The driveway access shall be a minimum of 5 metres wide with paved driveway of 3m wide and 1m wide strip along either side of the driveway for services and landscaping.
- Lots along the driveway bends should allow for a splay to accommodate 3m radius curve for safe vehicle turning.

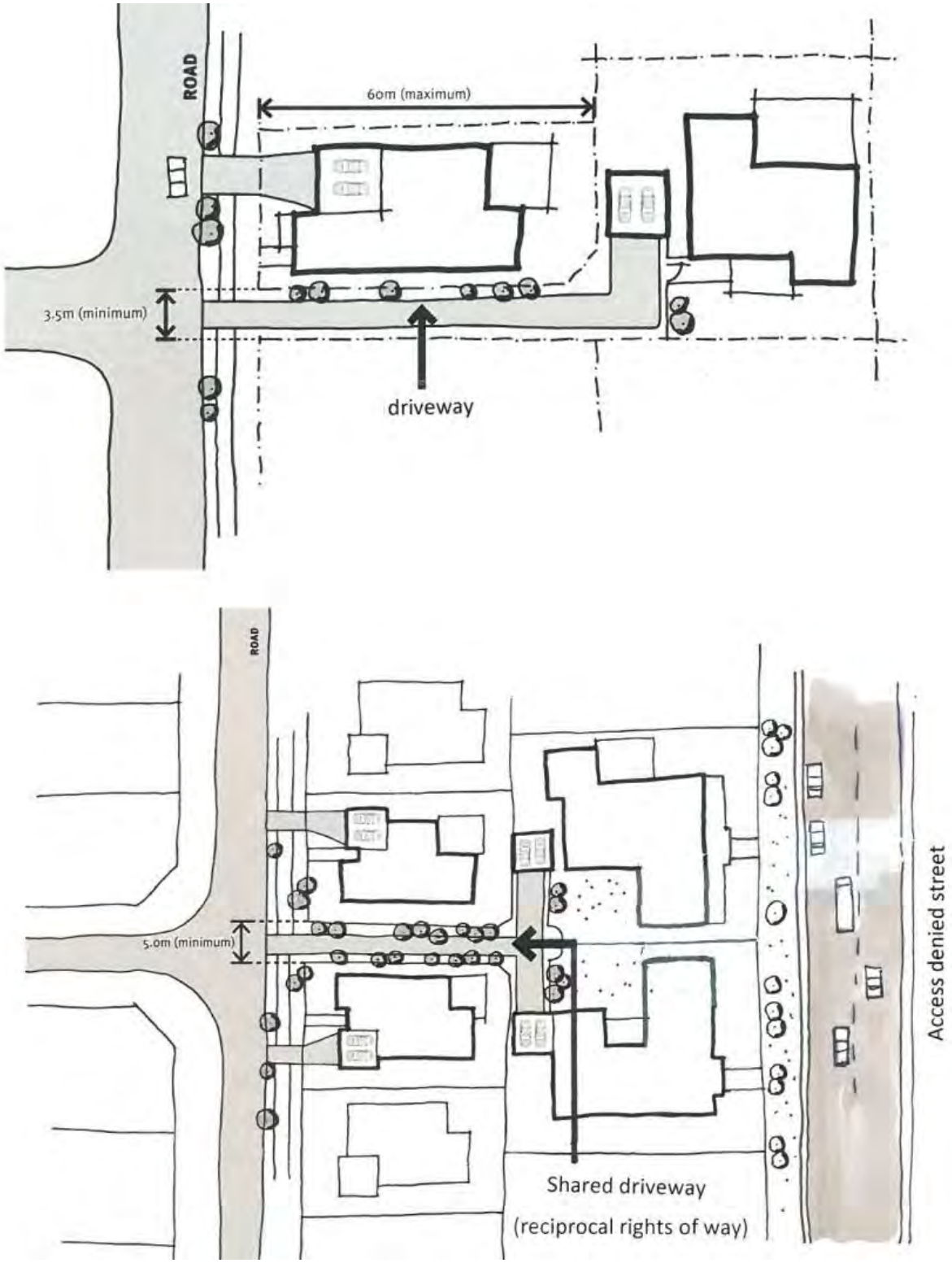


Figure 4-7 Examples of driveways and shared driveways for battle-axe lots

4.1.4 Corner Lots

Objectives

a. To ensure corner lots are of sufficient dimensions and size to enable residential controls to be met.

Controls

1) Corner lots, including splays and driveway locations, are to be designed in accordance with *Australian Standard AS 2890 Parking Facilities*, Hawkesbury City Council's *Civil Works Specifications* and the following requirements:
   - Corner lots shall allow for a splay of minimum 3m x 3m for pedestrian sight distance, vehicle turning, footpaving and landscaping.
   - The driveway location is not permitted within 6m of the kerb as it turns the corner to form a road, see **Figure 4-8**.
   - Where a corner lot fronts a roundabout, the driveway shall be set back 10m from the splay.
2) Corner lots are to be designed to allow dwellings to positively address both street frontages as indicated in **Figure 4-8Figure 4-8** Corner lots

3) Garages on corner lots should be accessed from the secondary street or a rear lane.
4) Plans of subdivision are to show the location of proposed or existing substations, kiosks, sewer access points and/or vents affecting corner lots.

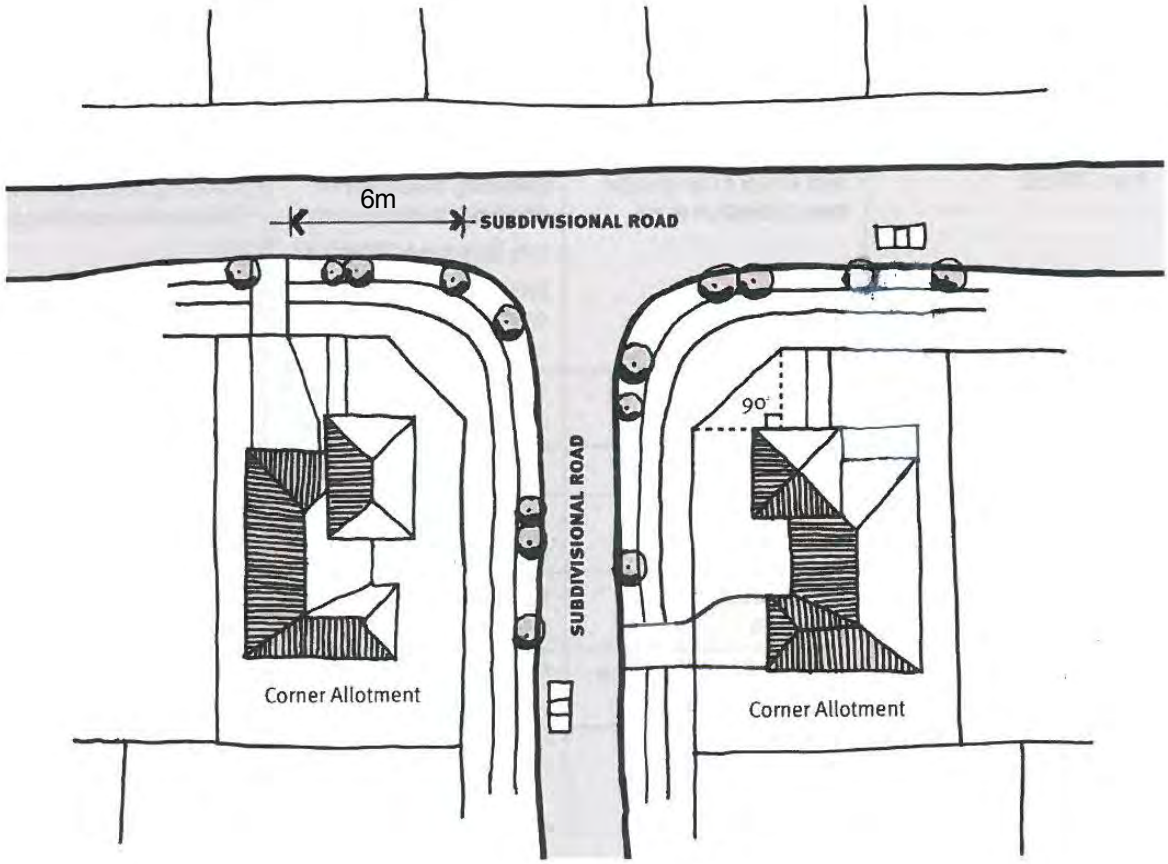


Figure 4-8 Corner lots

4.1.5 Environmental Living Lots

Objectives

a. To ensure lots created on land zoned E4 Environmental Living are of sufficient dimensions and size to enable residential controls to be met.

Controls

1) Minimum subdivision lot sizes for E4 Environmental Living zoned land are set out in the Growth Centres SEPP map 'Lot Size Map' and include 600m^2 1,500m^2, 2,500m^2, 10,000m^2 and 20,000m^2.
2) For lots with a minimum subdivision size of 1,500m^2, a minimum lot width of 20m is required.
3) For lots with a minimum subdivision size of 2,500m^2 or greater, a minimum lot width of 30m is required.

4.2 Subdivision Approval Process

Objectives

a. To facilitate a diversity of housing sizes and products.
b. To ensure that subdivision and development on smaller lots is undertaken in a coordinated manner.
c. To ensure that all residential lots achieve an appropriate level of amenity.

Controls

1) The land subdivision approval process is to be consistent with the requirements of **Table 4-4**.
2) Subdivision of land creating residential lots less than 225m^2 or lots less than 9m wide shall include a dwelling design as part of the subdivision DA. The dwelling design is to be included on the S88B instrument attached to the lot.

Table 4-4 Subdivision Approval Process

Approval pathway	DA for Subdivision Pathway A1	DA for Subdivision with Building Envelope Plan Pathway A2	DA for Integrated Housing (Integrated Assessment with subdivision prior to construction of dwellings) Pathway B1	DA for Integrated Housing Pathway B2
Application	Lots equal to greater than 300m^2	Lots less than 300m^2 and equal to or greater than 225m^2 in area, and with a width equal to or greater than 9m*.	Dwelling construction involving detached dwellings on: lots less than 225m^2, or lots with a width less than 9m*.	Dwelling construction involving common walls (i.e. attached dwellings) on: lots less than 225m^2, or lots with a width less than 9m*.
Dwelling plans required	As part of future DA or CDC	As part of future DA or CDC	Yes as part of subdivision application	Yes as part of subdivision application
Dwelling Design 88B restriction required	No	Yes	Yes, only approved dwelling can be built	Yes, only approved dwelling can be built
Timing of subdivision (release of linen plan)	Pre-construction of dwellings	Pre-construction of dwellings	Pre-construction of dwellings	Post-construction of dwellings

*For minimum lot width refer to **Figure 4-4**

3) Subdivision applications that create lots smaller than 300m^2 and larger than or equal to 225m^2 must be accompanied by a Building Envelope Plan (BEP). An example of a BEP is included at **Figure 4-9**. The BEP should be at a legible scale (suggested 1:500) and include the following elements:

- lot numbers, north point, scale, drawing title and site labels such as street names;
- maximum permissible building envelope (setbacks, storeys, articulation zones);
- preferred principal private open space;
- garage size (single or double) and location; and
- zero lot line boundaries.

A BEP should be fit for purpose and include only those elements that are necessary for that particular lot. Other elements that may be relevant to show include:

- special fencing requirements;
- easements and sewer lines;
- retaining walls;
- preferred entry/frontage (e.g. corner lots);
- access denied frontages;
- electricity kiosks or substations; and
- indicative yield on residue or super lots.

4) Applications for subdivision using approval pathways A2, B1 and B2 require a Public Domain Plan (PDP) to be submitted as part of the application. The purpose of the PDP is to demonstrate how the public domain will be developed as a result of future development on the proposed lots. An example of a PDP is included at **Figure 4-10.**

5) The PDP should be a legible scale (suggested 1:500) and include the following elements:

- lot numbers, north point, scale, drawing title and site labels such as street names;
- indicative building footprints on the residential lots;
- location of driveways and driveway crossovers;
- verge design (footpath, landscape);
- surrounding streets and lanes (kerb line, material surface where special treatments proposed);
- in laneways, indicative provision for bin collection;
- street tree locations (sizes and species list can be provided on a separate plan);
- demonstrated provision and arrangements for on-street car parking particularly in relation to street tree planting, driveways and intersections*; and
- extent of kerb line where parking is not permitted*.

* In principle, not as public domain works

Other elements that may be relevant to show include:

- location and type of any proposed street furniture;
- location of retaining walls in the public domain;
- electricity substations; and
- indicative hydrant locations at lane thresholds.

Information on landscape treatment within the private lot is not required.

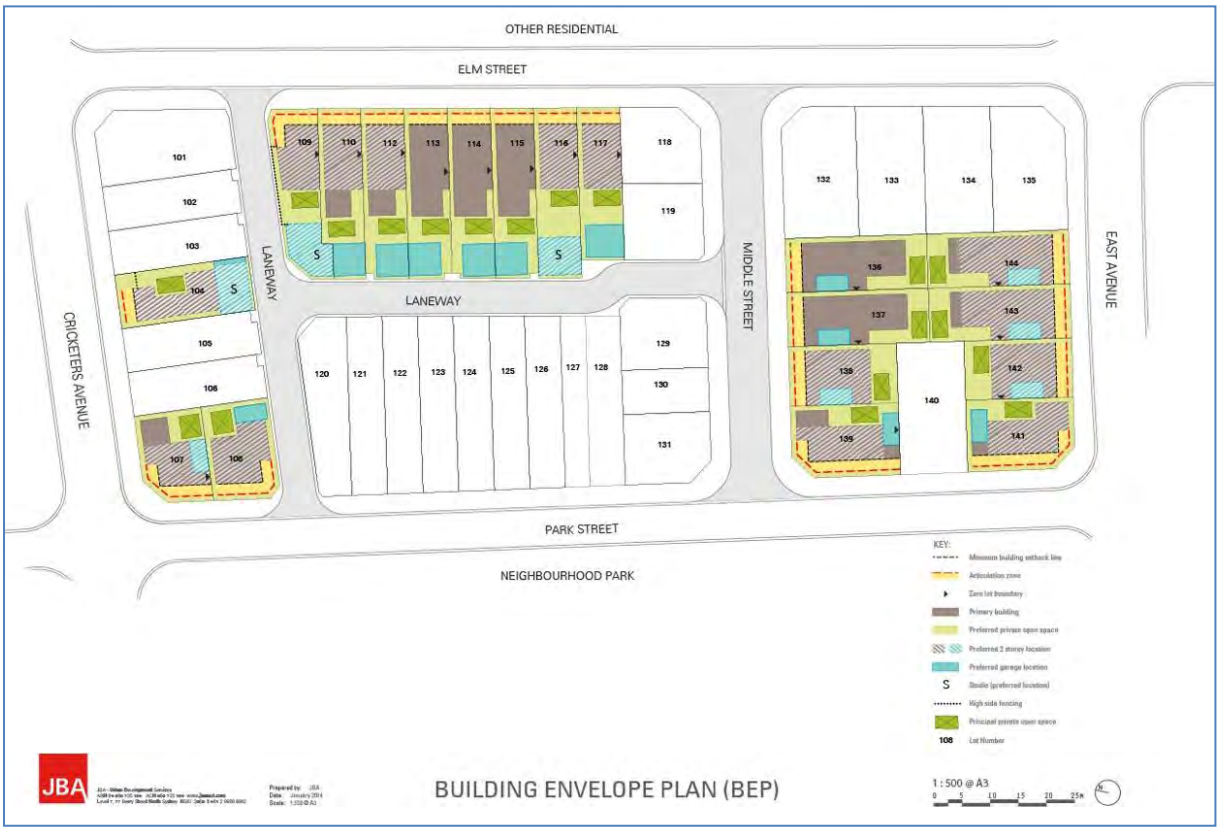


Figure 4-9 Sample of a Building Envelope Plan (BEP)

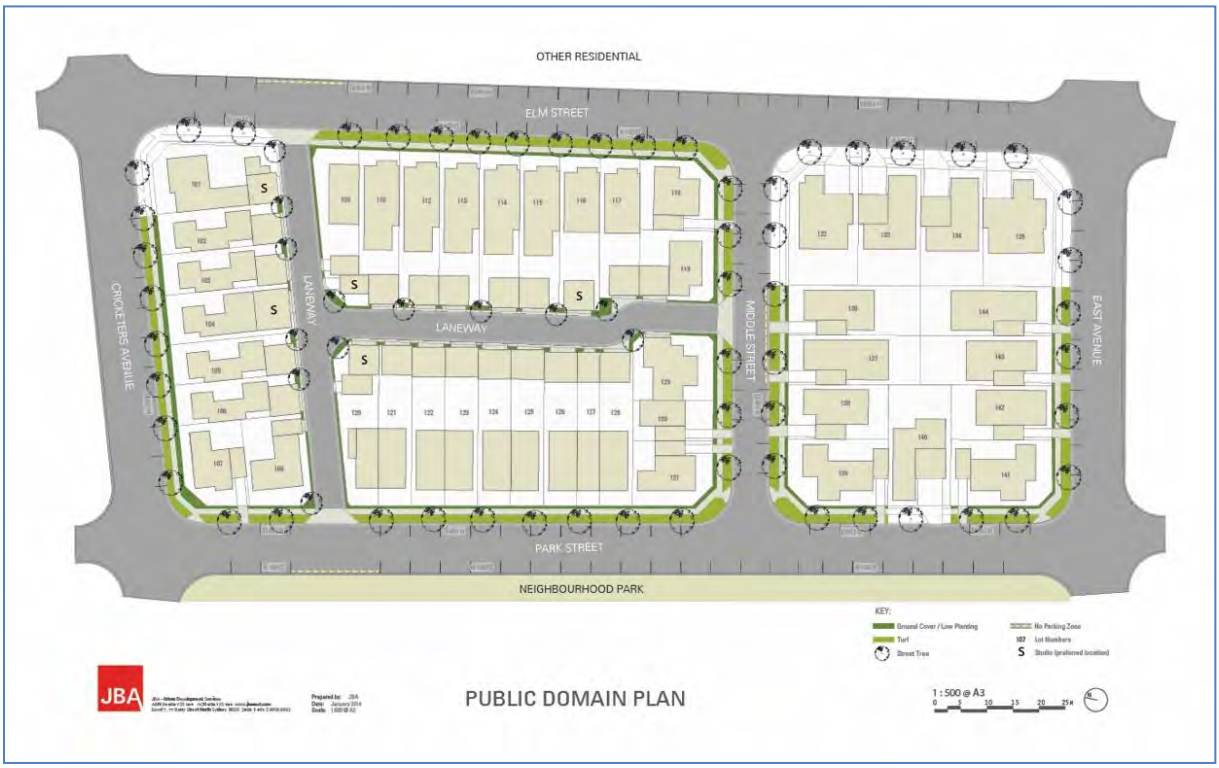


Figure 4-10 Sample of a Public Domain Plan (PDP)

4.3 Construction Environmental Management

Objectives

a. To ensure that the construction of subdivisions, new buildings, other structures and works is done in an environmentally responsible manner.

Controls

1) A Construction Environmental Management Plan is to be submitted to Council or the accredited certifier and approved prior to the issue of a construction certification for subdivision works.
2) The Construction Environmental Management Plan is to detail the methods of ensuring the protection of the environment during construction, monitoring and reporting on construction activities, and procedures to be followed in the event of an incident that is likely to cause harm to the environment.
3) Construction activities are to be undertaken to ensure that water quality, soil stability, trees and vegetation cover, and heritage sites are protected in accordance with the development consent and to maintain the quality of the natural environment.
4) Preservation of trees and native vegetation during construction is to be in accordance with the development consent issued for the development, and with the native vegetation and tree preservation provisions of the Vineyard Precinct Plan.

4.4 Movement Network

4.4.1 Street layout and design

Objectives

a. To establish a hierarchy of interconnected streets that give safe, convenient and clear access within and beyond the Precinct.
b. To contribute to the creation of an interesting and attractive streetscape.

Controls

1) Roads are to be provided in accordance with the hierarchy shown on **Figure 4-11**.
2) The design of streets, roundabouts and intersections is to be consistent with the relevant typical designs in **Figure 4-12** to **Figure 4-18**, **Table 4-5** and Hawkesbury City Council's *Civil Works Specifications*. Alternative street designs for local streets and access ways may be permitted on a case by case basis if they preserve the functional objectives and requirements of the design standards.
3) The locations and alignments of all roads are to be generally in accordance with the locations shown on **Figure 4-11**. Where any variation to the residential street network indicated at **Figure 4-11** is proposed the alternative street network is to be designed to:
    - create a permeable network that is based on a modified grid system;
    - encourage walking and cycling and minimise travel distances;
    - maximise connectivity between residential areas and community facilities, open space and centres;
    - take account of topography and site drainage, and accommodate significant vegetation;
    - optimise solar access opportunities for dwellings;
    - provide frontage to and maximise surveillance of open space and drainage lands;
    - provide views and vistas to landscape features and visual connections to nodal points and centres;

- maximise the effectiveness of water sensitive urban design measures; and
- minimise the use of cul-de-sacs.

Applicants wishing to amend the proposed road pattern are advised to liaise with affected adjoining owners prior to the submission of the DA.

Variation to the residential street network will only be approved by Council where the applicant can demonstrate to Council's satisfaction that the proposal:

- will not detrimentally impact on access to adjoining properties;
- provides for the management of stormwater to drain to Council's trunk drainage network, without negative impacts on other properties;
- will not impede the orderly development of adjoining properties in accordance with the Vineyard Precinct Plan and this DCP; and
- does not restrict the ability to provide water, sewer, electricity and other essential services to adjoining properties.

4) Where necessary to ensure that access to residential properties is provided in the early stages of development, Council may consent to the construction and operation of temporary access roads. Temporary access roads are to remain in operation only until such time as the road network has been developed to provide permanent access to all properties.
5) Residential roads, i.e. minor collector roads, local streets, access road/places shall be designed for and sign posted at a maximum of 50kph (i.e. traffic management must be considered at the DA for subdivision, with road layout, intersection controls and speed reducing devices used to produce a traffic environment which reduces traffic speed).
6) The minimum distance from an access place to a collector road is to be 50m if the junction is on the same side of the road or 40m if staggered on the opposite side of the road. The minimum distance between collector roads is to be 100m if the junction is on the same side or 100m if it is staggered on the opposite side of the road.
7) Where four way intersections are proposed, traffic is to be controlled, where appropriate, by traffic lights, roundabouts, median strips or signage.
8) Any private road is to be designed and built in accordance with Council's *Civil Works Specifications.* Details must be shown on the engineering design plans and must be submitted prior to the issue of the occupation or subdivision certificate (whichever occurs first).
9) Street trees are required for all streets. Street planting is to:
    - use the preferred species listed in **Appendix D**;
    - be consistently used to distinguish between public and private spaces and between different classes of street within the street hierarchy;
    - minimise risk to utilities and services;
    - be durable and suited to the street environment and, wherever appropriate, include endemic species;
    - maintain adequate lines of sight for vehicles and pedestrians, especially around driveways and street corners;
    - provide appropriate shade in summer and solar access in winter; and
    - provide an attractive and interesting landscape character and clearly define public and private areas, without blocking the potential for street surveillance.
10) Signage, street furniture and lighting is to be:
    - designed to reinforce the distinct identity of the development;
    - coordinated in design and style;

- located so as to minimise visual clutter and obstruction of the public domain; and
- of a colour and construction agreed by Council.

11) Locating entry signage and the like within a public road reserve is subject to Council agreement.
12) The location and design of signage and street furniture is to be indicated on the Landscape Plan and on engineering construction drawings.
13) Street lighting is to be designed to meet the current Australian Standards AS/NZS 1158 series. Shared pedestrian and bicycle pathways are to be provided generally in accordance with **Figure 4-18**.

Table 4-5 Street Types

Road/ Street Type	Description
Collector	Collector roads collect traffic from local streets and carry a higher volume of traffic, linking neighbourhoods and centres and accommodating public transport routes. Amenity and safety is to be maintained by restricting vehicle speeds through traffic-calming measures and intersection design. Intermittent parking with landscaping is permitted on both sides of the street. Refer to **Figure 4-12** for a typical collector road cross section.
Local	Local streets provide local residential access. These streets are designed to slow residential traffic in order to give priority to pedestrians and cyclists. Amenity and safety is to be maintained by introducing various traffic calming measures. On-street parking is permitted on both sides of the street. Refer to **Figure 4-13** typical access street for a typical local street cross section.
Access	Access places may be used where: • the access place separates residential land from open space or drainage land; • the road is not a through traffic route (ie it provides access only to residences on it); • the maximum number of dwellings serviced by the access place is 10; and • on-street parking is permitted on one side of the street only. Refer to **Figure 4-14** for a typical access street cross section. **Note:** Where an access street has frontage to open space or drainage land, the footpath must be constructed as part of the access street. Where the access street is adjacent to a sub-arterial or arterial road, the footpath is not required.

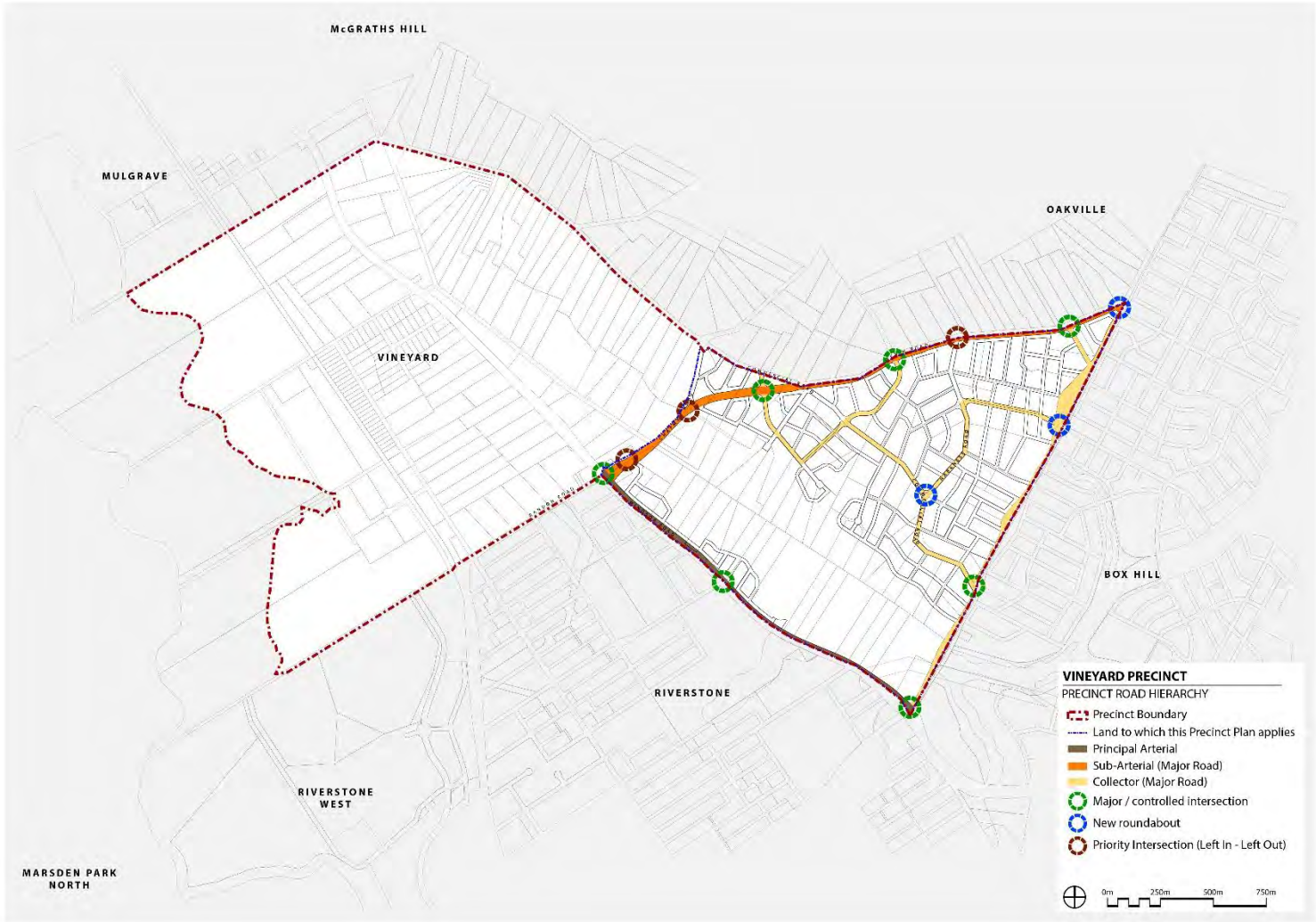


Figure 4-11 Precinct Road Hierarchy

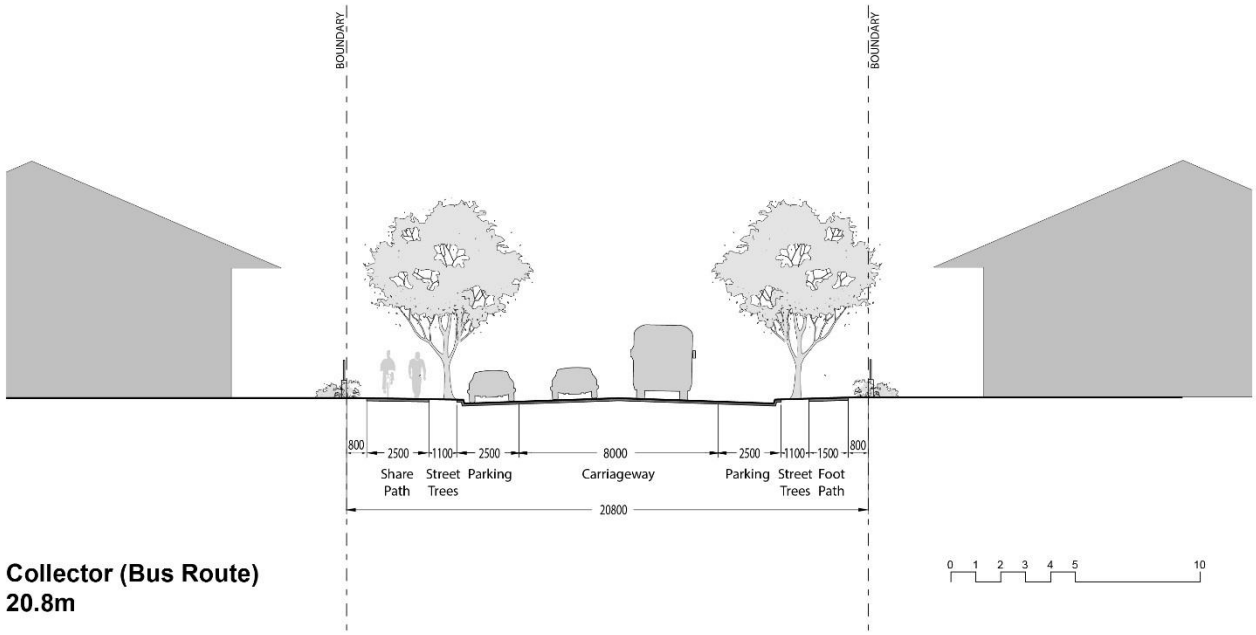


Figure 4-12 Typical collector road

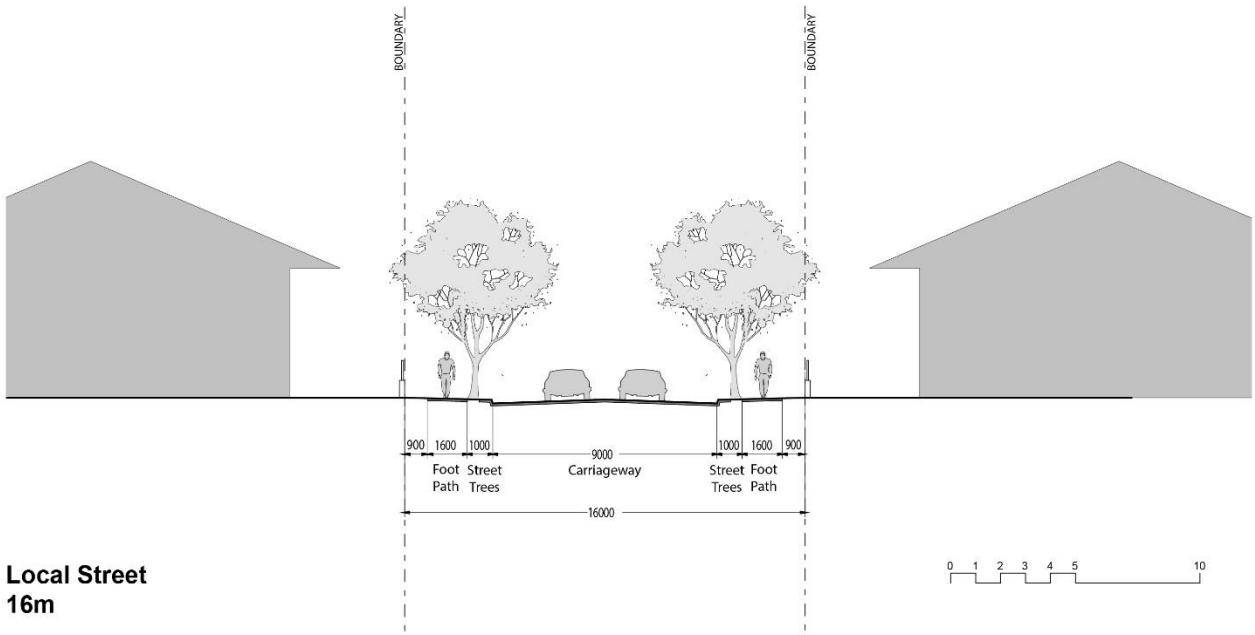


Figure 4-13 Typical local street

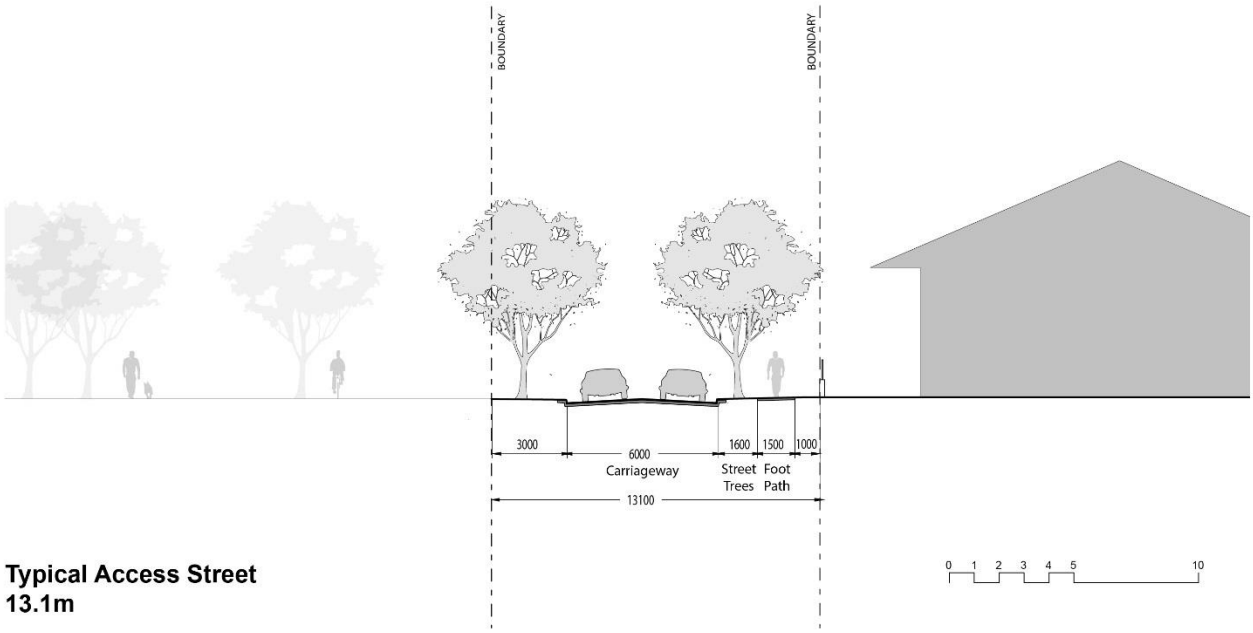


Figure 4-14 Typical access street

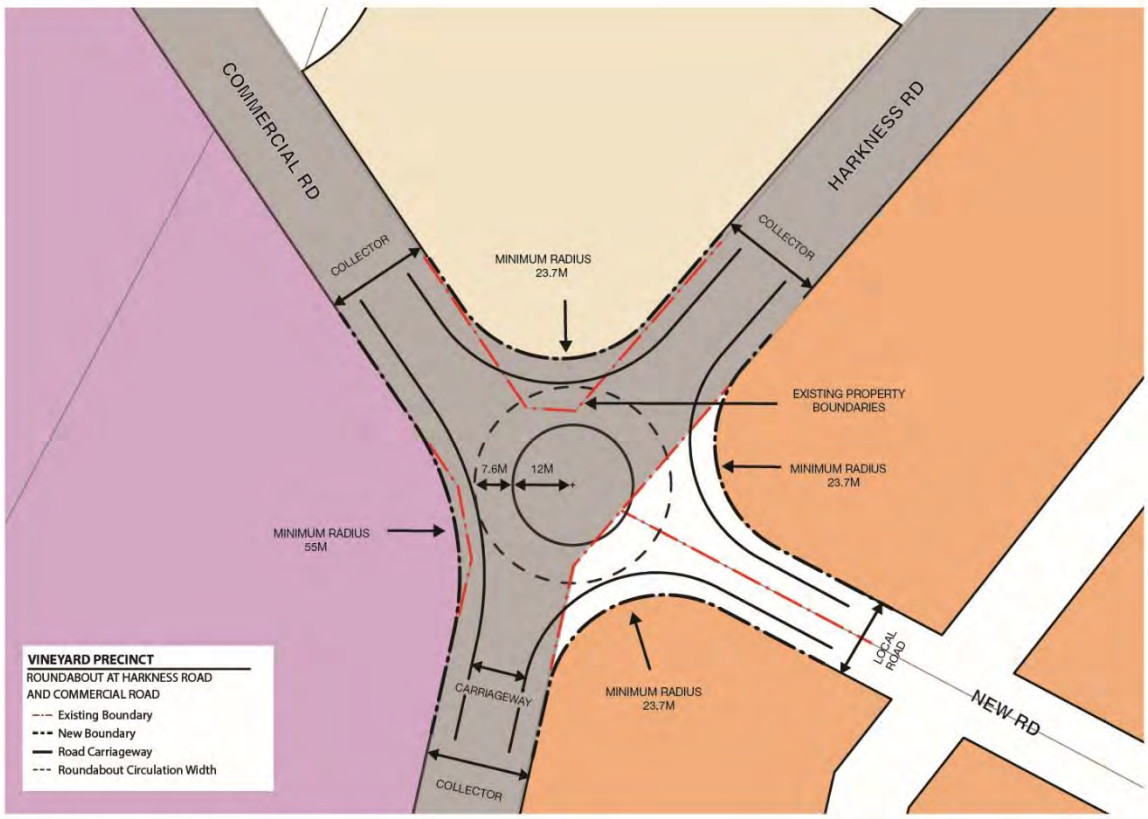


Figure 4-15 Indicative location and design of roundabout at Harkness Road and Commercial Road

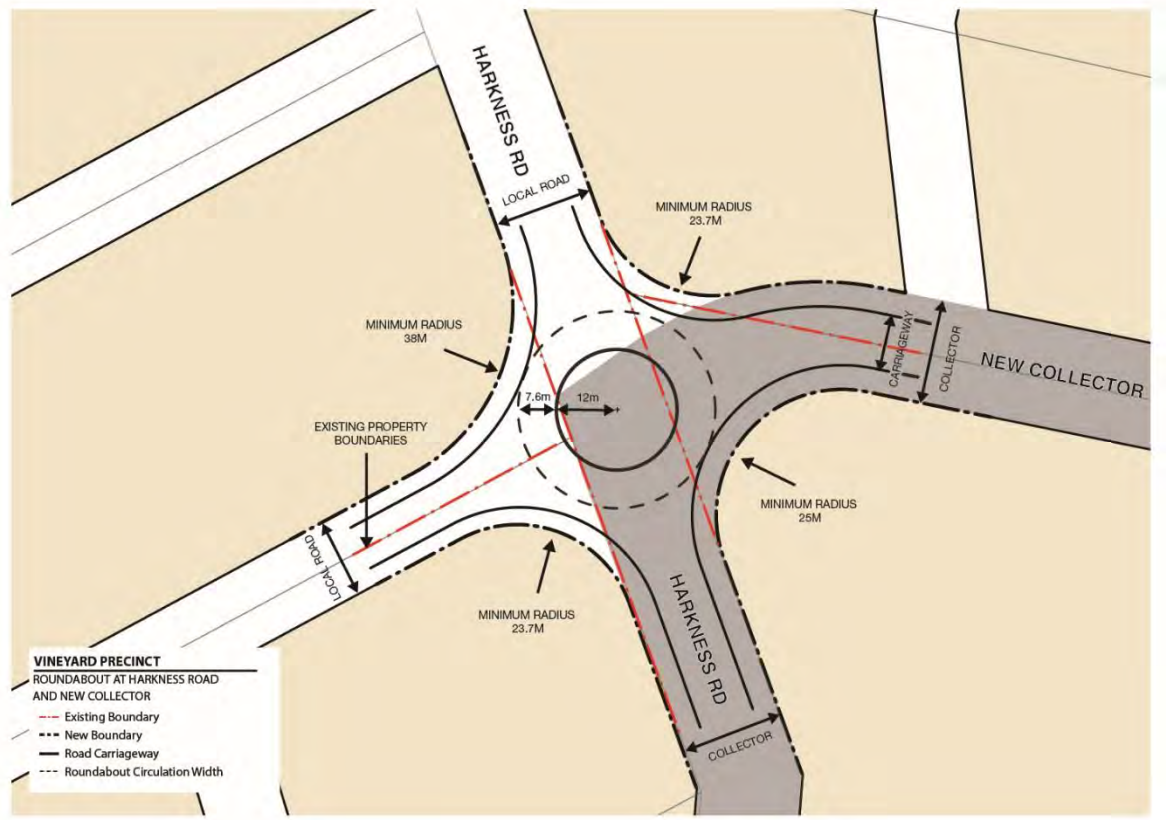


Figure 4-16 Indicative location and design of roundabout at Harkness Road and new collector road

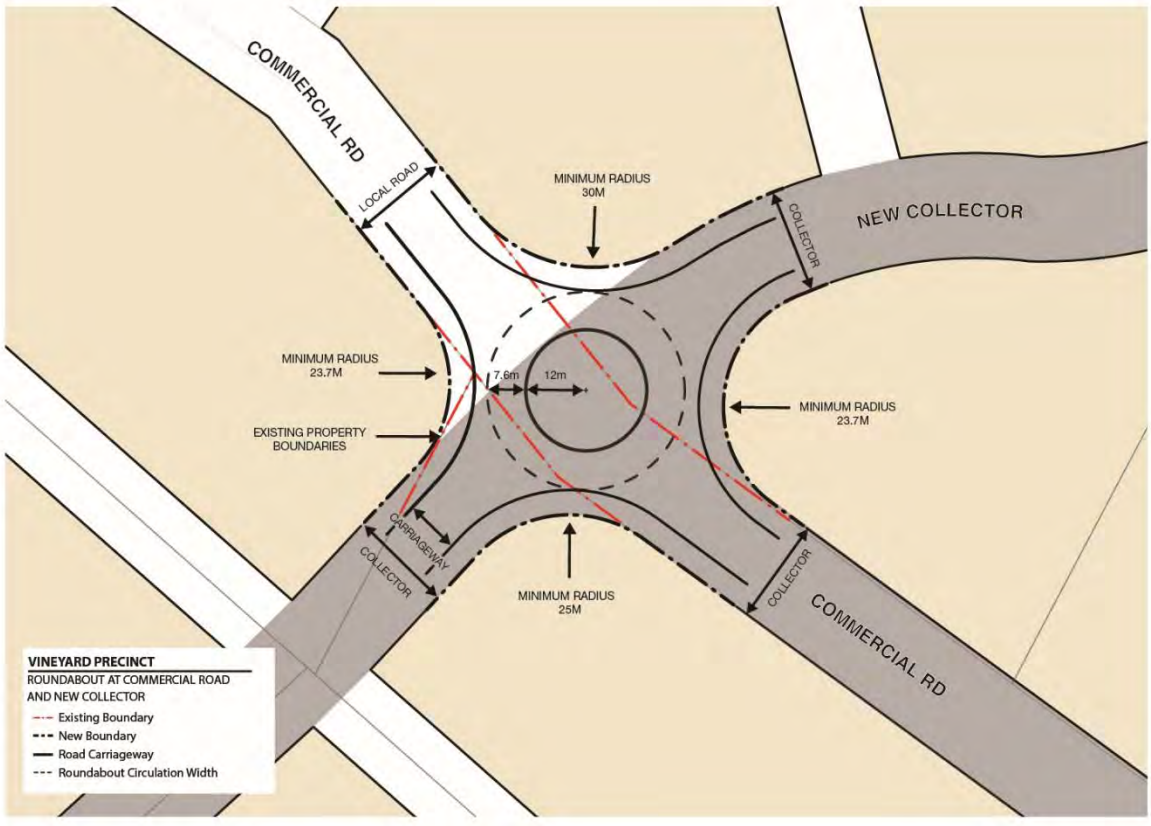


Figure 4-17 Indicative location and design of roundabout at Commercial Road and new collector road

Note: Figures 4-15 to 4-17 are indicative only and are subject to further detailed design at DA stage. The detailed design is to consider matters such as vehicle type and speed, roundabout location and geometry, deflection, sight distances and adequacy of road reserve widths.

Figure 4-18 Indicative location of off road shared pedestrian and bicycle pathways

4.4.2 Laneways

Laneways are public roads that are shareways, utilitarian throughways of the street network that provide rear vehicular access to compact or restricted access lots. The primary purpose of rear laneways is to create attractive front residential streets by removing garages and driveway cuts from the street frontages, improving the presentation of houses and maximising on street parking spaces and street trees. Laneways are a 'sacrificial' network device: while they should be neat and tidy, they should not be confused with streets in width, character or function.

A laneway is a shareway, designed to be shared by all users whether they are pedestrians, cyclists or drivers. Equal priority between all users reinforces the distinctive, slow speed environment for drivers.

In the design and subdivision of lots, laneways should be provided with casual surveillance from available second floor rooms and balconies over garages. Various building forms can provide this casual surveillance along the lane such as studio dwellings, secondary dwellings and rooms of the principal dwelling or lofts over garages. Separate titling of studio dwellings may affect servicing requirements. Generally there will be no underground services in the laneway (except for streetlights) as the studios will be strata titled so power, water, gas, sewer and communications will be located in the front street and reticulated from the front of the allotment through the lot to the rear studio.

Objectives

a. To provide vehicular access to the rear or side of lots where front access is restricted or not possible, particularly narrow lots where front garaging is not permitted.

b. To reduce garage dominance in residential streets.

c. To maximise on-street parking spaces and landscaping in residential streets.

d. To provide opportunities for affordable housing options.

e. To reduce vehicular conflict through reduced driveway cross overs and focusing of traffic to known points.

f. To enable garbage collection.

g. To facilitate the use of attached and narrow lot housing to achieve overall higher neighbourhood densities.

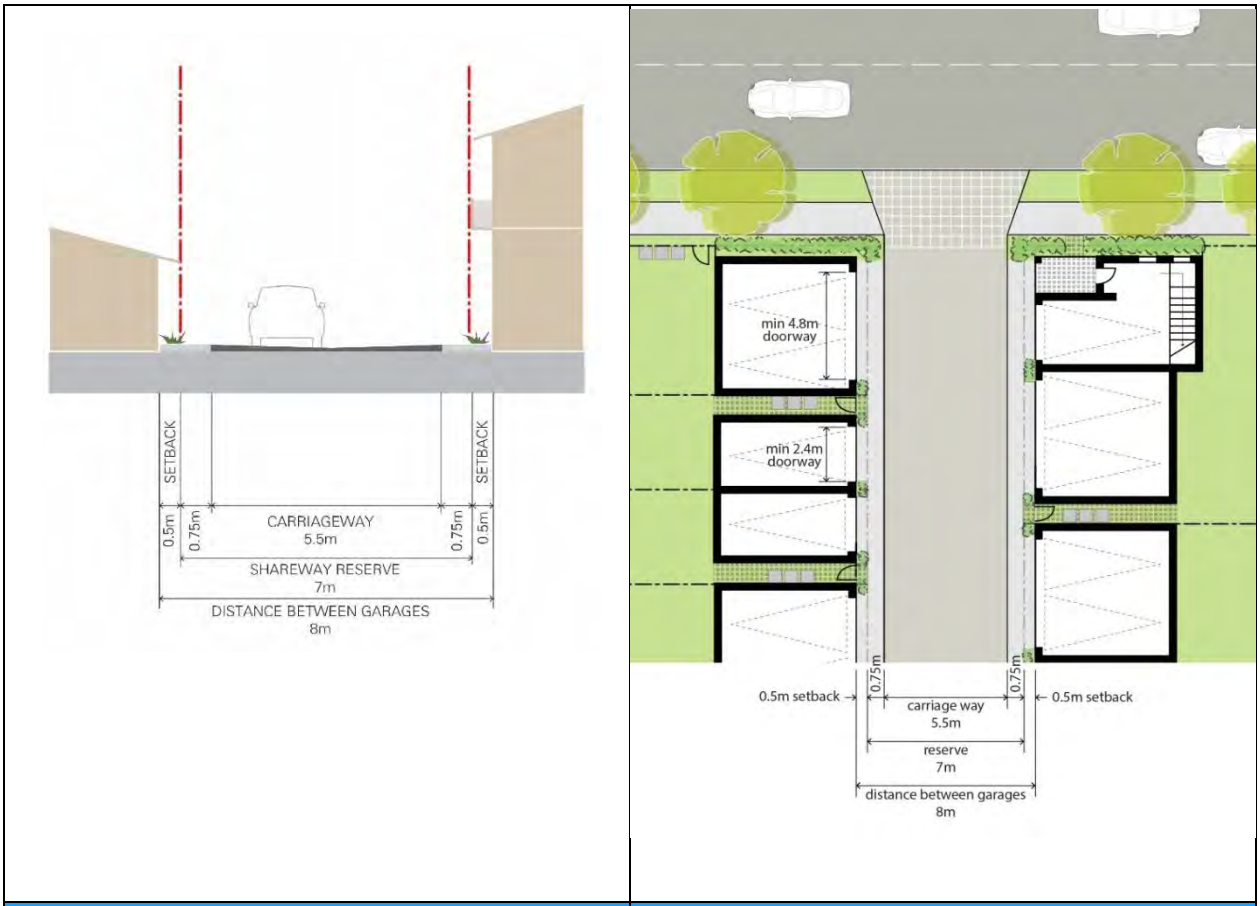
h. To create a slow speed shared zone requiring co-operative driving practices for the very low volume and frequency of vehicle movements that is distinctly different in character and materials to residential streets.

Controls

1) The design and construction of laneways is to be consistent with **Figure 4-19**. Laneways are to be designed in accordance with RMS technical direction *TTD2016/001 Design and Implementation of Shared Zones Including Provision for Parking*.

2) The laneway is a public "shareway" as the paved surface is for cyclists, pedestrians, garbage collection, mail deliveries, cars etc., with a 10 km speed limit and driveway-style crossovers to the street rather than a road junction.

3) The minimum garage doorway widths for manoeuvrability in this laneway section are 2.4m (single) and 4.8m (double).



Typical Laneway section	Typical Laneway (plan)

Figure 4-19 Laneway principles

4) The configuration of the laneway, associated subdivision and likely arrangement of garages arising from that subdivision should create ordered, safe and tidy laneways by designing out ambiguous spaces and unintended uses such as casual parking, the storage of trailers, bin stacking etc.

5) The layout of laneways should take into account subdivision efficiency, maximising favourable lot orientations, intersection locations with streets, topography, opportunities for affordable housing, legibility and passive surveillance.

- Generally, straight layouts across the block are preferred for safety and legibility, but the detailed alignment can employ subtle bends or secondary or studio dwellings over garages to add visual interest and avoid long distance monotonous views. "C" shaped layouts with the laneway length parallel to the front street can limit the views of laneways from residential streets to short sections. However, if the laneway is used for garbage collection, any bends or intersections are to be sized for garbage truck movements. Suggested layouts are shown on **Figure 4-20**.
- Lanes on sloping land with significant longitudinal and/or cross falls require detailed design consideration to demonstrate functionality.

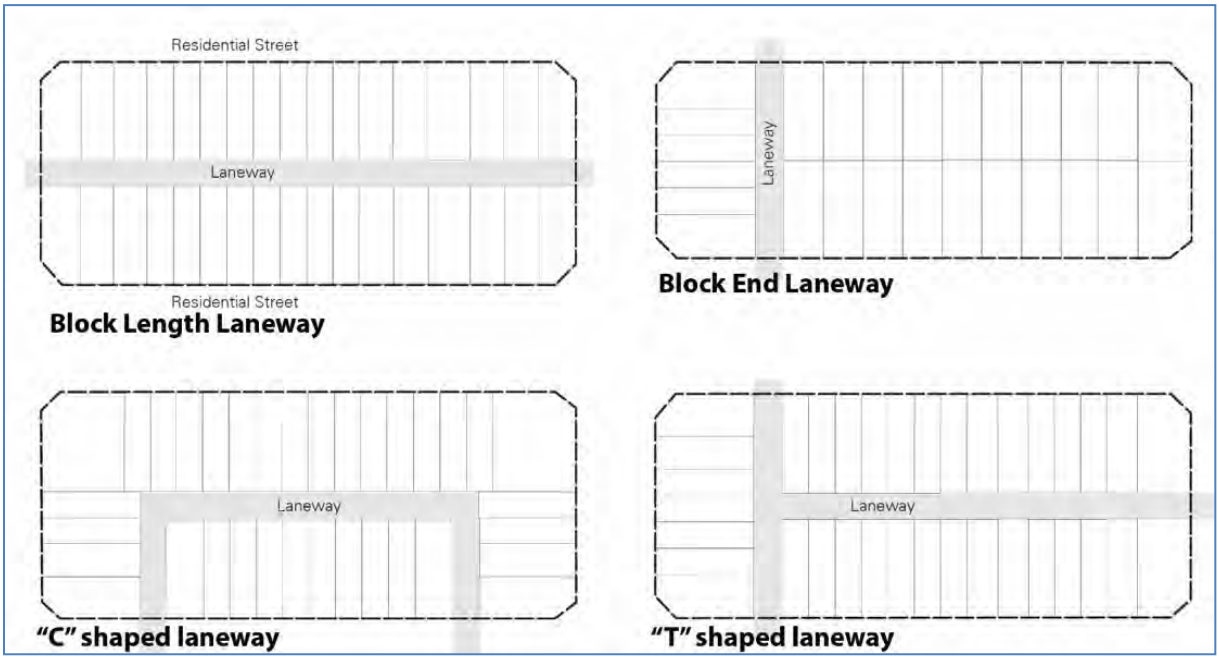


Figure 4-20 Sample lane layouts

6) Laneways that create a 'fronts to backs' layout (front addressed principal dwellings on one side and rear accessed garages on the other side) are to be avoided.
7) All lots adjoining a laneway should utilise the laneway for vehicular/garage access.
8) Passive surveillance along the laneway from the upper storey rooms or balconies of secondary dwellings, studio dwellings, principal dwelling or lofts over rear garages is encouraged. Ground floor habitable rooms on laneways are to be avoided unless they are located on external corners (laneway with a street) and face the street to take advantage of the residential street for an address, shown in **Figure 4-21** as lane entry/street corner lots.
9) **Figure 4-21** indicates mid-lane lots and internal corner locations (lane with another lane) where ground floor habitable rooms in secondary dwellings or strata studios (marked 'S') are to be avoided.
10) A continuous run of secondary dwellings or strata studios along the lane is to be avoided, as it changes the character, purpose and function of the lane. No more than 25% of the lots adjoining lanes (excluding street corner lots with studio at the lane entry) are to have secondary dwellings or strata studios. See **Figure 4-21**.

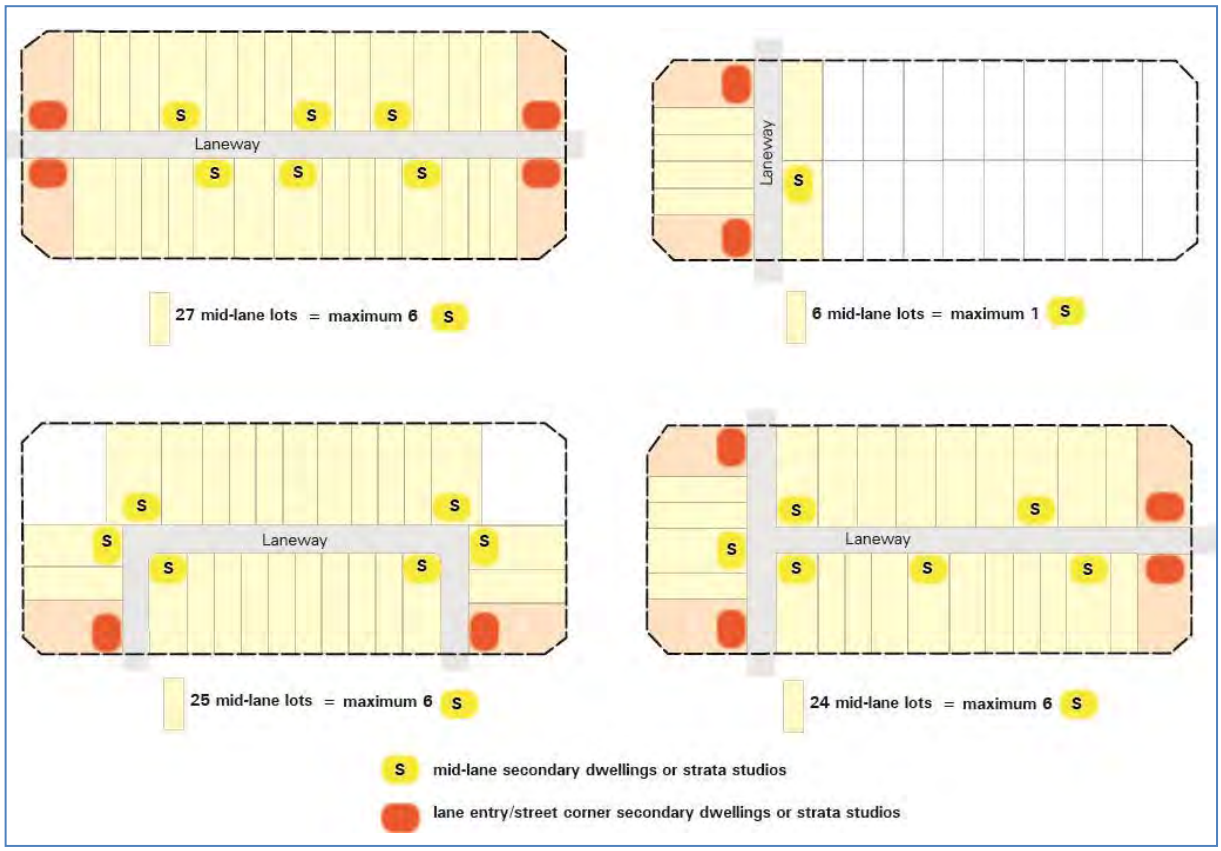


Figure 4-21 Sample laneways showing maximum number of secondary dwellings or strata studios

11) All lot boundaries adjoining the lane are to be defined by fencing or built form. The garage setback to the lane is minimal (0.5m) to allow overhanging eaves or balconies to remain in the lot without creating spaces where people park illegally in front of garages and/or on the laneway. Deeper balconies requiring larger garage setbacks (up to 2m) may be permitted occasionally along the laneway provided the application demonstrates how the setback space will not create an opportunity for illegal parking, such as the presence of a supporting post or bollard.

4.4.3 Shared Driveways

Shared driveways are privately owned and maintained driveways that serve two or more dwellings through a titling arrangement such as a reciprocal right of way or community title. Shared driveways are usually of minimal dimensions for vehicle access to lots with only a single access to the street network. Garbage collection is not a function. Shared driveways are a useful subdivision device for a small number of dwellings with otherwise difficult access or unavoidable block configurations, but are not a substitute in blocks designed with significant numbers of dwellings requiring rear access by laneways.

Objectives

a. To minimise the impact of vehicle access points on the quality of the public domain and pedestrian safety.

b. To provide safe and convenient access to garages, carports and parking areas.

c. To clearly define public and private spaces, such that driveways are for the sole use of residents.

d. To permit casual surveillance of private driveways from dwellings and from the street.

Controls

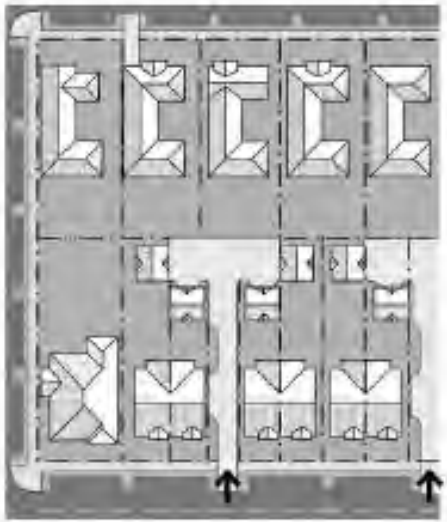
1) Shared driveways are to be constructed as one of four general types, depending on block geometry

and garages to be accessed. Refer to examples in **Figure 4-22**.

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 5.4 metres.
4) The location of driveways is to be determined with regard to dwelling design and orientation, street gully pits and tree bays and is to maximise the available on-street parking.
5) The design of subdivisions incorporating shared driveways must ensure that suitable and convenient garbage collection areas on the street are available for each new lot.
6) Access to allotments in the vicinity of roundabouts and associated splitter islands shall not be provided within 10m of the roundabout.
7) Driveways are not to be within 1m of any drainage facilities on the kerb and gutter.
8) Shared driveways are to have soft landscaped areas on either side, suitable for infiltration.

Irregular shaped mews with central landscape feature

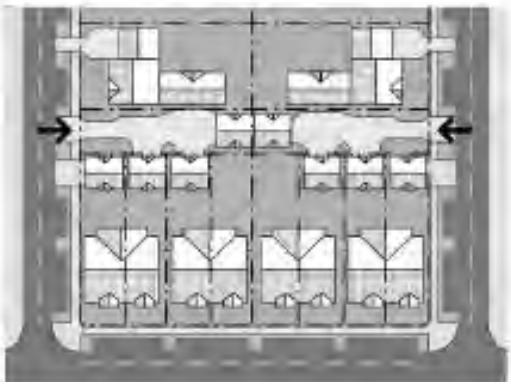
Use for odd shaped block geometry



T – SHAPED

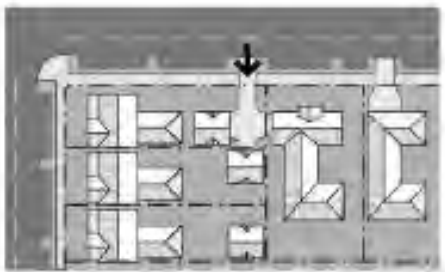
Driveway should be from the frontage road of the narrow lot dwellings

Use where block geometry or available road frontage precludes 'close'



CLOSE

Preferable



COMMON APRON

Maximum 3 properties

Figure 4-22 Indicative examples of shared driveways

4.4.4 Access to arterial and sub-arterial roads

Objectives

a. To restrict direct property access to higher order roads to provide for the safe and efficient movement of vehicles on these roads.

Controls

1) Vehicular access to arterial roads and sub-arterial roads shown on **Figure 4-11** may only be made by way of another road.
2) Persons creating allotments adjoining arterial or sub-arterial roads are required to create restrictions on the use of land under Section 88B of the *Conveyancing Act 1919* to legally deny direct vehicular access to allotments from the arterial or sub-arterial road.
3) To enable the development of land, such as in situations where access across adjoining properties

is required but not yet able to be provided, Council may allow temporary access to arterial or sub-arterial roads where:

- the development complies with all other development standards;
- subdivisional roads generally conform with the road pattern shown on the ILP; and
- Council is satisfied that the carrying out of the development will not compromise traffic safety.

4) Where Council grants such consent, the temporary access must be constructed to Council's standards and conditions will be imposed that access to the designated road by way of the temporary access shall cease when alternative access becomes available.
5) Access to the residential land fronting Windsor Road may only occur via the local road network. No new direct access off Windsor Road will be permitted.

Note: Approval from the RMS may also be required for any temporary access to a classified road.

5. Development in the Residential and Environment Protection Zones

5. Development in the Residential and Environment Protection Zones

5.1. Dwelling design controls

Under the provisions of the Vineyard Precinct Plan, development consent is generally required for all dwellings in all residential and environment protection zones, except where applications meet the criteria for complying development. This part of the DCP establishes objectives and controls for the following types of residential accommodation as defined in the Growth Centres SEPP:

- dwelling houses;
- semi-detached dwellings;
- attached dwellings;
- multi-dwelling housing;
- dual occupancy dwellings;
- manor homes;
- residential flat buildings;
- secondary dwellings; and
- studio dwellings.

Additional controls for attached dwellings, secondary dwellings, studio dwellings, dual occupancies, multi-dwelling housing, manor homes, residential flat buildings and shop top housing are contained in **Parts 5.2.2, 5.2.3, 5.2.4** and **5.2.5.**

It is acknowledged that innovative dwelling designs are evolving particularly on lots <300m^2, and design solutions may be developed that meet the objectives but do not comply with the relevant controls. In density bands ≥20dw/Ha, there is the opportunity to vary the dwelling design controls where agreed to as part of an integrated housing DA at subdivision approval.

Note: Reference should be made to the **Glossary** (**Appendix A**) for descriptions of the various dwelling types, and to the Vineyard Precinct Plan for statutory definitions of land uses.

5.1.1 Summary of Key Controls

The following **Table 5-1** summarises the types of lots and housing. **Table 5-1** is diagrammatic only and directs readers to the relevant **Table 5-2 to Table 5-6** containing the main development controls.

The key controls should be read in conjunction with the controls in the parts that follow.

Table 5-1 Summary of lot and dwelling types

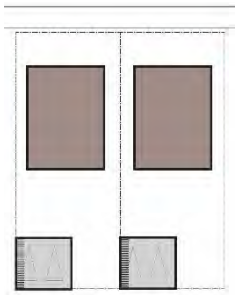
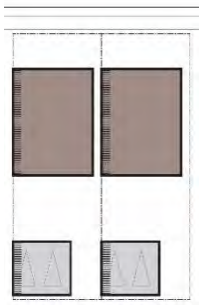
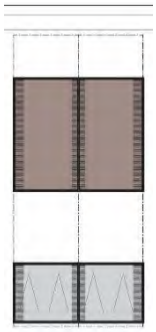
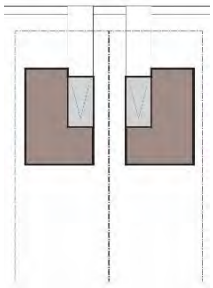
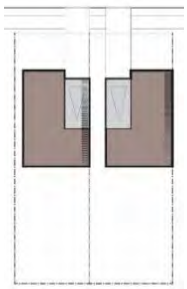
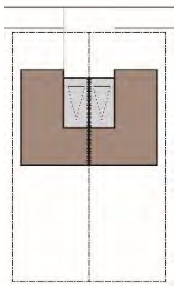
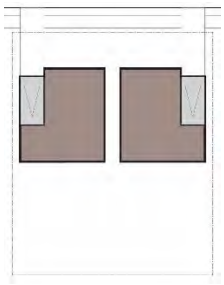
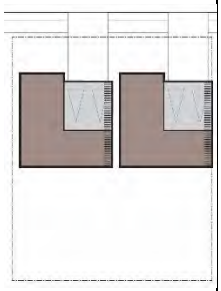
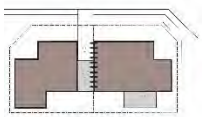
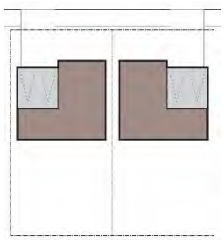
Access	Lot Width	Detached	Zero lot	Attached	Controls Table
Rear access	≥4.5m				**Table 5-2**
Front access	7>9m				**Table 5-3**
	≥9≥15m				**Table 5-4**
	>15m				**Table 5-5**
	Environmental Living Zone				**Table 5-6**

Table 5-2 Summary of key controls for lots with frontage width ≥4.5m for rear accessed dwellings

Element	Control	
Front setback (minimum)	In density range 15-18dw/ha: 4.5m to building facade line 3.5m to building façade fronting open space 3m to articulation zone 2m to articulation zone fronting open space	In density range 20-30dw/ha: 3m to building façade line 1.5m to articulation zone
Side setback (minimum)	Zero Lot or Attached Boundary (benefited lot) Ground floor: 0m Upper floor: 0m	Detached Boundary: 0.9m. If lot burdened by zero lot boundary, side setback must be within easement: 0.9m (single storey zero lot wall) 1.2m (double storey zero lot wall)
	Where a boundary adjoins Public Recreation or Drainage land: 3m	
Maximum length of zero lot line on boundary	Attached house: 15m upper levels only (excludes rear loaded garages) No limit to ground floor	Zero lot house: 15m (excludes rear loaded garages)
Rear setback (minimum)	0.5m (rear loaded garages to lane)	
Corner lots secondary street setback (minimum)	1m	
Building height, massing and Siting	In density range 15-18dw/ha: 2 storeys maximum (3rd storey subject to Part 5.1.5)	In density range 20-30dw/ha: 3 storeys maximum
Site Coverage	Upper level no more than 40% of lot area	
Soft landscaped area	Minimum 15% of lot area The first 1m of the lot measured from the street boundary (excluding paths) is to be soft landscaped	
Principal Private Open Space (PPOS)	In density range 15-18dw/ha: Minimum 16m² with a minimum dimension of 3m	In density range 20-30dw/ha: Minimum 16m² with a minimum dimension of 3m 10m² per dwelling if provided as balcony or rooftop with a minimum dimension of 2.5m
Solar access	In density range 15-18dw/ha: At least 3 hours of sunlight between 9am and 3pm at the winter solstice (21 June) to at least 50% of the required PPOS of both the proposed development and the neighbouring properties	In density range 20-30dw/ha: At least 3 hours of sunlight between 9am and 3pm at the winter solstice (21 June) to at least 50% of the required PPOS of: • all affected neighbouring properties and • at least 70% of the proposed dwellings
	For alterations and additions to existing dwellings in all density areas, no reduction in the existing solar access to PPOS of the existing neighbouring properties	
Garages and car parking	Rear loaded garage or car space only for lots of this type Minimum garage width 2.4m (single) and 4.8m (double) All parking spaces are to have a minimum depth of 5.5m Maximum garage door width 2.4m (single) and 4.8m (double) 1-2 bedroom dwellings will provide at least 1 car space 3 bedroom or more dwellings will provide at least 2 car spaces	

Table 5-3 Summary of key controls for lots with frontage width ≥ 7m and < 9m for front accessed dwellings

Element	Control	
Front setback (minimum)	4.5m to building facade line 3.5m to building façade fronting open space 3m to articulation zone 2m to articulation zone fronting open space 5.5m to garage line and minimum 1m behind the building line	
Side setback (minimum)	Zero Lot or Attached Boundary (benefited lot) Ground floor: 0m Upper floor: 0m	Detached Boundary: 0.9m. If lot burdened by zero lot boundary, side setback must be within easement: 0.9m (single storey zero lot wall) 1.2m (double storey zero lot wall)
	Where a boundary adjoins Public Recreation or Drainage land: 3m	
Maximum length of zero lot line on boundary	15m	
Rear setback (minimum)	4m (ground level) and 6m (upper levels)	
Corner lots secondary street setback (minimum)	1m	
Building height, massing and siting	In density range 15-18dw/ha: 2 storeys maximum (3rd storey subject to Part 5.1.5)	In density range 20-30dw/ha: 3 storeys maximum
Site Coverage	Upper level no more than 50% of lot area	
Soft landscaped area	Minimum 15% of lot area The first 1m of the lot measured from the street boundary (excluding paths) is to be soft landscaped	
Principal Private Open Space (PPOS)	In density range 15-18dw/ha: Minimum 16m² with a minimum dimension of 3m	In density range 20-30dw/ha: Minimum 16m² with a minimum dimension of 3m 10m² per dwelling if provided as balcony or rooftop with a minimum dimension of 2.5m
Solar access	In density range 15-18dw/ha: At least 3 hours of sunlight between 9am and 3pm at the winter solstice (21 June) to 50% of the required PPOS of both the proposed development and the neighbouring properties	In density range 20-30dw/ha: At least 3 hours of sunlight between 9am and 3pm at the winter solstice (21 June) to at least 50% of the required PPOS of: • all affected neighbouring properties and • at least 70% of the proposed dwellings
	For alterations and additions to existing dwellings in all density areas, no reduction in the existing solar access to PPOS of the existing neighbouring properties	
Garages and car parking	Single width garage or car space only Minimum garage internal width 3m Minimum garage internal depth 5.5m Maximum garage door width not to exceed 3m The garage must be less than 40% of the total area of the front façade 1-2 bedroom dwellings will provide at least 1 car space 3 bedroom or more dwellings will provide at least 2 car spaces	
Layout	Driveway locations must be paired to preserve on-street parking spaces in front of lots In density range 15-18dw/ha, total lot frontage of this lot type is not to exceed 20% of the block length due to garage dominance and on-street parking impacts	

Table 5-4 Summary of key controls for lots with frontage width ≥ 9m and ≤15m for front accessed dwellings

Element	Control	
Front setback (minimum)	4.5m to building facade line 3.5m to building façade fronting open space or drainage land 3m to articulation zone 2m to articulation zone fronting open space or drainage land 5.5m to garage line and 1m behind the building line	
Side setback (minimum)	Detached boundary: Ground Floor: 0.9m Upper Floor: 0.9m	Lots with a zero lot boundary: Ground Floor: 0m (Side A), 0.9m (Side B) Upper Floor: 1.5m (Side A), 0.9m (Side B)
	Where a boundary adjoins Public Recreation or Drainage land: 3m	
Length of zero lot line on boundary	11m	
Rear setback (minimum)	4m (ground level) and 6m (upper levels)	
Corner lots secondary street setback (minimum)	2m	
Building height, massing and Siting	2 storeys maximum (3rd storey subject to Part 5.1.5)	
Site coverage	Single storey dwellings: 60% Lot ≤375sqm, upper level no more than 40% of lot area Lot >375sqm, upper level no more than 35% of lot area	
Landscaped area	Minimum 25% of allotment area	
Principal Private Open space (PPOS)	Minimum 20m² with a minimum dimension of 4m 50% of the area of the required PPOS (of both the proposed development and adjoining properties) should receive at least 3 hours of sunlight between 9am and 3pm at the winter solstice (21 June)	
Garages and car parking	Lots ≥9m and <12.5m: • where front accessed, single width garages only • rear lane or side street accessed single or double garage width permitted	Lots ≥12.5m and ≤15m: • front or rear accessed single, tandem or double garages permitted • triple garages are not permitted
	Minimum garage internal width 3m (single) and 6m (double) Minimum garage internal depth 5.5m per car space Maximum carport and garage door width not to exceed 3m (single) and 4.8m (double).	
	1-2 bedroom dwellings will provide at least 1 car space 3 bedroom or more dwellings will provide at least 2 car spaces	

Table 5-5 Summary of key controls for lots with frontage width > 15m for front accessed dwellings

Element	Control
Front setback (minimum)	4.5m to building facade line 3.5m to building façade fronting open space or drainage land 3m to articulation zone 2m to articulation zone fronting open space or drainage 5.5m to garage line and 1m behind the building line
Side setback (minimum)	Ground Floor: 0.9m (Side A), 0.9m (Side B) Upper Floor: 0.9m (Side A), 1.5m (Side B) Where a boundary adjoins Public Recreation or Drainage land: 3m
Rear setback (minimum)	4m (ground level) and 6m (upper levels)
Corner lots secondary street setback (minimum)	2m
Building height, massing and Siting	2 storeys (3rd storey subject to Part 5.1.5)
Site coverage	Single storey dwellings: 50% Two storey dwellings: 50% at ground floor and 30% at upper floor
Landscaped area	Minimum 30% of the allotment area
Principal Private Open Space (PPOS)	Minimum 24m² with a minimum dimension of 4m 50% of the area of the required principal private open space (of both the proposed development and adjoining properties) should receive at least 3 hours of sunlight between 9am and 3pm at the winter solstice (21 June)
Garages and car parking	Front or rear loaded double and tandem garages permitted Minimum garage internal width 3m (single) and 6m (double) Minimum garage internal depth 5.5m per car space Maximum garage door width not to exceed 3m (single) and 6m (double) Triple garages are not permitted 1-2 bedroom dwellings will provide at least 1 car space 3 bedroom or more dwellings will provide at least 2 car spaces

Table 5-6 Summary of key controls for lots in the Environmental Living Zone

Element	Control
Front setback (minimum)	4.5m to building facade line Façade articulation is to be behind the front setback Garage setback 1m behind the building façade line
Side setback (minimum)	Ground Floor: 1.5m Upper Floor: 1.5m (Side A), 3m (Side B) Where a boundary adjoins Public Recreation or Drainage land: 4.5m
Rear setback (minimum)	10m
Corner lots secondary street setback (minimum)	4.5m
Building height, massing and Siting	2 storeys (3rd storey subject to Part 5.1.5)
Site coverage	Single storey dwellings: 35% Two (or more) storey dwellings: 25% ground floor and 15% upper floors
Landscaped area	Single storey dwellings: Minimum 55% of the allotment area Two or more storey dwellings: Minimum 60% of the allotment area
Principal Private Open Space (PPOS)	Minimum 24m² with a minimum dimension of 4m 50% of the area of the required principal private open space (of both the proposed development and adjoining properties) should receive at least 3 hours of sunlight between 9am and 3pm at the winter solstice (21 June)
Garages and car parking	Front or rear loaded double and tandem garages permitted Minimum garage internal width 3m (single) and 6m (double) Minimum garage internal depth 5.5m per car space Maximum garage door width not to exceed 3m (single) and 6m (double) where garages front a public road 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 1-2 bedroom dwellings will provide at least 1 car space 3 bedroom or more dwellings will provide at least 2 car spaces.

5.1.2 Streetscape and architectural design

Growth Centres neighbourhoods will be composed of a variety of streets with different but equally appealing characters and built form intensity. In low density areas, suburban streetscapes will be most common but there will also be some streets with a more urban village character. In higher density areas, urban village streets will be more common but there will also be some suburban streetscapes. The objective is to avoid a monoculture of the one type of street which is neither a successful suburban or urban street.

Figure 5-1 illustrates how the designed combination of built form, lot size, setbacks, garaging and landscaping can create distinctive streetscape characters ranging from the low intensity 'garden suburban' character based on landscaped private space around buildings to the built form intensity and public landscapes of urban streets.

Garden Suburban

Suburban

Urban

Figure 5-1 The combination of built form, lot size, garaging and landscaping creates different streetscapes

Objectives

a. To ensure that buildings are designed to enhance the built form and character of the neighbourhood by encouraging innovative and quality designs that contribute to unified streetscapes.

b. To encourage a diversity of housing types.

c. To provide a clear distinction between private and public space and to encourage casual surveillance of the street.

d. To reinforce significant street intersections particularly on open space and other key strategic areas through articulation of corner buildings.

Controls

1) The primary street facade of a dwelling should address the street and must incorporate at least two of the following design features:

   - entry feature or porch
   - awnings or other features over windows
   - balcony treatment to any first floor element
   - recessing or projecting architectural elements
   - open verandah
   - bay windows or similar features
   - verandahs, pergolas or similar features above garage doors.

2) Corner lot development should emphasise the corner. The secondary street facade for a dwelling on a corner lot should address the street and must incorporate at least two of the above design features. Landscaping in the front setback on the main street frontage should also continue around into the secondary setback.

3) Modulation of the façade should be integral to the design of the building, rather than an unrelated attached element.

4) Eaves are to provide sun shading and protect windows and doors and provide aesthetic interest. Except for walls built to the boundary, eaves should have a minimum of 450mm overhang (measured to the fascia board). Council will consider alternative solutions to eaves so long as appropriate sun shading is provided to windows and display a high level of architectural merit.

5) The pitch of hipped and gable roof forms on the main dwelling house should be between 22.5 degrees and 35 degrees. Skillion roofs, roofs hidden from view by parapet walls, roofs on detached garages, studios and ancillary buildings on the allotment are excluded from this control.

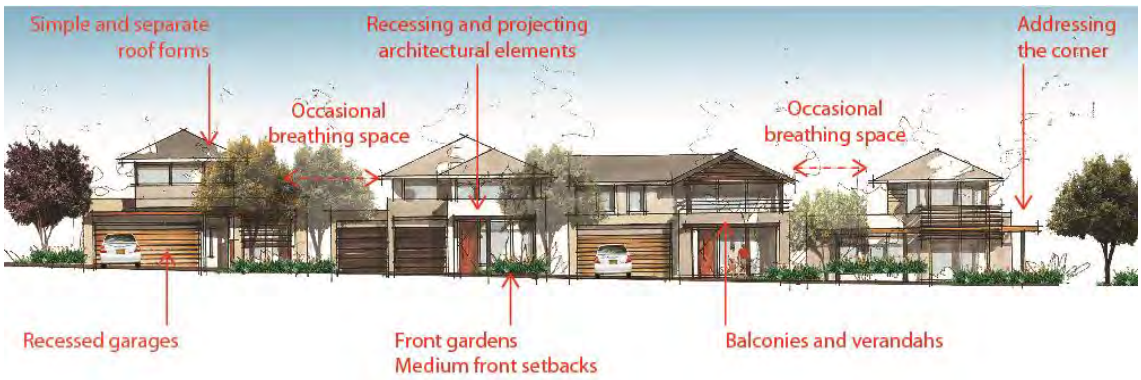
6) Light coloured roofs are encouraged to reduce heat build-up within dwellings and urban heat island effects.

7) Front facades are to feature at least one habitable room with a window onto the street.

8) Carports and garages are to be constructed of materials that complement the colour and finishes of the main dwelling.

9) Streets should be fronted with similar housing types to create a consistent street character. For example, a 'garden suburban' street character will be created where most dwellings are detached on lot widths ≥15m, perhaps with deeper lots allowing for larger front setbacks and generous landscaping around dwellings. A suburban street character will be created where most dwellings are front loaded, detached or zero lotted on lot widths between 9-15m. An urban street character will be created where most dwellings are zero lotted, attached on lot widths less than 9m with rear garages. Streetscape design principles are illustrated at **Figure 5-2**.

Garden Suburban streetscape principles



Suburban streetscape principles

Urban streetscape principles

Figure 5-2 Streetscape design principles

5.1.3 Front setbacks

Objectives

a. To enable the integration of built and landscape elements to create an attractive, visually consistent streetscape.

b. To encourage simple and articulated building forms.

c. To ensure garages do not dominate the streetscape.

Controls

1) Dwellings are to be consistent with the front setback controls and principles in **Table 5-2** to **Table 5-6** and **Figure 5-3** and **Figure 5-4.**

2) On corner lots, front setback controls are to be consistent with **Figure 5-5**.

3) To achieve a desired streetscape character, the building façade front setback for a series of lots can be more or less than the setbacks shown in **Table 5-2** to **Table 5-6** where agreed to as part of the preparation of a Building Envelopes Plan or integrated housing DA at subdivision approval and the front setbacks are attached to the lot titles. However, the front setback to garages must be a minimum of 5.5m.

4) Elements permitted in the articulation zone (shown on **Figure 5-3 to Figure 5-6**) include those items listed in control 5.1.2 (1).

5) Except for rear loaded garages, the garage line is to have a front set back that is at least 1m behind the building front facade line.

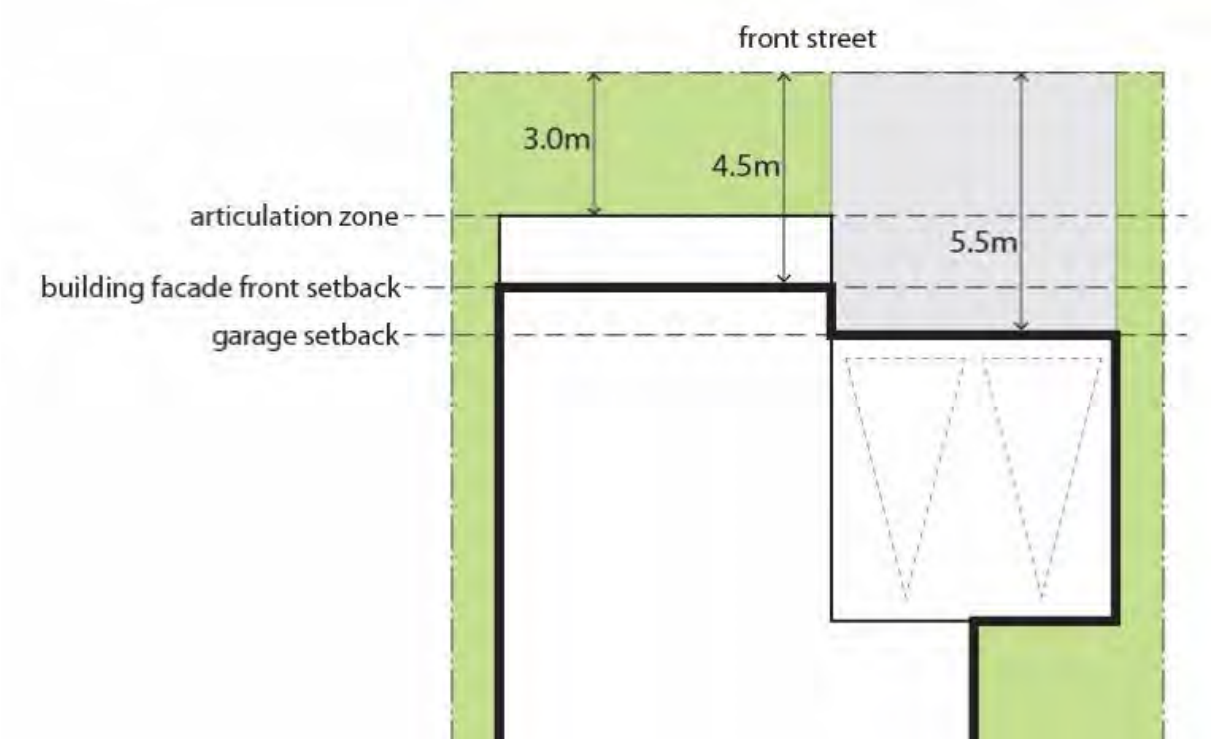


Figure 5-3 Minimum front setback distances

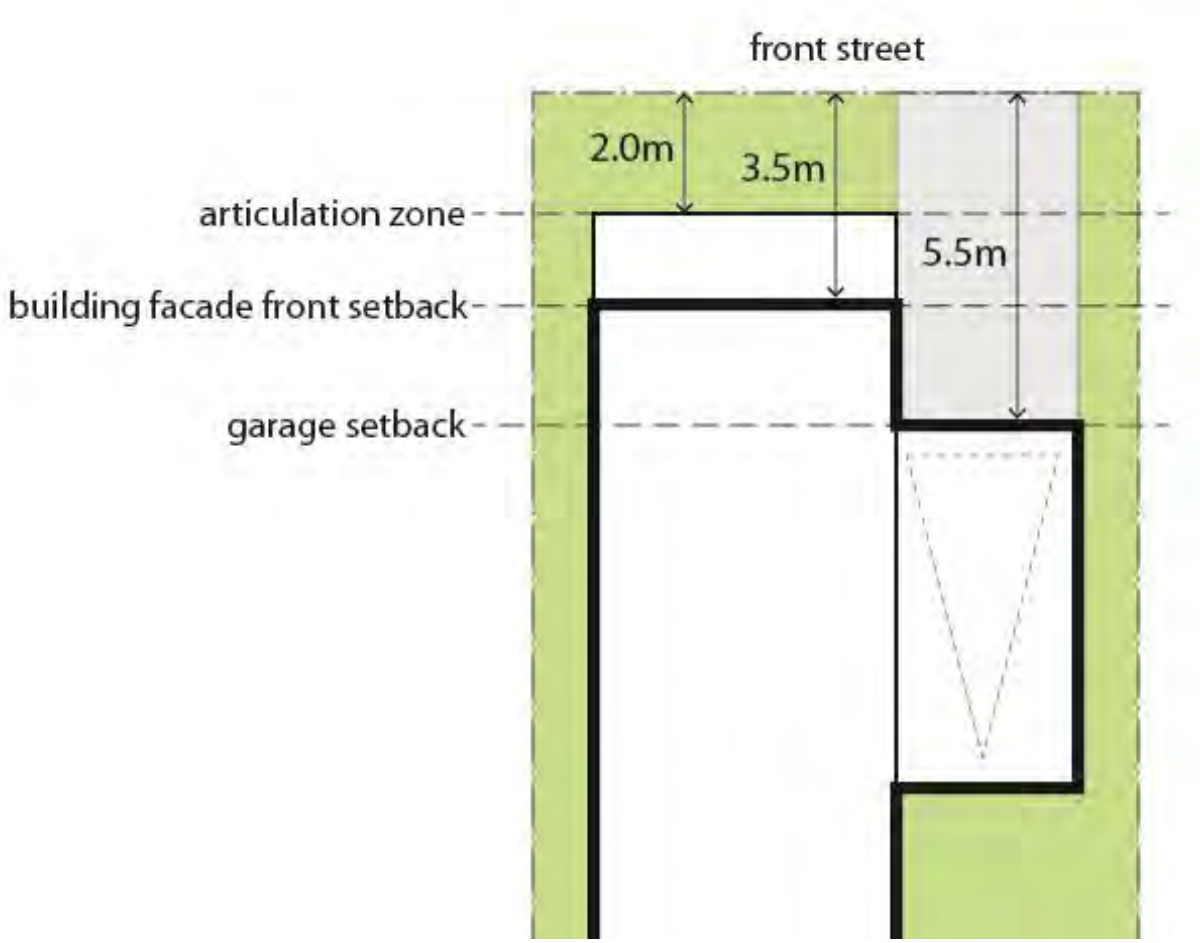


Figure 5-4 Minimum front setbacks for dwellings fronting open space or drainage land

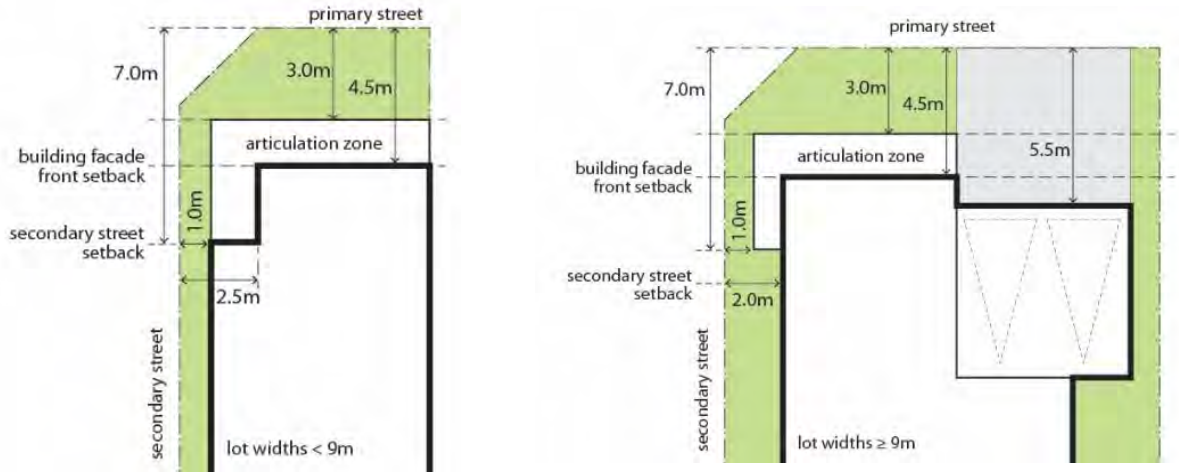


Figure 5-5 Minimum setbacks for corner lot dwellings

5.1.4 Side and rear setbacks

Objectives

a. To create an attractive and cohesive streetscape that responds to the character areas.

b. To minimise the impacts of development on neighbouring properties.

c. To provide appropriate separation between buildings.

d. To create opportunities for articulation on the side walls.

Controls

1) All development is to be consistent with the side and rear setback controls in the relevant **Table 5-2** to **Table 5-6**.
2) The location of a zero lot line (Side A) is to be determined primarily by topography and should be on the low side of the lot to minimise water penetration and termite issues. Other factors to consider include dwelling design, adjoining dwellings, landscape features, street trees, vehicle crossovers and the lot orientation as illustrated at **Figure 5-6**.
3) For attached or semi-detached dwellings the side setback only applies to the end of a row of attached housing, or the detached side of a semi-detached house.
4) Pergolas, swimming pools and other landscape features/structures are permitted to encroach into the rear setback.
5) For dwellings with a minimum 900mm side setback, projections permitted into the side setback areas include eaves (up to 450 mm wide), fascias, sun hoods, gutters, down pipes, flues, light fittings, electricity or gas meters, rainwater tanks and hot water units.
6) No overhanging eaves, gutters or services (including rainwater tanks, hot water units, air-conditioning units or the like) of the dwelling on the benefited lot will be permitted within any easement. Any services and projections permitted under by control 5.1.4 (5) (above) within the easement to the burdened lot dwelling should not impede the ability for maintenance to be undertaken to the benefitted lot.
7) For battle-axe lots without a street facing elevation setbacks are to be determined in the context of surrounding lots, built form and the location of private open space. An example is shown in **Figure 5-7**.
8) The upper floor of dwellings on battle-axe lots must be setback so as not to impact adversely on the existing or future amenity of any adjoining land on which residential development is permitted, having regard to overshadowing, visual impact and privacy.
9) For a battle-axe lot with direct frontage to land zoned for a public purpose or a street facing elevation (such as access denied lots), the front setback controls in **Part 5.1.3** are to apply to the lot boundary adjoining the public purpose zone, and side and rear setbacks are to apply to lot boundaries determined relative to the front setback boundary as shown in **Figure 5-8.**
10) For corner lots >15m lot width with shallow depths (i.e. approximately square corner lots) the rear setback can be varied to be consistent with the side setbacks in **Table 5-5** and **Table 5-6** provided the minimum private open space and solar access requirements to the proposed and adjoining properties are met.

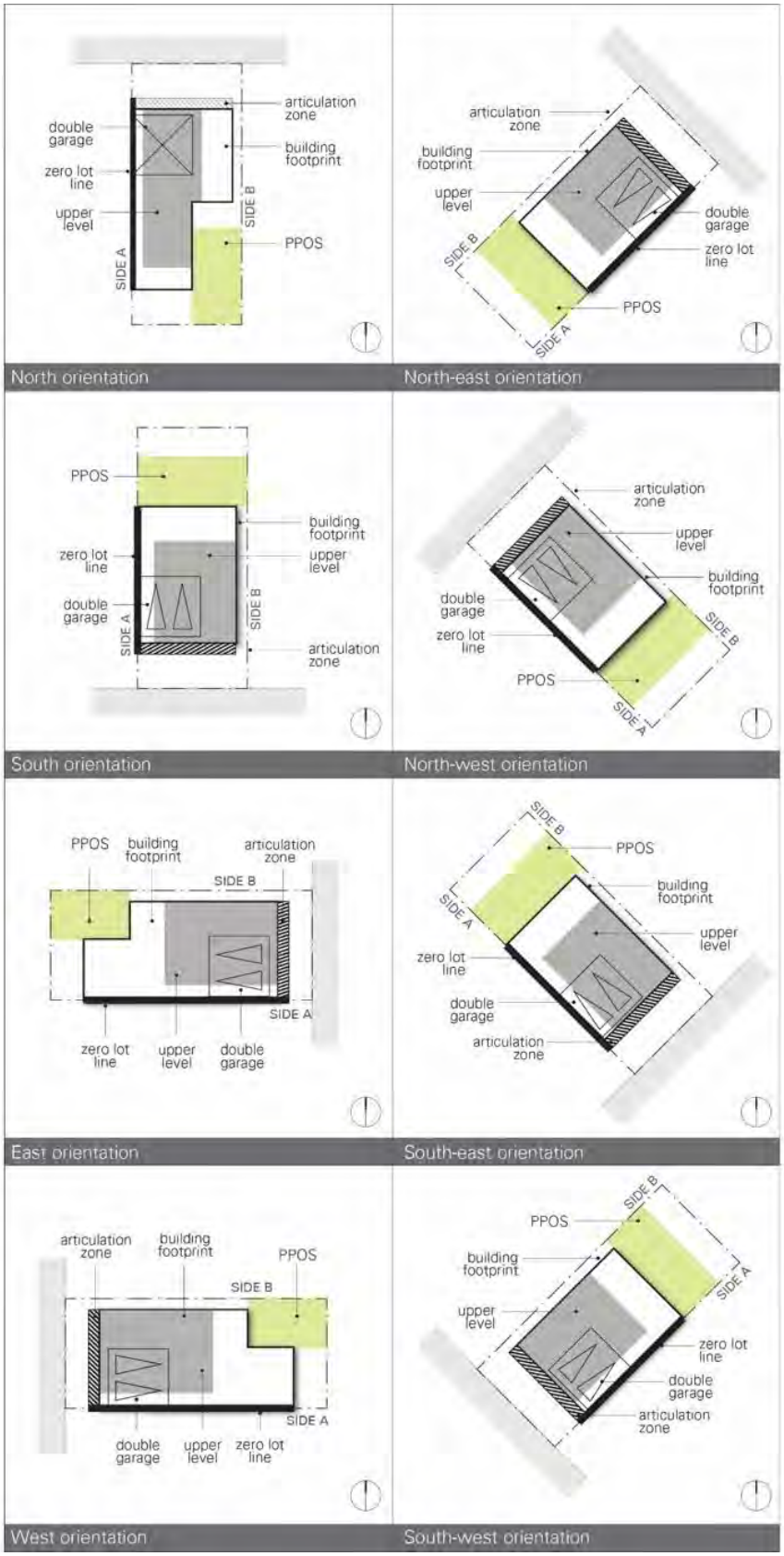


Figure 5-6 Dwelling and open space siting principles for different lot orientations

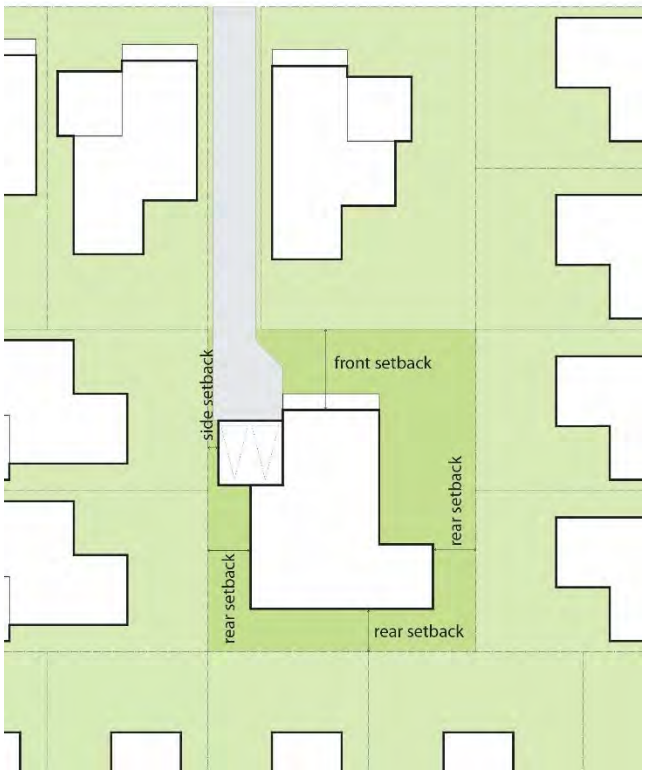


Figure 5-7 Battle axe lot without any street frontage setbacks

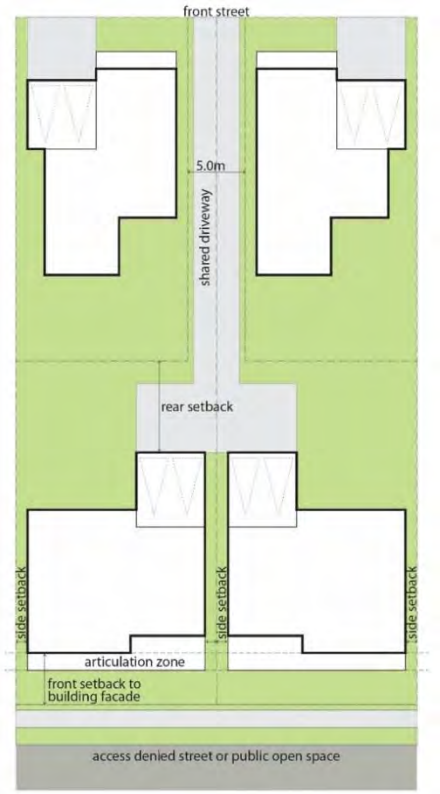


Figure 5-8 Battle axe lot fronting access denied road setbacks

5.1.5 Dwelling Height, Massing and Siting

Objectives

a. To ensure development is of a scale appropriate to protect residential amenity.

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

Controls

1) Dwellings are to be generally a maximum of 2 storeys in height. Council may permit a 3rd storey if it is satisfied that:

- the dwelling is located on a prominent street corner; or
- the dwelling is located adjacent to a neighbourhood or local centre, public recreation or drainage land, a golf course, or a riparian protection area; or
- the dwelling is located on land with a finished ground level slope equal to or more than 15%, and is not likely to impact adversely on the existing or future amenity of any adjoining land on which residential development is permitted, having regard to overshadowing, visual impact and any impact on privacy; or
- the third storey is within the roof line of the building (i.e. an attic).

Note: Reference should be made to clause 4.3 of the Vineyard Precinct Plan under the Growth Centres SEPP for statutory height limits.

2) All development is to comply with the maximum site coverage as indicated in the relevant **Table 5-2** to **Table 5-6.**

3) The ground floor level shall be no more than 1m above finished ground level.

4) Dwellings on a battle-axe-lot without public open space or street frontage are to be a maximum of 2 storeys in height.

5.1.6 Landscaped Area

Objectives

a. To encourage the use of native flora species and low maintenance landscaping.

b. To contribute to effective stormwater management, management of micro-climate impacts and energy efficiency.

c. To ensure a balance between built and landscaped elements in residential areas.

d. To create the desired street character.

Controls

1) The minimum soft landscaped area within any residential lot is to comply with the controls and principles in the relevant **Table 5-2** to **Table 5-6. Figure 5-9** illustrates areas of a lot that can contribute towards the provision of soft landscaped area and principal private open space.

2) A concept landscape plan must be submitted with the DA, and must indicate the extent of landscaped area and nominate the location, species, number and size of any trees or vegetation to be retained or planted.

3) Surface water drainage shall be provided as necessary to prevent the accumulation of water.

4) Use of low flow watering devices is encouraged to avoid over watering. Low water demand drought resistant vegetation is to be used for the majority of landscaping, including native salt tolerant trees.

5) The selection of trees and other landscaping plants is to consider:

- the preferred species listed in **Appendix D** to this DCP;

- the use of indigenous species of local provenance for at least 50% of the landscaping; and
- the contribution to the management of soil salinity, groundwater levels and soil erosion.

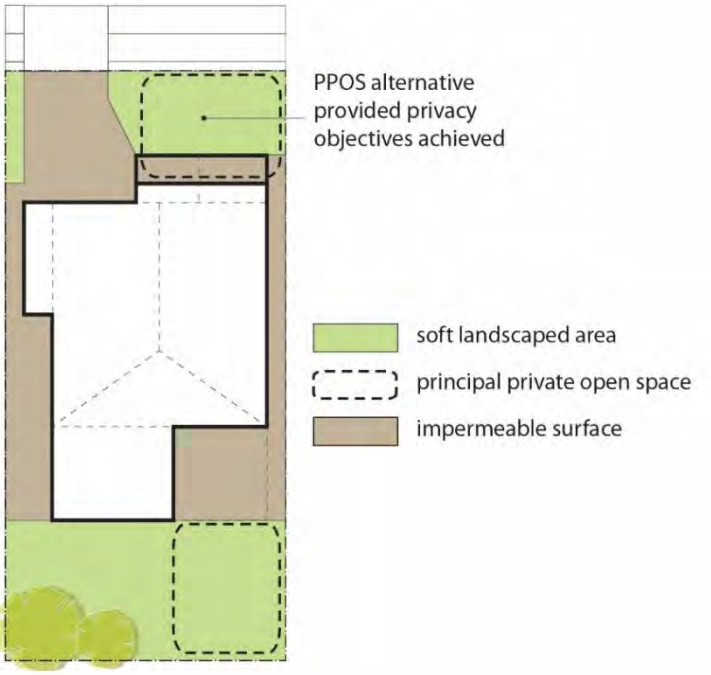


Figure 5-9 Soft landscaped area and principal private open space

5.1.7 Private Open Space

Objectives

a. To provide a high level of residential amenity with opportunities for outdoor recreation and relaxation.

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

c. To facilitate solar access to the living areas and private open spaces of the dwelling.

Controls

1) Each dwelling is to be provided with an area of Principal Private Open Space (PPOS) consistent with the requirements of the relevant **Table 5-2** to **Table 5-6.**

2) The location of PPOS is to be determined having regard to dwelling design, allotment orientation, adjoining dwellings, landscape features and topography.

3) The PPOS is required to be conveniently accessible from the main living area of a dwelling or alfresco room and have a maximum gradient of 1:10. Where part or all of the PPOS is permitted as a semi-private patio, balcony or rooftop area, it must be directly accessible from a living area.

4) Open space at the front of the dwelling can only be defined as PPOS where this is the only means of achieving the solar access requirements of **Table 5-2** to **Table 5-6**. PPOS at the front of a dwelling must be designed to maintain appropriate privacy (for example raised level above footpath or fencing or hedging) and be consistent with the streetscape design controls in **Part 5.1.2**.

5.1.8 Garages, Site Access and Parking

Objectives

a. To control the number, dimensions and location of vehicle access points. To reduce the visual impact of garages, carports, and parking areas on the streetscape.

b. To provide safe, secure and convenient access to parking within garages, carports and parking areas, with casual surveillance of private driveways from dwellings and from the street.

c. To minimise conflict between pedestrians and vehicles at the junction of driveways and footpaths.

d. To provide predominantly on-site parking for residents.

Controls

1) Dwellings with 1-2 bedroom will provide at least one car space.
2) Dwellings with 3 bedrooms or more will provide at least two car spaces.
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.

Note: A car space may include a garage, carport or other hard stand area constructed of materials suitable for car parking and access. The required car parking spaces specified above may be provided using a combination of these facilities, including use of the driveway (within the property boundary only) as a parking space.

4) Driveways are to have the smallest configuration a practical (particularly within the road verge) to serve the required parking facilities and vehicle turning movements and shall comply with AS2890.
5) The location of driveways is to be determined with regard to dwelling design and orientation, street gully pits and trees and is to maximise the availability of on-street parking.
6) Car parking and vehicle manoeuvring areas for all forms of residential development on battle axe lots and/or lots accessed from collector roads are to be designed so that vehicles can enter and exit in a forward direction.

Note: Part 4.2 requires plans of subdivision to nominate driveway locations and preferred building envelopes. The design of dwellings should refer to the approved subdivision plans and be consistent with the nominated driveway locations to the greatest practical extent.

7) Controls for driveways and access to corner lots are contained in **Part 4.1.4.**
8) Driveways are not to be within 1m of any drainage facilities on the kerb and gutter.
9) Planting, fencing and walls adjacent to driveways must not block lines of sight for pedestrians, cyclists and motorists.
10) Driveways are to have a soft landscaped area on the low side a minimum of 1m wide, suitable for water infiltration.
11) Garages are to be designed and located in accordance with the controls in relevant **Table 5-2** to **Table 5-6.**
12) Garage design and materials are to be consistent with the dwelling design.

For front loaded garages:

13) Garage doors are to be visually recessive through use of materials, colours, and overhangs such as second storey balconies.
14) Three car garages are only permitted in the Environmental Living zone where:

- at least one of the garage doors is not directly visible from a public road; or
- one of the car spaces is in a stacked configuration; or
- the total width the garage is not more than 50% of the length of the building facade.

5.1.9 Visual and acoustic privacy

Objectives

a. To site and design dwellings to provide for visual and acoustic privacy and minimise the visual and acoustic impacts of development on adjoining properties.

b. To minimise the impact of noise from other non-residential uses such as parking and sport areas, restaurants and cafes and waste collection and goods deliveries.

Controls

1) **Figure 5-10** provides guidance to applicants on measures to mitigate the impacts of rail and traffic noise within the Precinct.

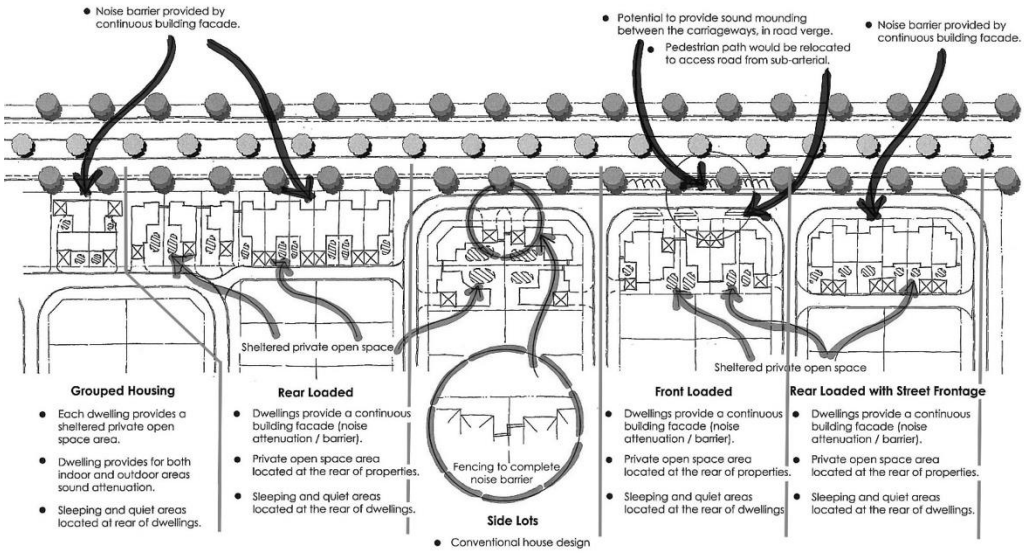


Figure 5-10 Measures to attenuate noise

2) DAs will require an accompanying acoustic report where proposed development is:

- adjacent to a railway line, arterial or sub-arterial roads
- potentially impacted upon by a nearby industrial / employment use or area
- a subdivision or noise sensitive development within 300m of Windsor Road
- within the vicinity of 172 Commercial Road, Vineyard.

Acoustic reports submitted with DAs for subdivision of land are to demonstrate that the subdivision has been designed to minimise acoustic treatments of future buildings on the proposed lots. The report is to nominate noise mitigate requirements for future buildings. These requirements are to be included as a Section 88B restriction as to user for the subdivision so as to inform future owners.

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

4) Living area windows with a direct sightline to PPOS of the habitable room windows in an adjacent dwelling within 9 metres are to:

- be obscured by fencing, screens or appropriate landscaping; or
- 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

- have sill height of 1.5 metres above floor level; or
- have fixed obscure glazing in any part of the window below 1.5 metres above floor level.

5) The design of dwellings must minimize the opportunity for sound transmission through the building structure, with particular attention given to protecting bedrooms and living areas.
6) In attached and semi-detached 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.
7) No electrical, mechanical or hydraulic equipment or plant shall generate a noise level greater than 5dBA above background noise level measured at the property boundary during the hours 7.00am to 10.00pm and noise is not to exceed background levels during the hours 10.00pm to 7.00am.
8) Dwellings along major roads (see **Figure 4-11**), or any other noise source, shall be designed to minimise the impact of traffic noise.
9) The internal layout of residential buildings, window openings, the location of outdoor living areas (i.e. courtyards and balconies), and building plant should be designed to minimise noise impact and transmission.
10) Noise walls are not permitted.
11) Development affected by noise from rail or road traffic noise is to comply with *State Environmental Planning Policy (Infrastructure) 2007* and NSW Department of Planning (2008) *Development Near Rail Corridors and Busy Roads – Interim Guideline*.
12) Residential development impacted by traffic and rail noise shall comply with the criteria in **Table 5-7**. **Figure 5-11** provides guidance on measures to manage internal noise levels.

Table 5-7 Noise levels permitted within habitable rooms for residential premises impacted by traffic and rail noise

	Sleeping areas	Living areas
Naturally ventilated/ windows open to 5% of the floor area (Mechanical ventilation or air conditioning systems not operating)	LAeq 15 hours (day): 50dBA LAeq 9 hour (night): 45dBA	LAeq 15 hours (day): 50dBA LAeq 9 hour (night): 45dBA
Doors and windows shut (Mechanical ventilation or air conditioning systems are operating)	LAeq 15 hours (day): 40dBA LAeq 9 hour (night): 35dBA	LAeq 15 hours (day): 40dBA LAeq 9 hour (night): 40dBA

Note: These levels correspond to the combined measured level of external sources and the ventilation system operating normally. Where a naturally ventilated/windows open condition cannot be achieved, it is necessary to incorporate mechanical ventilation compliant with AS1668 and the Building Code of Australia. LAeq 1 hour noise levels shall be determined by taking as the second highest LAeq 1 hour over the day and night period for each day and arithmetically averaging the results over a week for each period (5 or 7 day week, whichever is highest).

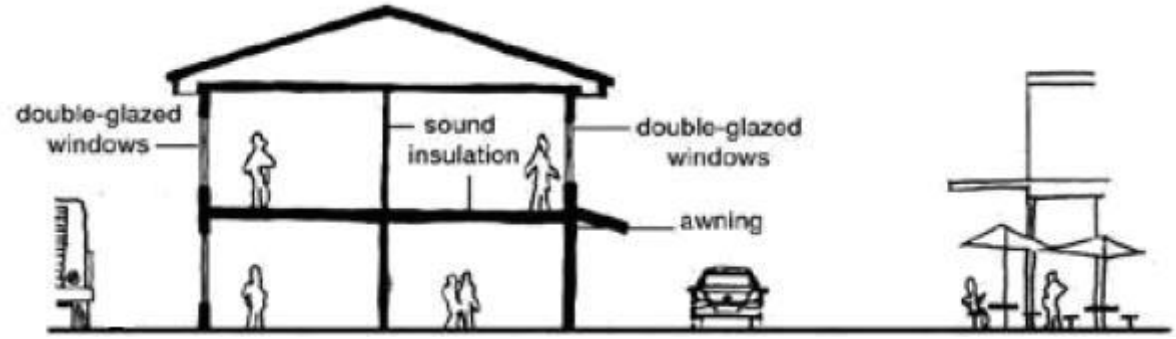


Figure 5-11 Strategies for minimising noise transmission

5.1.10 **Fencing**

Objectives

a. To ensure boundary fencing is of a high quality and does not detract from the streetscape.

b. To encourage the active use of front gardens through provision of a secure area.

c. To ensure that rear and side fencing will assist in providing privacy to private open space areas.

d. To ensure that fence height, location and design will not affect traffic and pedestrian visibility at intersections.

Controls

1) Front fencing shall be a maximum of 1.2m high.
2) Front fences and walls are not to impede safe sight lines for traffic.
3) Side and rear fences are to be a maximum of 1.8m high.
4) Side fences not on a street frontage are to be a maximum of 1.2m high to a point 2m behind the primary building façade.
5) On corner lots or lots that have a side boundary that adjoins open space or drainage, the front fencing style and height is to be continued along the secondary street or open space/drainage land frontage to at least 4m behind the building line of the dwelling. Principles for corner lots are illustrated at **Figure 5-12.**
6) On boundaries that adjoin open space or drainage land, fencing is to be of a high quality material and finish. The design of the fencing is to permit casual surveillance of the public space by limiting fence height to 1.2m or by incorporating see through materials or gaps for the portion of the fence above 1.2m in height.
7) Pre-painted steel or timber paling or lapped/capped boundary fencing is not permitted adjacent to open space or drainage land or on front boundaries.
8) Fencing that adjoins mews or rear access ways is to permit casual surveillance.

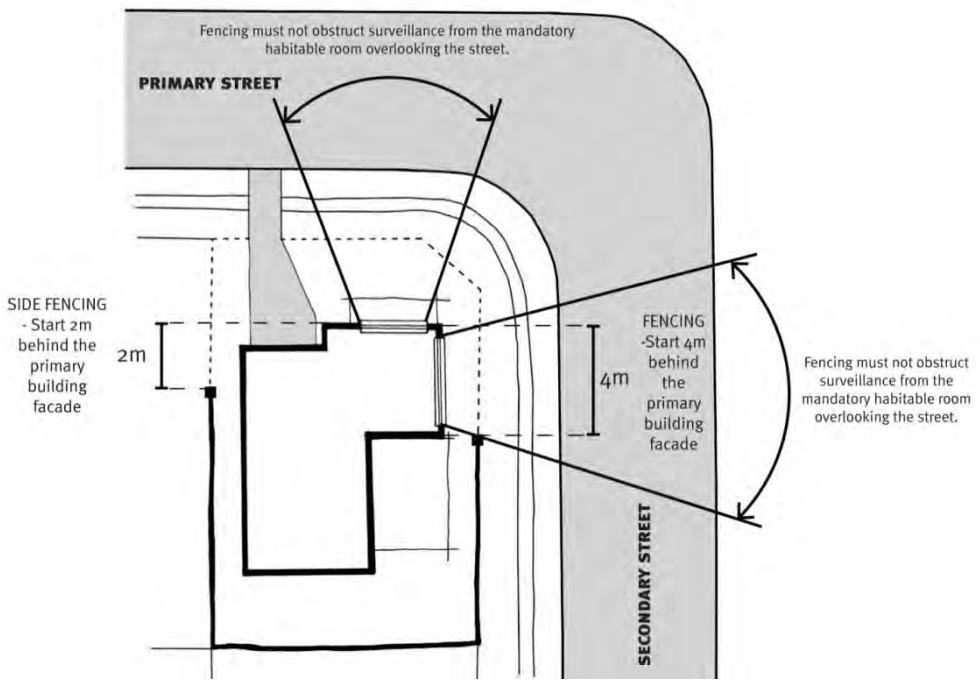


Figure 5-12 Fencing design for corner lots

5.2. Additional controls for certain dwelling types

5.2.1 Residential development adjacent to transmission easements

Objectives

a. To minimise the visual and amenity impacts of transmission lines on surrounding residential areas.

b. To provide for passive surveillance of the public lands within and adjacent to the transmission easement.

c. To maintain the privacy of dwellings adjacent to the easements.

Controls

1) Dwellings are to be set back as far as possible from the transmission easement.
2) Landscaping is to permit views into the easement at ground level.
3) The orientation of dwellings is to permit casual surveillance of the easement, while maintaining the privacy of occupants.

5.2.2 Attached dwellings

Additional controls for attached dwellings are outlined below, and should be read in conjunction with those in **Part 5.1**.

Objectives

a. To ensure that the development of attached dwellings creates an architecturally consistent street character.

Controls

1) It is preferred that garages for attached dwellings are located at the rear of the lot. Where attached dwellings have frontage to a collector road, all vehicle access and parking is to be located at the rear of the lot.
2) Attached dwellings should have a consistent and logical rhythm and order when seen together as a group, rather than appearing as a random arrangement of competing dwellings. Each dwelling

should benefit from the unified design of the whole form, a co-ordinated style and base colour palette. Individuality can be added as small details or accent colours, rather than strikingly different forms.

5.2.3 Secondary dwellings, studio dwellings and dual occupancies

Controls for secondary dwellings, studio dwellings or dual occupancies are in part determined by whether the secondary dwelling, studio dwelling or dual occupancy dwelling is proposed at the time of the application or at some point in the future to be strata subdivided. Strata subdivisions create the need for separate or common property dwelling entries, parking and open space to service each dwelling.

The **Glossary** of this DCP (**Appendix A**) provides further explanation and examples of secondary dwelling, studio dwellings or dual occupancy types. The controls that follow apply to all forms of secondary dwellings, studio dwellings and dual occupancies.

Objectives

a. To enable the development of a diversity of dwelling types.
b. To contribute to the availability of affordable housing.
c. To promote innovative housing solutions that are compatible with the surrounding residential environment.
d. To provide casual surveillance to rear lanes.

Controls - Secondary dwellings and studio dwellings

1) Secondary dwellings and studio dwellings are to comply with the controls in **Part 5.1,** except where the controls in this Part differ, in which case the controls in this Part take precedence.
2) Secondary dwellings and studio dwellings are to comply with the key controls in **Table 5-8**.
3) The maximum site coverage control for upper floors in the relevant **Table 5-2** to **Table 5-6** may be exceeded by the combined upper floor coverage of the secondary or studio dwelling and principal dwelling, provided that:
   - the privacy of the principal dwelling and dwellings on adjoining land is not compromised; and
   - solar access to the principal private open space of neighbouring lots is not significantly reduced.
4) The maximum gross floor area of a studio dwelling is 60m^2.
5) The design of the secondary dwelling or studio dwelling is to be consistent in construction features, external finishes, materials and colours with the principal dwelling.
6) For secondary dwellings, windows and private open spaces must not overlook the private open space of any adjacent dwellings. For studio dwellings, windows and private open spaces must not overlook the private open space of any adjacent dwellings including the principal dwelling. Windows that potentially overlook adjacent lots must either have obscured glazing, be screened or have a minimum sill height of 1.5m above floor level.
7) Secondary or studio dwellings and associated garages may have a zero lot setback to one side boundary and may be attached to another garage/secondary dwelling on an adjoining lot, particularly where the secondary or studio dwelling is associated with an attached or semi-detached dwelling.

Table 5-8 Key controls for secondary dwellings and studio dwellings

Element	Secondary Dwelling	Studio Dwelling (strata)
On-site car parking	No additional car parking space required.	One additional dedicated on-site car parking space. Car parking space to be located behind building facade line of principal dwelling. Car parking space not to be in a stacked configuration.
Principal Private open space	No separate private open space required.	Balcony accessed directly off living space having minimum size of 8m² with minimum dimension of 2m.
Subdivision	Subdivision from principal dwelling not permitted.	Strata title subdivision only from the principal dwelling on the land
Access	Separate direct access to a street, laneway or shared driveway not required.	Access to be separate from the principal dwelling and is to front a public street, lane or shared private access way or Combined access for the principal dwelling and studio dwelling to be through communal land as shown on the strata plan.
Services and facilities	No separate services or facilities required.	Provision for separate services, such as mail delivery and waste collection, and an on-site garbage storage area so that bins are not visible from public street or laneway. To be located on a street address that is able to be accessed by garbage collection and mail delivery services. May be serviced from the front residential street via the principal dwelling lot.

8) Where the secondary or studio dwelling is built to a zero lot line on a side boundary, windows are not to be located on the zero lot wall unless that wall adjoins a laneway, public road, public open space or drainage land.
9) Studio dwellings are to have balconies or living areas that overlook laneways for casual surveillance.
10) Rear garages with secondary or studio dwellings may have first level balconies facing the lane provided the balcony remains within the lot boundary. Where 2m deep, overhanging balconies for private open space requirements of studio dwellings are located along a lane, the application must demonstrate how garages setback underneath avoid creating an overly wide lane and ambiguous space opportunities for illegally parked cars, trailers, bins etc.
11) Where a secondary or studio dwelling is built over a rear garage and separated from the upper levels of the principal dwelling, there must be a minimum separation of 5m between the upper floor rear façade of the principal dwelling and the secondary or studio dwelling.
12) Studio dwellings are to be located at the rear of the lot only where the lot has access from a rear lane or secondary street on a corner lot.
13) Studio dwellings are not permitted where the principal dwelling is an attached dwelling, unless:
    - the studio dwelling is located above a rear loaded garage; and
    - the studio dwelling has direct access to a public road or laneway; and
    - garbage and mail facilities are accessible by residents and by service vehicles.

Controls – Dual occupancies

14) Dual occupancies are to comply with the controls in **Part 5.1**, except where the controls in this Part differ, in which case the controls in this Part take precedence.
15) The maximum site coverage control for second storeys in the relevant **Table 5-2** to **Table 5-6** may be exceeded by the combined 2nd storey coverage of both dwellings in a dual occupancy, providing that:
    - the privacy of the principal dwelling and dwellings on adjoining land is not compromised; and

- solar access requirements for the principal private open space can be met for the principal dwelling and dwellings on adjoining lots.

16) The design of both dwellings in a dual occupancy development is to be consistent in construction features, external finishes, materials and colours.
17) Detached dual occupancy dwellings are not to include zero lot lines for the second dwelling where the second dwelling is located at the rear of the lot.
18) Dual occupancy development is not permitted on a lot that contains an attached dwelling.
19) Dual occupancy dwellings are permitted at the rear of lots (i.e. behind a dwelling that has frontage to a principal street, whether attached or detached to that dwelling) only where:

    - each dwelling has direct pedestrian and vehicle access to a public road; and
    - garbage and mail facilities are accessible by service vehicles and by the occupants of the dwellings.

20) Dual occupancy development referred to in control 19 above is preferred to be located on corner lots.
21) For dual occupancies on corner lots, the rear setback can be varied to be consistent with the side setbacks in **Part 5.1.4** provided the minimum private open space and solar access requirements to the proposed and adjoining properties are met.
22) Where the dual occupancy dwellings are to be strata subdivided:

    - private open space is to be provided for each dwelling in accordance with the relevant controls in **Table 5-2** to **Table 5-6**, or
    - shared private open space is to be provided equivalent to 15% of the site area and shown as communal space on the strata plan, and a minimum area of private open space of 10m² with a minimum dimension of 2.5m is to be provided for each dwelling.

23) The minimum landscaped area on a lot containing a dual occupancy development is to be 20% of the site area.
24) Where practical for front loaded driveway access, shared driveway crossings of the nature strip are to be provided to service both dwellings.

5.2.4 Multi dwelling housing

Objectives

a. To ensure that the design of multi-dwelling housing is consistent with the character of residential areas within the Precinct.
b. To ensure the quality of multi-dwelling housing is of a high quality and contributes to the amenity of residents.

Controls

1) Multi-dwelling housing sites are to have direct frontage to a public road (i.e. not on battle-axe lots).
2) Multi-dwelling housing is to comply with the controls in **Table 5-9**.
3) In all multi-dwelling housing developments containing 10 dwellings or more, a minimum of 1 per each 10 dwellings are to be designed to be capable of adaption. Adaptable dwellings are preferably to be single level accommodation at ground level and be located on the street frontage and are to be designed in accordance with *Australian Standard AS 4299-1995 Adaptable Housing*.
4) A landscape plan is to be submitted with every application for multi-dwelling housing.
5) Where a multi dwelling housing development includes a studio dwelling with rear lane vehicle access, the controls for a studio dwelling shall apply to the studio dwelling component of the

development.

6) Car parking and vehicle manoeuvring areas shall be designed so that vehicles can enter and exit in a forward direction.

Table 5-9 Key controls for multi dwelling housing

Element	Controls
Site coverage (maximum)	50%
Landscaped area (minimum)	30% of site area
Principal Private open space (PPOS)	Minimum 16m² with a minimum dimension of 3m. 10m² per dwelling if provided as balcony or rooftop with a minimum dimension of 2.5m.
Front setback (minimum)	4.5m to building façade line; 3m to articulation zone
Corner lots secondary street setback (minimum)	2m
Side setback (minimum)	Ground floor 0.9m. Upper floor 0.9m
Rear setback (minimum)	4m (excluding rear lane garages or studio dwellings) 0.5m to rear lane (garages or studio dwellings)
Zero lot line (minimum)	Not permitted on adjacent lot boundaries (except rear lane garages and studio dwellings)
Internal building separation distance (minimum)	5m (unless dwellings are attached by a common wall)
Car parking spaces	1-2 bedroom dwellings will provide at least 1 car space. 3 bedroom or more dwellings will provide at least 2 car spaces. 1 visitor space per 5 dwellings. Car parking spaces to be behind building line. Garages fronting the street are to be set back a minimum of 1m from the building setback Where garages front the street, the maximum width of a garage door is 6m and each garage is to be separated by a dwelling façade or landscaped area.
Garages and car parking dimensions (minimum)	Covered: 3m x 5.5m (single) 5.6m x 5.5m (double) Uncovered: 2.5m x 5.2m Aisle widths must comply with AS 2890.1

5.2.5 Residential flat buildings, manor homes and shop top housing

The controls in **Part 5.2.4** do not apply to residential flat buildings, manor homes and shop top housing, unless specifically referenced in the provisions that follow. The following parts set out the controls for these types of housing. Additional controls for residential flat buildings and shop top housing may be contained in *State Environmental Planning Policy No 65 – Design Quality of Residential Apartment Development*.

Objectives

a. To establish a high quality residential environment where all dwellings have a good level of amenity.

b. To encourage a variety of housing forms within residential areas.

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

Controls

1) Manor homes may only be located on corner lots.

2) Residential flat buildings are to:

- be located on sites with a minimum street frontage of 30m;
- have direct frontage to an area of the public domain (including streets and public parks), and
- not adversely impact upon the existing or future amenity of any adjoining land upon which residential development is permitted with respect to overshadowing impact, privacy impact or visual impact.

3) All residential flat buildings are to be consistent with:

- the guidelines and principles outlined in *State Environmental Planning Policy No 65 – Design Quality of Residential Apartment Development*; and
- the primary controls set out in **Table 5-10**.

4) In all residential flat building developments containing 10 dwellings or more, a minimum of 10% of all apartments are to be designed to be capable of adaptation for access by people with all levels of mobility. Dwellings must be designed in accordance with the *Australian Standard AS 4299-1995 Adaptable Housing*.

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

5) The DA must be accompanied by certification from an accredited 'Access Consultant' confirming that the adaptable dwellings are capable of being modified, when required by the occupant, to comply with the *Australian Standard AS 4299-1995 Adaptable Housing*.
6) Car parking and garages allocated to adaptable dwellings must comply with the requirements of Australian Standards for disabled parking spaces.
7) Car parking and vehicle manoeuvring areas shall be designed so that vehicles can enter and exit the property in a forward direction.
8) A landscape plan is to be submitted with every application for residential flat buildings.

Table 5-10 Key controls for residential flat buildings, manor homes and shop top housing

Element	Shop top housing	Residential flat buildings	Manor homes	Residential flat buildings and shop top housing in Business zones
Site coverage (maximum)	50% of site area	50%	50% of site area	N/A
Landscaped area (minimum)	30% of site area	30% of site area	30% of site area	N/A
Communal open space	15% of site area where the development includes 4 or more dwellings	15% of site area	Not required	15% of site area - this control is able to be varied where the applicant demonstrates the development has good access to public open space or where the area of private open space is more than the minimum specified below
Principal Private open space (PPOS)	Minimum 8m² per dwelling with a minimum dimension of 2m	Minimum 10m² per dwelling with a minimum. dimension of 2.5m	Minimum 16m² per dwelling with a minimum dimension of 3m; or Minimum 8m² per dwelling with a minimum dimension of 2m if provided as balcony or rooftop.	Minimum 8m² per dwelling with a minimum dimension of 2m

Element	Shop top housing	Residential flat buildings	Manor homes	Residential flat buildings and shop top housing in Business zones
Front setback (minimum)	Determined by ground floor setback	6m Balconies and other articulation may encroach into the setback to a maximum of 4.5m from the boundary for the first 3 storeys and for a maximum of 50% of the façade length	4.5m to building façade line 3m to articulation zone 5.5m to garage line and 1m behind the building line	*Residential flat buildings:* 4.5m to building façade line *Shop top housing:* 0m for first floor 4m for floors above first floor
Corner lots secondary street setback (minimum)	3m	6m	2m	*Residential flat buildings:* 4.5m to building façade line *Shop top housing:* 0m for first floor 4m for floors above first floor
Side setback (minimum)	2m	Buildings up to 3 storeys: 3m Buildings above 3 storeys: 6m	Buildings up to 2 storeys 1.5m	Refer to Part 6 Centres Controls
Rear setback (minimum)	4m (excluding garages)	6m	4m (excluding rear garages)	8m
Zero lot line (minimum)	Not permitted	Not permitted	Not permitted to adjacent lots	Permitted on side boundaries only
Habitable room/balcony separation distance (minimum) for buildings 3 storeys and above	12m	12m	N/A	Refer to Part 6 Centres Controls
Car parking spaces	1-2 bedrooms: 1 space (minimum) 3 bedrooms or more: 2 spaces (minimum) – may be provided in a 'stack parking' configuration Garages to be set back 1m behind the building line	1 space per dwelling, plus 0.5 spaces per 3 or more bedroom dwelling - may be in a 'stack parking' configuration Car parking spaces to be located below ground or behind building line 1 visitor car parking space per 5 apartments Bicycle parking spaces: 1 per 3 dwellings	1-2 bedrooms: 1 space (minimum) 3 bedrooms or more: 2 spaces (minimum) – may be provided in a 'stack parking' configuration	1 space per dwelling, plus 0.5 spaces per 3 or more bedroom dwelling - may be in a 'stack parking' configuration Car parking spaces to be located below ground or behind the building 1 visitor car parking space per 5 dwellings (may be above ground) Bicycle parking spaces: 1 per 3 dwellings
Garage Dominance	N/A	A maximum of two garage doors per 20m of lot frontage facing any one street frontage	A maximum of two garage doors facing any one street frontage	N/A
Garages and car parking dimensions (minimum)	Covered: 3m x 5.5m Uncovered: 2.5m x 5.2m Aisle widths must comply with AS 2890.1			

5.3. Other development in residential and environment protection zones

The residential and environment protection zones within the Vineyard Precinct Plan under the Growth Centres SEPP permit a range of non-residential land uses that, depending on their scale, suitability, location and design, may be compatible with adjoining residential uses. Reference should be made to the Precinct Plan for the permissibility of specific non-residential uses in each zone, including the zoning table in Part 3 and the local provisions in Part 6. For some land uses, the local provisions in Part 6 specify additional requirements that must be met for Council to grant consent to these uses.

The Precinct Plan recognises that allowing non-residential development in the residential and environment protection zones is appropriate providing controls are in place to minimise the negative impacts of noise, loss of privacy, traffic, parking and other nuisances on local residential amenity.

The controls for non-residential development consist of:

- general requirements, which apply to all non-residential development in the residential and environment protection zones; and
- specific provisions covering land uses such as child care centres, neighbourhood shops, educational establishments and places of public worship, in addition to, or overriding, the general requirements.

Notes: In the event of an inconsistency between the general and specific provisions in this part of the DCP, the specific controls will prevail.

These controls are not intended to apply to non-residential uses that are carried on in dwellings, such as home occupations and home businesses.

Council may require the submission of additional information to demonstrate that the development will not adversely affect the existing or future amenity of the surrounding residential area. Such information may include a noise impact assessment, advice on traffic generating potential and parking provision, solar access and evidence that the proposed land use will contribute to the amenity, character and liveability of the residential area in which it is to be located. Applicants should consult with Council prior to submitting a DA to determine specific information requirements.

5.3.1 General requirements

Objectives

a. To establish appropriate controls to minimise the adverse effects of non-residential development on surrounding residential development.
b. To maintain consistency in development standards between non-residential and residential land uses and ensure that buildings are similar in height, bulk and scale to surrounding buildings.
c. To ensure that non-residential development is appropriately located.
d. To avoid concentrations of non-residential uses in any particular area where the cumulative impact on residential amenity would be unacceptable.

Controls

1) Site analysis information as required by **Part 2** of this DCP is to be submitted with all applications for non-residential development in residential or environment protection zones.
2) Except as provided for in the specific controls below, non-residential development in residential or environment protection zones land is to be located on allotments that have a frontage width of greater than 15 metres.

3) Non-residential development in residential or environment protection zones is to comply with the requirements of **Part 2 and Parts 5.1.9 and 5.1.10** of this DCP in relation to residential amenity and sustainable building design.
4) For all non-residential development, the controls relating to lots with frontages greater than 15 metres in the following parts of this DCP apply:

   - Part 5.1.3 Front setbacks;
   - Part 5.1.4 Side and rear setbacks;
   - Part 5.1.5 Dwelling height, massing and siting; and
   - Part 5.1.8 Garages, site access and parking.

5) The maximum site coverage of buildings is 60% of the total site area.
6) The minimum landscaped area for non-residential development is 20% of the total site area of the allotment.
7) Provision of car parking for non-residential uses will be assessed by Council on an individual basis but must be sufficient to meet demand generated by staff and visitors.
8) Car parking and vehicle manoeuvring areas shall be designed so that vehicles can enter and exit the property in a forward direction.
9) Where there is an inconsistency between the general requirements of this Part and the specific controls, **Parts 5.3.2** to **5.3.5** prevail.
10) Council will have particular regard to the effects of non-residential development in the residential and environment protection zones. Council will consider whether:

    - the proposed development will be out of character with surrounding residential development, particularly in relation to the height and/or scale of any proposed buildings;
    - the proposed development will contribute to an undesirable clustering of that type of development, or non-residential uses in general, in the area;
    - an undesirable effect on the amenity of the surrounding area will be created;
    - the proposed use will draw patronage from areas outside of the surrounding neighbourhood, and the extent to which that patronage might impact on the amenity of residents through factors such as traffic generation, noise or the overall scale of the non-residential use;
    - a noise nuisance will be created;
    - the development will generate traffic out of keeping with the locality;
    - adequate facilities are provided for the purposes of parking, loading and deliveries; and
    - adequate provision is made for access by disabled persons.

11) Non-residential development in residential or environment protection zones should be similar in bulk, scale, height and siting to the surrounding buildings.
12) Finishes, materials, paving and landscaping are to be consistent with those of surrounding residential development.

5.3.2 Educational Establishments and Places of Worship

Objectives

a. To ensure appropriate provision and equitable distribution of education establishments and places of public worship within the Precinct.

b. To ensure that buildings are not out of character with the type, height, bulk and scale of surrounding buildings.

c. To encourage the appropriate location of facilities to create community focal points, centres of

neighbourhood activity and enhance community identity.

d. To mitigate the impacts of noise, privacy, increased traffic and nuisance on surrounding residential development.

e. To foster iconic and landmark building design within each Precinct.

Controls

1) Places of worship are to be located within centres or co-located with other community facilities in residential areas so as to create a community focal point, to share facilities such as parking, and to minimise impacts on residential areas.
2) Places of public worship and educational establishments are preferably to be located on land with frontage to a collector road. Corner sites are preferred.
3) In assessing applications, Council will consider the following:

    - the privacy and amenity of adjoining developments;
    - the need and adequacy for provision of buffer zones to surrounding residential development;
    - urban design;
    - location;
    - the size of the land where the development is proposed;
    - traffic generation and the impacts of traffic on the road network and the amenity of nearby residents;
    - the availability of parking;
    - the scale of buildings and their capacity; and
    - hours of operation and noise impacts.

4) A traffic and transport report/statement is to accompany the DA addressing the impact of the proposed development on the surrounding road system and defining car parking requirements.

Note: Due to the high level of traffic generation and peak nature of traffic volumes accessing these types of land uses, assessment of traffic impacts and pedestrian requirements is required and mitigation measures may need to be incorporated in the design. Such measures may include pedestrian crossings, speed control devices, pedestrian refuges on streets to which the development fronts and the provision of bus and drop off bays. School zones will require additional safety measures such as school crossings, 40 km/h school speed zones and flashing lights in accordance with RMS requirements.

5) A landscape plan and associated documentation is to be submitted with the DA identifying existing vegetation and community plant species and/or existing design elements of the site layout, and the proposed landscaping treatment of the development.
6) Car parking spaces shall be provided on site in accordance with **Table 5-11**.

Table 5-11 Car parking requirements for places of public worship and educational establishments

Land use	Parking requirement
Places of Public Worship	1 space per 4 seats or 1 space per 10m² of seating area (whichever is greater)
Primary and Secondary Schools	1 space per staff member plus 1 space per 100 students
Senior High School	1 space per staff member 1 space per 5 students in Year 12
Tertiary and Adult Educational Establishments	1 space per 5 seats or 1 space per 10m² of floor area (whichever is greater)

7) For certain uses, the provision of overflow parking may be necessary particularly where such developments incorporate halls used for social gatherings. Overflow parking areas could be provided on open grassed areas and need not be formally sealed or line-marked. Proposed overflow parking areas are to be clearly shown on plans submitted with the DA.
8) Development must comply with the noise guidelines contained in **Part 5.1.9**.
9) Where appropriate, buffers should be put in place to limit noise impacts on the surrounding area.
10) Sources of noise such as garbage collection, machinery, parking areas and air conditioning plants are sited away from adjoining properties and screened/ insulated by walls or other acoustic treatment. Noise levels are not to exceed specified limits at the most affected point of the property boundary.

5.3.3 Neighbourhood Shops

Objectives

a. To ensure the appropriate provision of retail uses to serve the needs of the local community.
b. To minimise the impacts of retail activities on surrounding residential areas.
c. To ensure that retail activities in residential areas do not detract from the function or viability of nearby centres.
d. To ensure the appropriate location of neighbourhood shops.

Controls

1) Neighbourhood shops in residential zones may only be developed on an allotment of land with a minimum frontage width of 10 metres or more.
2) Neighbourhood shops in residential zones are to be located:
   - adjoining land zoned RE1 Public Recreation or SP2 Infrastructure or that is separated from land zoned RE1 Public Recreation or SP2 Infrastructure only by a public road, or
   - with frontage to a collector road, or
   - within 90 metres of public transport stop, or
   - adjoining an educational establishment or a community facility or separated from an educational establishment or a community facility only by a public road.
3) The minimum site area for neighbourhood shops is 500m^2.
4) For neighbourhood shops, the controls relating to lots with frontages greater than 9 metres in the following parts of this DCP apply:

- Part 5.1.2 Streetscape and architectural design;
- Part 5.1.3 Front setbacks;
- Part 5.1.4 Side and rear setbacks;
- Part 5.1.5 Dwelling height, massing and siting; and
- Part 5.1.8 Garages, site access and parking.

5) Shops fronts are to encourage active and interactive street frontages that are sympathetic to the streetscape with similar materials to adjoining buildings to be used.
6) Any area of land between the front property boundary and the building alignment, exclusive of approved driveways and parking areas, is to be landscaped.
7) Address and entry points for any residential use on the same allotment of land are to be separate from the retail use access points and be readily identifiable.
8) Design of the building frontage, front and side setbacks are to include safe and convenient pedestrian facilities such as weather protection, shade, seating and landscaping.
9) On corner sites, shop fronts are to wrap around the corner and zero setbacks are permitted.
10) Entrances are to be readily visible from the street and well lit.
11) The site should not gain direct access to:

- a road with clearway or other parking restrictions; or
- a restricted access road (sub-arterial or arterial).

12) At least 3 car parking spaces are required to be provided on site in addition to parking required for the dwelling (if applicable). The design of the building and parking areas is to provide suitable access for deliveries. Parking areas, loading/unloading areas, and vehicle manoeuvring areas shall be designed so that vehicles can enter and exit the site in a forward direction.
13) Bicycle parking must be provided in a location that is secure and accessible with weather protection for employees.
14) Car parking must be clearly signposted to indicate its availability from the street.
15) Plant and equipment (particularly cooling or heating plant), is to be located so as to not cause noise annoyance to neighbours.
16) Waste storage areas must be designed to minimise visual impact and should be screened and properly positioned so as to not to attract pests and cause odour problems for neighbours.
17) External storage areas are not permitted unless adequately screened from view.

5.3.4 Seniors Housing

Objectives

a. To ensure that the design of seniors housing is consistent with the character of surrounding residential areas.

Controls

1) Applications for seniors housing are to comply with the controls in *State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004*.

5.3.5 Farm Buildings and Outbuildings

"Farm Buildings" are structures which are ancillary to an agricultural use of the land on which it is situated and includes hay sheds, stocks holding yards, machinery sheds, shearing sheds, silo, storage tank, outbuildings or other forms of structure used for storing agricultural machinery, farm produce and supplies.

"Outbuildings" are buildings that are used for the storage of possessions of the owners/occupiers of the land and are considered as structures which are ancillary to an existing land use. These buildings are generally ancillary to a dwelling house and are associated with the normal domestic use of the land.

Outbuildings are not commercial in nature and are typically used by the land owners/occupiers for:

- the storage of equipment used to maintain the property
- hobbies
- parking of non-commercial vehicles.

Objectives

a. To ensure that farm buildings and outbuildings are consistent with the character of the Environmental Living area.

Controls

1) Development for farm buildings and outbuildings are to comply with the controls contained within the relevant chapter of the Hawkesbury Development Control Plan 2002 or such other Development Control Plan (or equivalent) that might replace it.

6. Centres Controls

6. Centres Controls

6.1 Introduction

This Part of the DCP outlines principles, objectives and design controls to achieve quality, consistency and coordination in the development of the business or mixed use zones. It applies to land identified in **Figure 6-1**.

The objectives of the controls in this Part of the DCP are to:

a. create a vibrant centre that functions as the heart of the community within the Precinct;
b. establish design principles that achieve high quality coordinated urban design outcomes and high standards of amenity;
c. encourage social interaction and the development of places that are safe and desirable for all users;
d. provide flexible controls to accommodate change within the centre over time; and
e. ensure that development in the centre takes advantage of access to public transport.

6.2 Development controls

6.2.1 Streetscape and architectural design

Objectives

a. To achieve high standards of streetscape amenity and building design.
b. To encourage pedestrian activity in the streets of the centre and other public spaces.
c. To clearly define the character of the main street and other elements of the public domain.

Controls - active frontage and street address

1) Active street fronts, built to the street boundary, are required on the ground level of all retail and commercial development fronting the main streets.
2) Residential, commercial and retail uses on the upper floors are to be designed to overlook streets and other public places to provide casual surveillance.
3) The ground and first floor of all buildings on active street frontages are to be built to the front property boundary (i.e. a zero front setback) to define the street edge. If the first floor contains residential uses, internal spaces may be set back where balconies are built to the property boundary.
4) The primary means of pedestrian access to retail, commercial and upper floor residential uses is to be from the street rather than from the rear or internal areas of the building.

Figure 6-1 Centres Hierarchy

5) Vehicle access to basement level parking or parking located behind buildings is not to be from active street frontages.
6) Blank walls on primary and secondary building elevations visible from the public domain are to be avoided.
7) Retail shops are to have a variety of shop frontage widths.
8) Restaurants, cafes and the like are encouraged to provide openable shop fronts.
9) On corner sites, active shop fronts are to wrap around the corner and address both street frontages.
10) Developments that have multiple street frontages are to provide entrances to internal/upper floor uses on each street frontage.
11) In mixed-use buildings, separate access from the street is required for retail, commercial and residential uses.
12) Entrances are to be readily visible from the street and well lit.
13) Only open grill and transparent security shutters (at least 80% open/visually transparent) are permitted to retail and commercial frontages.
14) All buildings on active street frontages are to include awnings above the ground floor for the full length of the street frontage.
15) Parking is to be screened by buildings, from the main street and other streets with active frontages, or be below ground.

Controls – building facades

16) Building facades at street level are to have a minimum of 80% glazing and be open to the street.
17) At night, internal lighting is to fall onto the footpath, or under-awning lighting is to be provided.
18) Solid elements are preferably to be finished with rendered masonry, tiles or face brick.
19) Coordinated colour schemes are required, and colours and materials are to be consistent with adjoining buildings and the general character of the street.
20) Façade articulation is encouraged above the ground floor through the incorporation of balconies, openings and other design elements that modulate the façade, providing rhythm and interest.
21) Articulated corners are to be provided to building facades on active street frontages. Articulated elements may include verandahs, awnings, upper level balconies, use of materials or roof designs that accentuate the corner. Articulation elements are to address both street frontages.
22) Design of corner buildings on the ground floor is to facilitate free pedestrian movement. Open corners at ground level are encouraged.
23) Building height, massing, materials and parapet/roof expression should be used to accentuate corner elements.

Controls – Landscape design and public spaces

24) DAs that propose works in public streets to be undertaken by the developer are to be consistent with any relevant public domain landscape or urban design plans prepared by Council or on behalf of Council.
25) All signage and advertising is to be designed in a co-ordinated manner (refer to **Part 6.2.3** for detailed controls).
26) Plant selection is to take into account the following:

- the preferred trees in **Appendix D** to this DCP;
- species that complement remnant native vegetation;
- level of on-going maintenance;
- potential impacts on road and footpath pavements;

- focus on hardy, drought tolerant, easily maintained species;
- scale in relation to the function of the area; and
- contribution to the character of the local centre.

27) Street tree and open space planting is to provide generous shade for pedestrians in summer and allow for sunlight penetration to street level in winter.
28) All paving materials must conform to relevant standards for durability, non-slip textures, strength and surface treatment to withstand use by light automobiles, service vehicles, pedestrians and bicycles.
29) Paving materials are to be certified colour stable for a period of at least 20 years to ensure a reasonable match to existing paving when damaged sections are replaced.
30) All paved areas are to be adequately drained and follow 'best practises' in installation, including sub-surface preparation and stormwater management.
31) All paved areas must be designed to facilitate use by older people and people with a disability.

Controls – solar access and weather protection

32) Continuous awnings are required to be provided along the ground floor street frontages in accordance with **Figure 6-2** and all buildings fronting public open space or plazas.
33) Awnings should be a minimum height of 2.7m (3.2m desirable) above footpath level.
34) The front fascia of the awning is to be set back a minimum of 500mm from the kerb of the street carriageway, including at street corners.
35) Awnings are generally to project horizontally from the building façade and be horizontal along the length of the façade. Stepped awnings are appropriate on sloping streets.
36) The design of awnings is to be consistent with adjoining buildings. Awnings that are significantly different in terms of materials, finishes and dimensions will not be permitted.
37) Under awning lighting is to be provided to enhance pedestrian amenity and safety.
38) The placement of any awning must not obstruct the line of sight for motorists to traffic control signals, driveways, regulatory signposting or critical road infrastructure. Awnings in the vicinity of traffic control signals may have additional setback requirements imposed to ensure a clear line of sight for motorists to traffic control signals are maintained.

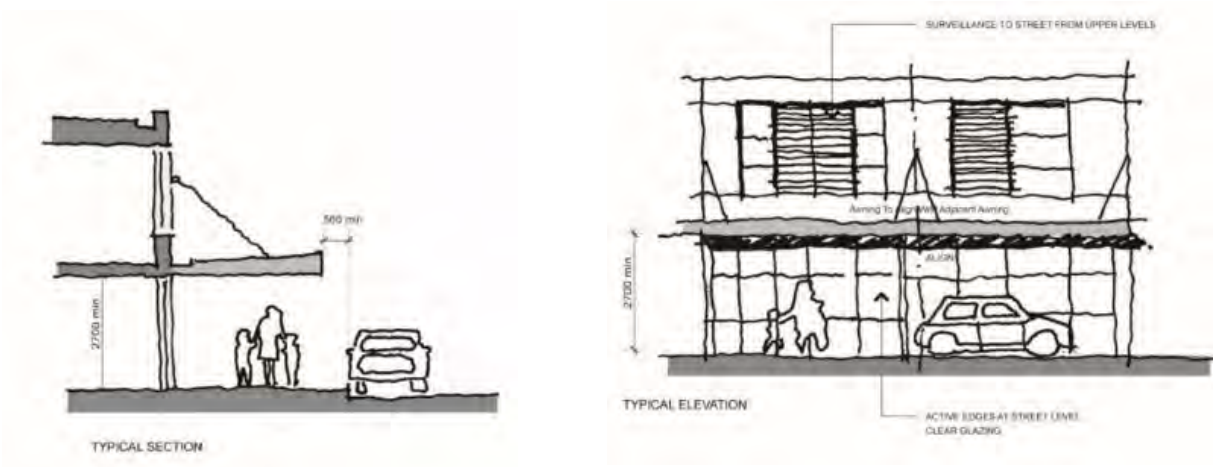


Figure 6-2 Awnings

6.2.2 Building bulk, scale and design

Objectives

a. To ensure a high standard of building design.

b. To ensure that buildings are appropriate to the scale and character of the centre.

c. To provide for appropriate air circulation and solar access, and to maintain view corridors to and through the centre.

Controls

1) The maximum allowable depth of residential building envelopes is 22m (maximum 18m glass line to glass line).
2) Floors above the second floor are to be set back a minimum of 4 metres from the boundary of the property with any public street.
3) Larger upper floor setbacks from the street may be required to:

    - achieve adequate solar access at street level;
    - maintain the privacy of dwellings;
    - maintain view corridors; and
    - minimise the bulk of the building.

4) Zero side setbacks are required on the ground floor and first floor and the side wall shall contain no windows or other openings (except where the side setback is to a public street, where the façade controls in Part 6.2.1 apply).
5) Zero side setbacks are permitted for the upper floors providing the side wall contains no windows or other openings (except where the side setback is to a public street, where the façade controls in Part 6.2.1 apply).
6) Where windows, balconies or other openings are to be provided on upper floors, the minimum side setback for upper floors is 6 metres from the side property boundary and the minimum separation distance between habitable rooms or balconies between buildings is 12 metres.
7) For floors above the fourth floor, the minimum separation distance between buildings is to be 18 metres.
8) Buildings are to include distinctive roof forms that contribute to the architectural design of a building. Elements such as parapets, skillion roofs and eaves should be utilised where appropriate.
9) Roof forms should not result in excessive bulk or overshadowing.
10) All plant and lift over-runs are to be concealed within roof forms to minimise visual impact.
11) The use of roof areas for private / communal open space and gardens is encouraged. Such spaces should be designed to minimise privacy impacts on neighbours.
12) For development in close proximity to a rail corridor, balconies and windows are to be designed so as to prevent objects being thrown onto Railcorp's facilities (refer to the relevant Building Code of Australia standards and the Railcorp Electrical Standards).
13) Ground floors are to have a minimum floor to ceiling height of 3.3 metres.
14) First floor commercial and retail spaces are to have a minimum floor to ceiling height of 3 metres.

6.2.3 Signs

Objectives

a. To ensure that signs and advertising structures are unobtrusive and coordinated in their appearance and design, and complement buildings and the streetscape.

b. To limit the purposes for which signs may be erected to those that identify businesses and buildings.

Controls

1) Signs are permitted within centres where they advertise the business carried on at a particular property or identify the name of a building.
2) Signs are to be designed and located to:
   - be visually interesting and have a high level of design quality;
   - be integrated with the architecture and structure of the building on which they are located;
   - be consistent with the scale of the building or the property on which they are located;
   - consider existing signs on the building, adjoining buildings or elsewhere in the streetscape, and not obscure views of existing signs or the potential for signs to be viewed on adjoining premises;
   - cover no more than 25% of glazed surfaces; and
   - project minimally from the building.
3) Signs are not to be supported from, hung from or placed on other signs.
4) The preferred locations for business or building identification signs are shown on **Figure 6-3** and include:
   - fascia signs, located on the front or side fascia of an awning;
   - under-awning signs;
   - flush wall mounted signs (e.g. above windows or doors); and
   - projecting wall signs, where there is no awning or the fixture of the sign to the awning is not appropriate due to the style of the awning.
5) Awning fascia signs are not to project within 500mm of the kerb.
6) The minimum clearance from the footpath to the bottom of any sign (apart from flush mounted wall signs) is 2.4 metres.
7) Projecting wall signs and under-awning signs are to be perpendicular to the building façade and horizontal.
8) Above awning signs are not permitted.
9) Flush mounted building identification signs are permitted above the first floor on the building parapet only where they are integrated with the design of the building and where they do not project more than 100mm from the building. The maximum area of the sign face is 3m².
10) Under-awning or projecting wall signs are to be a minimum of 3.5 metres apart.
11) Free standing signs (signs that are not affixed to a building) are not permitted on active street frontages.
12) Flashing, animated or bright neon signage is not permitted.
13) All buildings are to have clearly displayed and legible street numbering.
14) The location of signs is not to obscure views of traffic signs or traffic signals, or have the potential to cause confusion with traffic signs or signals (e.g. signs that look like traffic signals or stop signs located near a public road).

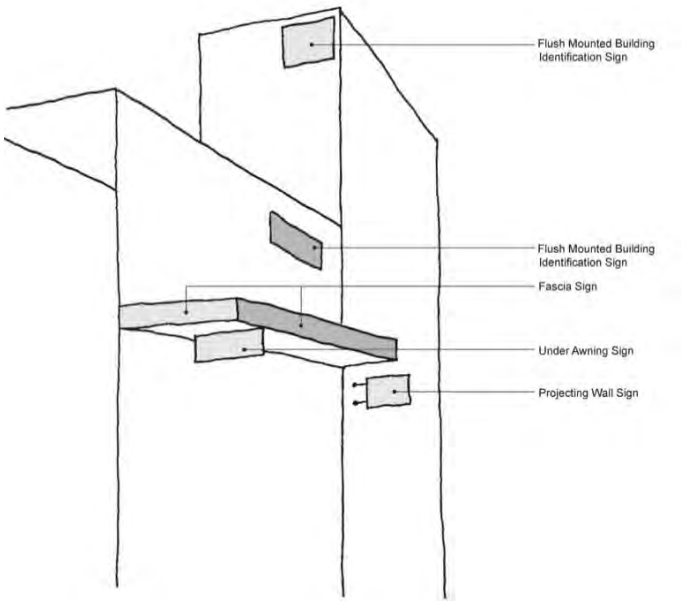


Figure 6-3 Preferred locations for signs

6.2.4 Acoustic and visual privacy

Objectives

a. To ensure that appropriate standards of amenity and privacy are maintained for residents in the centre.

b. To ensure that noise sources such as road and rail traffic do not impact on the amenity of residents or detract from the character of the centre.

Controls

1) Development in the centres must comply with NSW EPA's noise attenuation requirements and the controls for visual and acoustic privacy in **Part 5.1.9**.

2) A combination of the following measures is to be used to mitigate the impacts of rail or road traffic noise within centres:

- setbacks and service roads;
- internal dwelling layouts that are designed to minimise noise in living and sleeping areas;
- changes in topography;
- higher than standard fencing constructed with a suitably solid mass; and
- locating courtyards and principal private open space areas that will comply with the criteria in **Part 5.1.9** away from the noise source.

6.2.5 Safety, surveillance and maintenance

Objectives

a. To provide for a safe and attractive local centre with high levels of activity and amenity.

b. To ensure that the design quality and amenity of the centre is maintained.

Controls

1) The principles of Crime Prevention through Environmental Design (CPTED) are applicable to all development within centres. An assessment of the development's consistency with these principles must be submitted with any DA.

2) Balconies, terraces and other private open spaces are to be oriented to public open spaces to

optimise casual surveillance.

3) The design of all buildings, fences and landscape elements shall take sight lines, both horizontal and vertical, into consideration to minimize blind spots and promote a sense of security.
4) Lighting is to be installed on all circulation routes and major pedestrian thoroughfares.
5) Large open areas such as parking lots and public open spaces are to be floodlit.
6) Lights should be positioned so that they highlight landmarks and other special building features.
7) Lighting fixtures must be sturdy, durable, vandal resistant and easily maintained.
8) Fixtures on primary and secondary building elevations that are visible from the public domain are to be mounted at a height of at least 2.7 metres, and their appearance should complement the architectural and landscape character of the location.
9) The installation of lighting is to take into account and minimise its impacts on surrounding commercial premises and residential properties.
10) Durable and easily cleaned materials are to be selected in all areas exposed to the public, and all masonry surfaces to a height of 3 metres should be protected with an approved anti-graffiti treatment.
11) Fencing and street plantings are to be designed to achieve a balance between screening and security/surveillance.
12) Traffic calming measures are to be installed to ensure pedestrian safety.
13) Safety features such as tactile surfaces and handrails are to be provided in appropriate locations.

6.2.6 Site servicing

Objectives

a. To ensure that servicing of premises within the centre is efficient.
b. To minimise the amenity impacts of servicing activities including loading/unloading, waste storage and collection.

Controls

1) Services and structures such as transformers, waste collection, storage and deposit areas, and loading bays are generally to be located to the rear of the property. Where this cannot be achieved services must be integrated into the overall design of buildings and landscaping of the street front through screening measures.
2) Service areas are not permitted on active street frontages.
3) The following controls relate to the screening of services:

   - all services, transformers, storage and deposit areas, and wheeled rubbish bins must be effectively screened from view;
   - screening walls or plant masses shall be at least 2.4 metres high;
   - all screening shall be designed to allow free and easy access to the facilities, as required to permit maintenance and checking by all relevant parties, including service authorities, Council officials, tenants and property owners; and
   - screening wall materials and plants shall be selected which have no adverse impacts on the operation of the facilities.

4) Service access is permitted from rear lanes, side streets and right of ways for the use of parking, loading docks and waste collection areas.
5) Adequate space should be provided for the unloading and loading of service vehicles in accordance with the relevant Australia Standard.
6) Structures shall be painted according to the required standards of the relevant service authority, in

colours that limit their visual impact.

7) All air conditioners must be located in areas where any noise and dripping condensation will have minimal impact on the public domain. No roof or wall mounted air conditioners on primary and secondary building elevations shall be visible from the public domain.
8) Television antennas and other telecommunication devices on primary and secondary building elevations are not to be visible from the public domain.

6.2.7 Traffic circulation, parking and access

Objectives

a. To ensure that vehicular traffic (including cars, public transport and service vehicles) is able to access the centre, including retail destinations, service areas and railway stations or other transport interchanges.
b. To minimise conflicts between the pedestrian oriented areas of the centre and those areas required for vehicular traffic.
c. To minimise the land area required for car parking and to encourage the efficient utilisation of car parking for multiple purposes.

Controls

1) On-site car and bicycle parking is to be provided in accordance with the standards set out in **Table 6-1**.

Table 6-1 Parking requirements in centres

Land use	Car parking requirements
Commercial/office premises	1 space per 40m²GFA
Retail shops/showrooms (less than 200m² GFA)	1 space per 30m² GFA
Retail shops/showrooms (greater than 200m² GFA)	1 space per 22m² GFA
Restaurants/cafes	1 space per 10m² of dining area 1 space per 3 employees
Residential development	Refer to **Part 5.2.5**
Bicycle parking	Bicycle parking facilities must be provided in accordance with *Australia Standard AS 2890.3 Parking Facilities - Bicycle parking*

2) Opportunities for shared parking provision for complementary uses within centres are to be provided.
3) In mixed developments, dedicated onsite parking is to be provided for the residential component of the development in accordance with the controls in **Part 5.2.5**.
4) Rear lanes and right of ways are to be used to provide access to parking areas, loading docks and waste collection areas. Lanes will need to accommodate heavy vehicles where access to loading areas and waste collection is required.
5) On-street parking is to be provided on all streets to create a buffer between pedestrian and street traffic and promote casual surveillance.
6) Basement, semi-basement or decked parking is preferred over large expanses of at-grade parking.
7) At grade or decked parking areas are to be located behind building lines. Notwithstanding this, Council will consider transitional arrangements for parking where an application is supported by a staging plan that indicates compliance with the above desired parking location principles upon ultimate development.
8) Outdoor parking areas are to be screened and landscaped to minimise their visual dominance

within the centre.

9) At grade car parks must contain shade tree plantings so that trees shade 50% of the car space surface area within 10 years.
10) Car parking and vehicle manoeuvring areas shall be designed so that vehicles can enter and exit the property in a forward direction.
11) Bicycle parking is to be in secure and accessible locations. Bicycle parking for employees is to have weather protection.

6.2.8 Residential flat buildings, manor homes and shop top housing

Refer to the Part 5.2.5 of this DCP.

Appendix A

Glossary

Note: Definitions for terms are also included in the Dictionary contained within the Growth Centres SEPP, and in the event of any inconsistency, the definition in the Growth Centres SEPP takes precedence over the definitions in this DCP.

"Access Streets and Laneways" provide local residential access to a small number of dwellings and serve a shared vehicular-pedestrian-cyclist use. They are intended to encourage a safe, low vehicle speed environment in which the residential function is dominant. Access streets function at the lowest level of the road hierarchy. They generally have development on one side and are located along drainage or open space reserves or along access-denied roads. The construction and dedication of access streets is the responsibility of the developer.

"Active Frontages" are defined as one or a combination of the following:

- entrance to retail;
- shop front;
- glazed entries to commercial and residential lobbies;
- café or restaurant if accompanied by an entry from the street;
- active office uses, such as reception, if visible from the street; and
- public building if accompanied by an entry.

"Articulation zone" includes verandahs, porches, awnings, shading devices, bay windows, pergolas and the like. A carport is not considered part of the articulation zone.

"Attached dwelling" is defined in the Dictionary to the Growth Centres SEPP and means a building containing 3 or more dwellings, where:

a) each dwelling is attached to another dwelling by a common wall, and

b) each of the dwellings is on its own lot of land, and

c) none of the dwellings is located above any part of another dwelling.

See **Figure 1**.

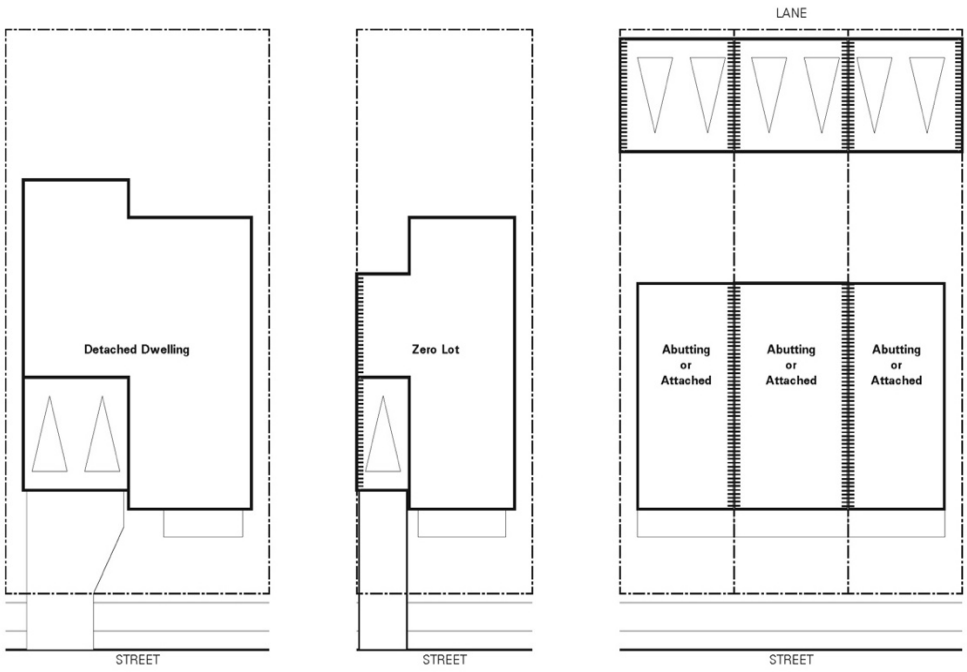


Figure 1: Detached, Zero Lot Line, Attached Dwellings

"Attic" is defined in the Dictionary to the Growth Centres SEPP and means any habitable space, but not a separate dwelling, contained wholly within a roof above the ceiling line of the storey immediately below, except for minor elements such as dormer windows and the like.

"Building footprint" means the area of land measured at finished ground level that is enclosed by the external walls of a building.

"Collector Roads" are roads marked as such on **Figure 4-11** of this DCP. They are the main internal roads that carry local traffic through the residential neighbourhoods to the sub-arterial and arterial roads, and provide access to major attractors within the precinct such as retail, commercial and educational facilities.

"**Detached Dwelling"** means a building containing one dwelling, on a single block of land, that is not attached to any other dwelling. See **Figure 1**: Detached, Zero Lot Line, Attached Dwellings

"Dual Occupancy" means two dwellings on a single allotment of land. The dwellings may be attached to each other or separate and detached.

Dual occupancy housing includes:

- the alteration or addition to an existing dwelling-house erected on an allotment so as to create two dwellings;
- the erection of another detached dwelling-house in addition to one already erected on an allotment, but only if not more than two dwellings on a single allotment of land will be created as a result of the development being carried out;
- the erection of a single building containing two dwellings on one allotment; and
- the erection of two detached dwellings on one allotment.. See **Figure 2**.

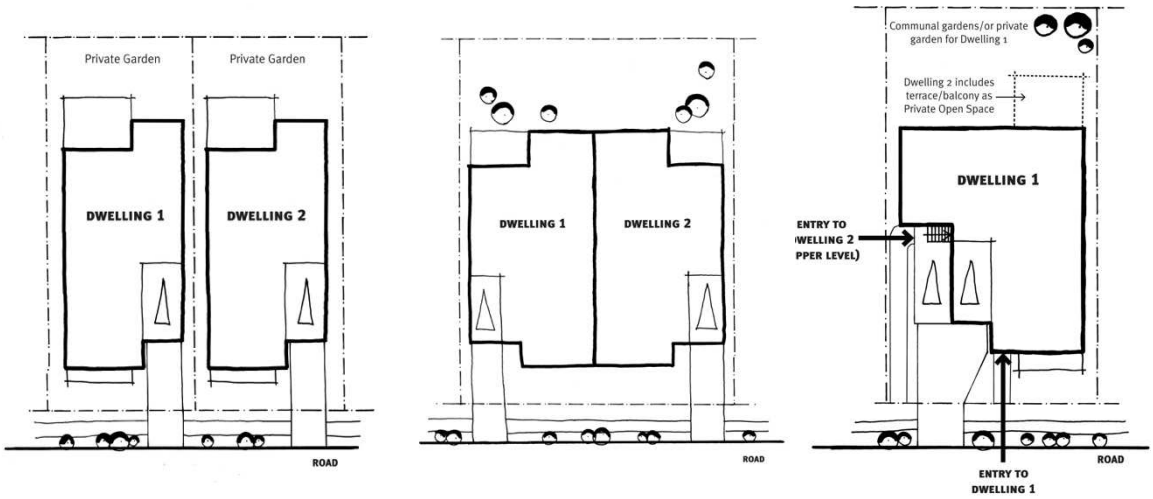


Figure 2: Dual Occupancy Dwellings - detached; attached; two storey

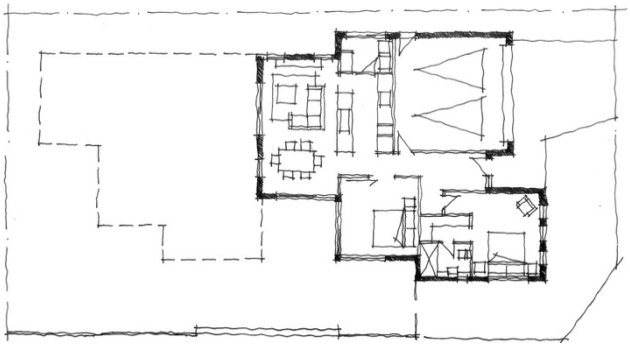
"Dual Occupancy – Lifehouse Dwellings" - The life house is a housing initiative that is designed to facilitate the changing lifestyle needs of the home buyer. When built, the Lifehouse can respond to the current need of the resident. In time, as the residents' needs change, the dwelling can grow/downsize according to their needs, without them having to go through the expense of relocating. See **Figure 3**.

Lifehouse dwellings:

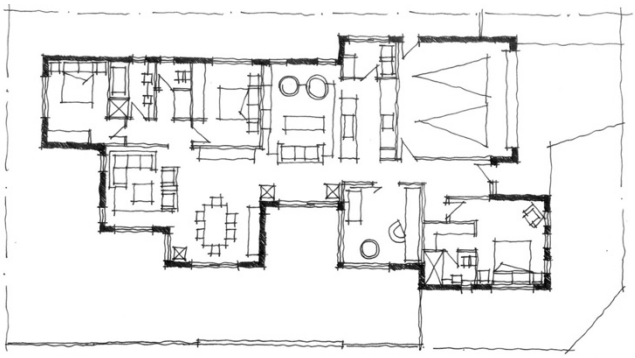
- can only occur on corner lots where eventual dual access will be possible to both dwellings;
- can be built on a single level, on split level or as two storey dwellings. The development of Stage

2 must comply with separation controls nominated in Australian Standards and the Building Code of Australia (BCA), enabling the final dual occupancy division of Stage 3 to progress without major works;

- must have all stages of the development designed and approved as part of the initial DA regardless of the proposed staging of construction and subdivision.



Phase 1: establish the home



Phase 2: grow to suit occupant

Phase 3: downsize and strata subdivide to suit occupant (Optional)

Figure 3: Lifehouse Dwelling (single level)

"**Landscaped area**" is defined in the Dictionary to the Growth Centres SEPP and means a part of a site used for growing plants, grasses and trees, but does not include any building, structure or hard paved area.

"Local Streets" are the subdivisional roads, which may include minor loop roads and cul-de-sacs, which provide access to residential properties.

"Manor Home" is defined in the Dictionary to the Growth Centres SEPP and means a 2-storey building containing 4 dwellings, where:

a) each storey contains 2 dwellings, and
b) each dwelling is on its own lot (being a lot within a lot within a strata scheme or community title scheme), and
c) access to each dwelling is provided through a common or individual entry at ground level,

but does not include a residential flat building or multi-dwelling housing.

"Outdoor room", also known as an 'alfresco room' is a semi enclosed space (at least 1 side open) located adjacent a living / dining / kitchen area of a dwelling that sits within the main roof line of a dwelling.

"Principal dwelling" means the largest dwelling house on a lot, measured by gross floor area.

"Principal private open space" 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.

"Private open space" is defined in the Dictionary to the Growth Centres SEPP and means an area external to a building (including an area of land, terrace, balcony or deck) that is used for private outdoor purposes ancillary to the use of the building.

"Secondary Dwellings" is defined in the Dictionary to the Growth Centres SEPP and means a self-contained dwelling that:

a) is established in conjunction with another dwelling (the principal dwelling), and
b) is on the same lot of land as the principal dwelling, and
c) is located within, or is attached to, or is separate from, the principal dwelling.

Types of secondary dwellings:

- On grade studio unit (at ground level – see and **5**) within the principal dwelling lot. This is only permitted within detached dwelling lots;
- Above garage (see **Figures 6** and **7**). This is only permitted on dwelling lots that have garages with rear access.

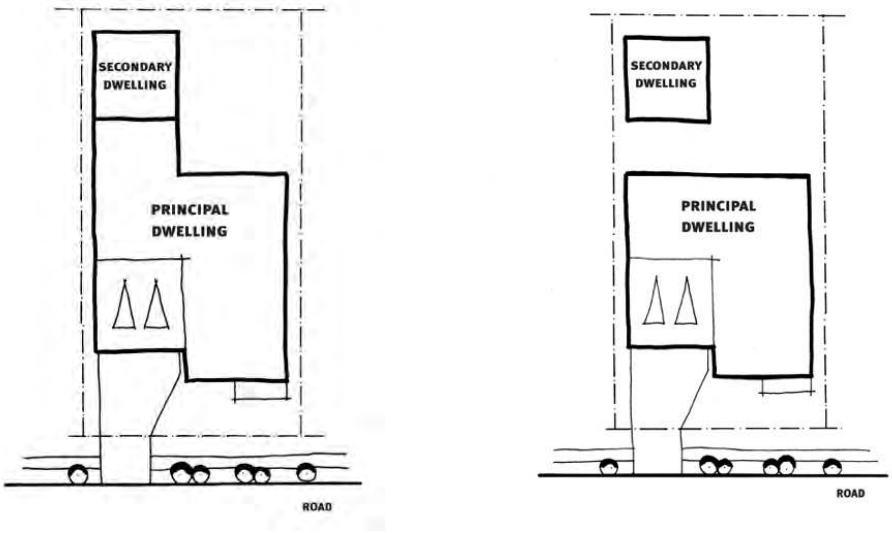


Figure 4: Secondary Dwelling (at ground level)

Figure 5: Indicative example of a Secondary Dwelling - on ground level

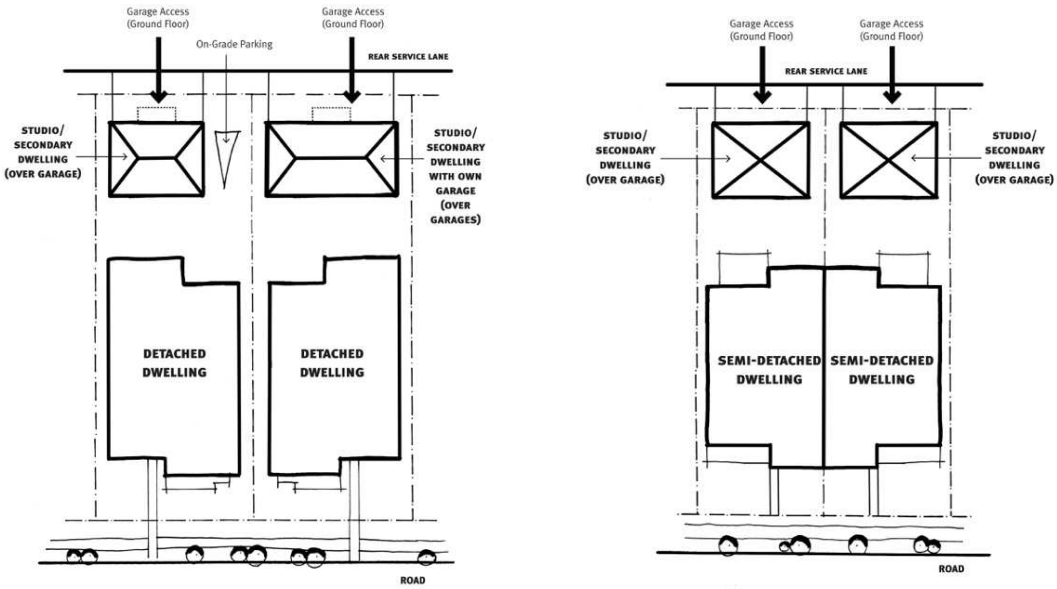


Figure 6: Secondary or Studio Dwellings (above garages)

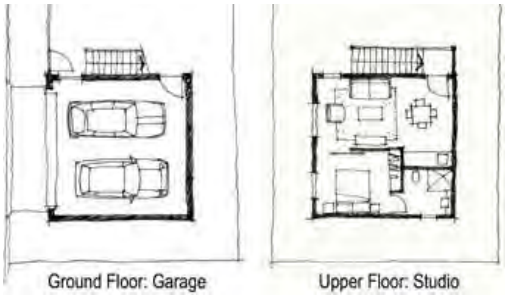


Figure 7: Indicative example of a secondary dwelling above a garage

"Semi-detached dwelling" is defined in the Dictionary to the Growth Centres SEPP and means a dwelling that is on its own lot of land and is attached to only one other dwelling, but does not include a studio dwelling. The external appearance should have continuance of material and style so the two dwellings combine to appear as one large house.

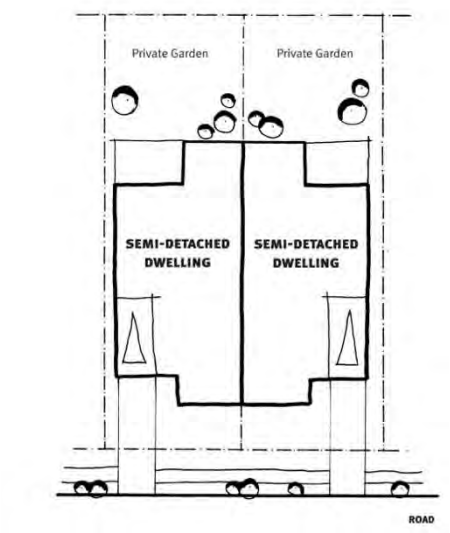


Figure 8: Semi-Detached Dwelling

"Site coverage" is defined in the Dictionary to the Growth Centres SEPP and means the proportion of a site area covered by buildings. However, the following are not included for the purpose of calculating site coverage:

a) any basement,

b) any part of an awning that is outside the outer walls of a building and that adjoins the street frontage or other site boundary,

c) any eaves,

d) unenclosed balconies, decks, pergolas and the like.

"Studio Dwelling" is defined in the Dictionary to the Growth Centres SEPP means a dwelling that:

a) is established in conjunction with another dwelling (the ***principal dwelling***), and
b) is on its own lot of land, and
c) is erected above a garage that is on the same lot of land as the principal dwelling, whether the garage is attached to, or separate from, the principal dwelling.

but does not include a semi-detached dwelling.

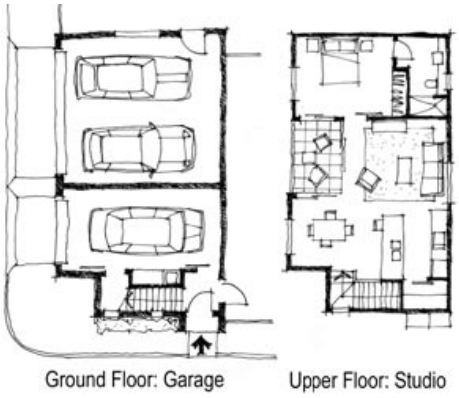


Figure 9: Indicative example of a studio dwelling above a garage

"Sub-arterial roads" are roads marked as such as shown on **Figure 4-11** of this DCP. Sub-arterial roads link regional and local traffic routes. Access from private properties is generally denied to these roads (except in special circumstances) for reasons of traffic safety and to maintain the capacity and efficiency of the road system. Council is normally responsible for the acquisition and construction of sub-arterial roads.

"Walking Distance" is typically 400m or a 5 minute walk.

"**Zero Lot Line Dwelling"** is a building containing one dwelling, on a single block of land, that is constructed with an exterior wall on one of its side boundaries but is not attached to any other dwelling. See **Figure 1**.

Appendix B

Riparian Protection Area Controls

1.0 Introduction

1.1 Land to which these Controls Apply

This Appendix applies to land that contains, or is adjacent to, a Riparian Protection Area as shown in **Figure 2-6** – Riparian Protection Area in the main body of the DCP.

1.2 Purpose of this Appendix

The purpose of this Appendix is to set the outcomes and requirements for development on land containing a Riparian Protection Area within the Vineyard Precinct.

1.3 Structure of this Appendix

This Appendix is structured as follows:

Section 1: provides an introduction to the Appendix.

Section 2: establishes the desired outcomes for Riparian Protection Areas.

Section 3: outlines the controls for preferred development.

Section 4: outlines the controls for alternative development.

Section 5: outlines the controls for the Riparian Protection Area.

Section 6: provides maintenance, monitoring and completion procedures.

1.4 Explanation

NSW Office of Water describes a riparian corridor as *a transition zone between the land, also known as the terrestrial environment, and the river or watercourse or aquatic environment.*

Riparian corridors (RC) are to be provided within the Riparian Protection Areas in accordance with the NSW Office of Water requirements. The Officer of Water recommends a RC width, including a vegetated riparian zone (VRZ), based on watercourse order as classified under the Strahler System of ordering watercourses (see Figure 1 and Table 1). The width of the RC and the VRZ should be measured from the top of the highest bank on both sides of the watercourse.

Figure 1

The Strahler System

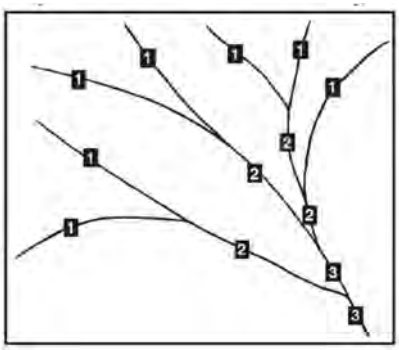


Table 1

Recommended riparian corridor (RC) widths

Watercourse type	VRZ width (each side of watercourse)	Total RC width
1st Order	10 metres	20m + channel width
2nd Order	20 metres	40m + channel width
3rd Order	30 metres	60m + channel width
4th Order	40 metres	80m + channel width

Source: NSW Office of Water's Guidelines for riparian corridors on waterfront land

The Riparian Protection Area includes a Riparian Corridor (containing the watercourse channel and vegetated riparian areas either side) and a buffer area adjacent to the Riparian Corridor.

Figure 2 illustrates the structure of the Riparian Protection Area. The width of the RC must be provided in accordance with **Table 1**.

2.0 Outcomes

2.1 Outcomes for Watercourses

The following outcomes must be achieved for all waterfront land relating to watercourses and vegetated riparian zones.

Outcome 1: To maintain and improve the natural functions of the watercourse and its aquatic and terrestrial qualities and provide a continuous, vegetated riparian corridor for the movement of flora and fauna species, bed and bank stability and to protect local water quality.

Outcome 2: To maintain and improve the viability of native riparian vegetation.

Outcome 3: To provide a continuous, viable Vegetated Riparian Zone (VRZ) which emulates the native vegetation communities in the area to facilitate a stable watercourse.

Outcome 4: To provide a protecting vegetated buffer (VB) either side of the VRZ, to protect the environmental integrity of the Riparian Corridor (RC) from weed invasion, micro-climate changes, litter, trampling and pollution by emulating the native vegetation communities in the area, while allowing limited passive recreation, open space and water quality treatment in a manner that does not reduce the function of the RC.

Outcome 5: To recognise that the Riparian Protection Areas are located within urban contexts and provide, in addition to their environmental benefits, valuable amenity, character, landscape and open space benefits to the people who live, work and play in the local area.

Outcome 6: Any realigned watercourse must meet all of the above outcomes.

Outcome 7: Where it is not possible to retain the natural functions of a stream, an engineered solution to the watercourse will be considered subject to the proposed development satisfactorily demonstrating minimal impacts on downstream riparian areas.

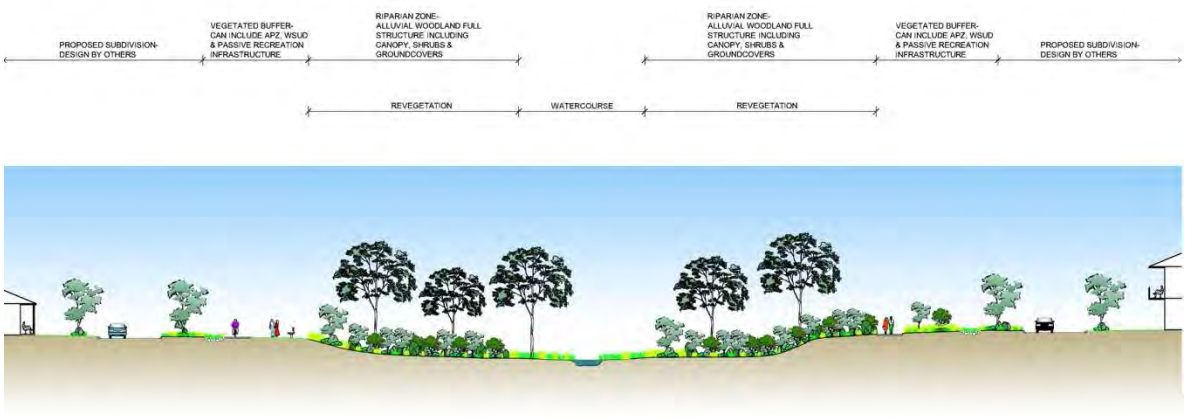


Figure 2: Illustration of a Riparian Protection Area that achieves the outcomes of these controls. **Source:** GHD

3.0 Controls for Preferred Development

This section applies to development on land containing a riparian protection area that is generally consistent with the Indicative Layout Plan shown in **Figure 3-1** in this DCP. This section applies to the land adjacent to the riparian protection area only. Section 5.0 contains controls for development within the riparian protection area. Development to which this section applies will, in most circumstances, consist of roads, drainage or open space.

1) For those areas where residential, commercial or industrial land immediately abuts a riparian protection area (as shown on the Indicative Layout Plan), development shall be located and designed to achieve a satisfactory interface with the riparian protection area. Consideration must be given to issues such as surveillance of the riparian protection area, built form and design, landscaping, activation of interfaces, where appropriate, and protection from bushfire threat.
2) Council may consider additional areas of residential, commercial or industrial land immediately abutting a riparian protection area as being generally consistent with the Indicative Layout Plan (and therefore being preferred development) where the development is designed to achieve a satisfactory interface with the riparian protection area. The considerations in sub-clause (1) above will apply.
3) Any development on land that contains a Riparian Protection Area must include the rehabilitation and revegetation of this area. A Vegetation Management Plan (VMP) that outlines the criteria for the establishment and management of a riparian protection area will be required to be prepared and submitted to the Council for assessment and approval with any DA. The VMP shall provide for revegetation, weed management and maintenance of the Riparian Protection Area. Revegetation must comprise native species of local provenance. The VRZ must be fenced off from the developable areas of a lot. Fencing is to be post and rail in design to provide for the movement of native animals. Signage shall be placed on the fencing to discourage access into the riparian protection area by people for recreational purposes or other purposes not associated with the maintenance of the riparian protection area.
   Whilst fencing off of the VRZ from the developable areas of a lot is permitted, fencing within the VRZ is prohibited.
4) Where a proposed development is not generally consistent with the Indicative Layout Plan, Section 4.0 shall apply. Minor variations from the Indicative Layout Plan may be considered to

be generally consistent with the Indicative Layout Plan (refer to section 1.7.4 of Part A of this DCP).

Note: The Vineyard Precinct Plan may include provisions enabling development that is permitted to be carried out in an adjoining zone to be carried out in land that is identified as a riparian zone (refer to clause 5.3 Development near zone boundaries in the Vineyard Precinct Plan of SEPP (Sydney Region Growth Centres) 2006. This provision exists to enable minor zone boundary anomalies to be corrected when subdivision and/or development occurs. In the case of development that would encroach into a riparian protection area, such development would only be acceptable where the outcomes for the watercourses in Section 2 above are still achieved.

Note: Where a Plan of Management (pursuant to Division 2 of Part 2 of Chapter 6 of the Local Government Act) is prepared for open space adjacent to a riparian protection area, the Council shall ensure that the Plan of Management has regard to and complements the riparian objectives of the adjoining land. For all other land adjoining riparian protection areas (including road verges), consideration should be given to a landscape strategy that will not detrimentally affect the riparian protection area.

4.0 Controls for Alternative Development

This section applies to development on land containing a riparian protection area that is not consistent with the Indicative Layout Plan to this DCP. This section applies to the land adjacent to the riparian protection area only. Section 5.0 contains controls for development within the riparian protection area.

1) Development to which this section applies must be designed in a manner that ensures the outcomes identified in Section 2 above are achieved.
2) To reduce fragmentation of the Riparian Protection Area, new lots must include the full width of the riparian protection area within the Precinct. Where the full width of the riparian protection area extends outside of the precinct, the centerline of the watercourse shall form the boundary of the new lots. Fencing will not be permitted on this boundary.
3) Dwellings, and all ancillary buildings/structures, are to be located wholly outside the riparian protection area as shown in Figure 3 below.
4) Non-residential development, including all structures and open space areas proposed on land zoned RE2 are to be principally located outside of the riparian protection area. See clause (3) in Section 5.0 for more controls relating to land uses within the vegetated buffer of the riparian protection area.
5) Where the full width of the riparian corridor is contained within the precinct, a perimeter road including pedestrian and cycle paths shall be provided on the opposite side of the riparian protection area to the developable area of the lot. Where the full width of the riparian protection area extends outside of the precinct, local open space shall be located at intervals of no less than 600m along the riparian corridor to provide opportunities for public access to land adjacent to the riparian protection area. Pedestrian and cycle paths shall be located within these local open space areas and shall connect the local open spaces to each other.
6) Buildings in the developable area of land containing a riparian protection area must either be set back the required distance from the riparian protection area and be designed and constructed in accordance with the *Planning for Bushfire Protection 2006* guidelines. Asset Protection Zones (APZs) are not to be located within the riparian protection area.
7) Any development on land that contains a Riparian Protection Area must include the rehabilitation

and revegetation of this area. A VMP that outlines the criteria for the establishment and management of a Riparian Protection Area will be required to be prepared and submitted to the Council for assessment and approval with any DA. The VMP shall provide for revegetation, weed management and maintenance of the Riparian Protection Area. Revegetation must comprise native species of local provenance. The VRZ must be fenced off from the developable areas of a lot. Fencing is to be post and rail in design to provide for the movement of native animals. Signage shall be placed on the fencing to discourage access into the riparian protection area by people for recreational purposes or other purposes not associated with the maintenance of the riparian protection area.

Whilst fencing off of the VRZ from the developable areas of a lot is permitted, fencing within the

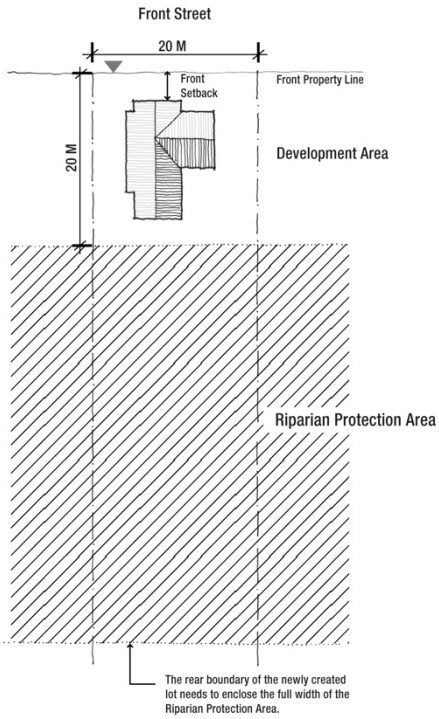


Figure 3: Location of Dwellings Adjacent to Riparian Protection Areas

5.0 Controls for the Riparian Protection Area

1) Development on land to which this section applies must achieve the outcomes identified in Section 2.0 and comply with the requirements of this Section.
2) Where works or development are proposed within a riparian protection area, a VMP that outlines the criteria for the establishment and management of a riparian protection area will be required to be prepared and submitted to the Council for assessment and approval prior to the issuing of a construction certificate. The VMP shall be prepared in accordance with the relevant guidelines. The VMP shall provide for revegetation, weed management and maintenance of the Riparian Protection Area. Revegetation must comprise native species of local provenance.
3) Passive recreation use, or open space uses (eg walking and cycle paths, seating, interpretive signage) cannot exceed 40% of the area of the VB and must be designed to ensure no reduction in the function of the VRZ.

   The maximum 40% area should generally be located along the outer edge of the VB, however

where landform or design dictates, the 40% area may meander through the VB. Where the 40% area meanders towards the VRZ it should generally come no closer than 4m to the outer edge of the VRZ, unless the applicant can demonstrate that the outcomes for the riparian protection area will be achieved. Consideration should be given to the location of the watercourse within the VRZ when determining the proximity of the 40% area to the VRZ. The 40% area shall be applied on an individual DA basis and shall not be accumulated across DAs. Consideration should be given to aligning the location of the 40% area with the design of the VB on adjoining land where already developed or where there are approved plans.

4) An APZ, or any part of an APZ, must not be located within the VRZ.
5) Constructed wetlands are not permitted within the VRZ. Constructed detention basins will only be permitted within the VRZ where it can be demonstrated that it achieves the functions of the VRZ, are vegetated dry basins only and are designed in compliance with the relevant guidelines.
6) A Construction and Environmental Management Plan, in accordance with Section 4.3 of this DCP, for works within a riparian protection area shall be submitted to Council or the accredited certifier and approved prior to the issue of a construction certificate. The Construction and Environmental Management Plan shall be prepared in accordance with the relevant guidelines.
7) The design and construction of watercourse crossings and ancillary works, such as roads, should consider the potential impacts of the crossing structure on the riparian protection area. In order to minimise the effects of structures on the hydrologic, hydraulic and geomorphic functions of a watercourse, crossings should be designed and constructed in order to maintain the integrity of the existing channel as well as being sympathetic with the ecological values of the watercourse and its riparian protection area. Bed level crossings or bridges which fully span the watercourse channel provide the best opportunities for maintaining natural channel functions. However, alternative structures such as box culverts which can achieve the riparian functions will also be considered.
8) The design and construction of stormwater outlets should aim to be 'natural', yet provide a stable transition from a constructed drainage system to a natural flow regime. The design and construction footprint and extent of disturbances within the riparian protection area should be minimised while still achieving the intended discharge function.
9) The design and construction of works and activities within a watercourse should aim to be as 'natural' as possible. A watercourse 'rehabilitation' design philosophy rather than a 'construction' philosophy should be applied. The design and construction footprint, and the extent of disturbances within the riparian protection area should be minimised while achieving the desired function and outcome. In order to minimise the impacts of in-stream works on the hydrologic, hydraulic and geomorphic functions on a watercourse, all works and activities should be designed and constructed to maintain the integrity of the existing channel, as well as being sympathetic with the ecological values of the watercourse and its riparian protection area.
10) When considering the placement of utilities in or across watercourses the design and construction footprint and the extent of disturbances proposed in the watercourse and riparian protection area should be minimised.
11) Any path (including cycleways and accessways) design and construction must be in accordance with the relevant guidelines. In particular:

    - Paths should be located beyond the VRZ (except for direct crossings).
    - Paths should be located so as to avoid, or minimise, disturbance of any Endangered

Ecological Community or any threatened species.

- Paths that intrude into an existing vegetated area of a VRZ for a crossing should, where possible, be elevated with a minimum underside clearance of 300mm and with a natural ground surface beneath, and designed to pass light and moisture sufficiently to allow the growth of groundcover vegetation beneath the structure.
- Paths and related structures, that traverse watercourses or riparian protection areas should not adversely affect watercourse and floodplain flows, exacerbate flooding or prevent adequate rainfall and daylight reaching the watercourse and riparian vegetation (e.g. bridges or view platforms that result in extensive periods of shadow).
- Access to watercourse/foreshore edges may be provided occasionally by branch paths. Access and viewing points must be designed so they do not adversely affect any of the bio-physical functions of the VRZ.

12) Fencing within the VRZ is not permitted. However, fencing of the perimeter of the VRZ is required and is to be open post and rail style fencing in design to allow terrestrial and aquatic fauna to pass.

Note: A Controlled Activity Approval is required for all works within the riparian protection area, unless a precinct-wide exemption is granted through the approval of a Waterfront Land Strategy for the precinct.

Note: Where a Plan of Management (pursuant to Division 2 of Part 2 of Chapter 6 of the Local Government Act) is prepared for open space within a riparian protection area, the Council shall ensure that the Plan of Management has regard to and complements the riparian objectives of the adjoining land.

6.0 Maintenance, Monitoring and Completion

1) Conditions of consent pertaining to the monitoring and reporting of environmental outcomes in relation to the rehabilitation and revegetation of the riparian protection areas and to water quality objectives will be imposed in relevant development consents.

Appendix C

Salinity Management Plan

CONTENTS

1.0 INTRODUCTION **3**

1.1 Background **3**

1.1.1. Salinity Risk Maps

1.1.2. Geology

1.2 The Causes of Urban Salinity **3**

1.3 Effects of Salinity in an Urban Environment **5**

2.0 SALINITY HAZARD ASSESSMENT **6**

2.1 Salinity Risk Map **6**

3.0 SALINITY MANAGEMENT GUIDELINES **6**

3.1 Introduction **6**

3.2 General Measures **6**

3.3 Groundwater Management **8**

3.4 High Risk Areas **9**

3.5 Site Design **9**

3.6 Residential and Other Buildings **10**

3.7 Measures for Specific Assets **13**

4.0 REFERENCES **14**

5.0 ATTACHMENT: SALINITY RISK MAP **15**

The Department would like to acknowledge Douglas Partners Pty Ltd and Sydney Environmental and Soil Laboratory, Blacktown City Council and Landcom for sections of this document taken from the Salinity Management Report for Second Ponds Creek (1998).

1.0 Introduction

This Salinity Management Plan contains background information, salinity risk mapping and management recommendations to control the effects of urban dryland salinity for proposed residential development within the Vineyard Precinct in the North West Growth Area (NWGA).

This Management Plan is based on findings of a SMEC study for the Alex Avenue Precinct and the approach taken in the Salinity Management Plan prepared for the adjacent Second Ponds Creek release area. This plan includes:

- general information on the causes and effects of urban salinity;
- findings and conclusions from SMEC's Land Capability and Contamination Study for Alex Avenue (2007); and
- recommendations, measures and general guidelines for site development and construction, covering water management, site development and buildings.

The aim of this Management Plan is to present practical recommendations about how to manage and, where possible, mitigate the existing saline conditions on site, so as to:

- limit any impact of salinity on roads, buildings, vegetation, underground services, water courses and storages; and
- limit the impacts of development in the precinct on the processes of salinity and the impacts of salinity on the environment.

1.1 Background

1.1.1. Salinity Risk Maps

The Department of Natural Resources Map of Salinity Potential in Western Sydney (2002) indicates that the majority of the Vineyard Precinct is located within in an area of Moderate Salinity potential with the creek lines having a High Salinity potential classification.

1.1.2. Geology

The subsurface conditions encountered in the boreholes comprise topsoil, fill, silty clays and weathered shale. Details are as follows:

FILL/TOPSOIL: Present in all boreholes to depths of 0.2 to 3.0 metres.

SILTY CLAYS: Present in all boreholes to depths of 1.0 and 6.5 metres. The strengths vary between firm to stiff and very stiff.

WEATHERED SHALE: Present in all boreholes to the depth of auger refusal of between 1.4 to 8.6 metres.

1.2 The Causes of Urban Salinity

Soils containing salts occur naturally in western Sydney due to underlying geological formations. In undisturbed areas the salts are generally stored below the plant root zone where they have minimal impact. The development of Western Sydney has disturbed the soil profile, altered hydrological processes and, in some areas, led to concentrations of salts on soil surfaces, in building materials, and waterways. Some Precincts within the NWGA are located within an area that is predisposed to developing salinity issues.

Although saline soils and groundwater are a natural part of the Australian landscape, land management practices are now increasingly recognised as significant contributors to the expansion of salt affected areas. In particular, urban salinity is increasingly occurring around populated areas due to clearing and site

development.

Salinity occurs when salts found naturally in the soil or groundwater are mobilised. Capillary rise and evaporation concentrate the salt on, and close to, the ground surface. Urban salinity becomes a problem when the natural hydrogeological balance is disturbed by human interaction. This may occur in urban areas due to changes to the water balance, increases in the volume of water into a natural system altering subsurface groundwater flows and levels, exposure of saline soils, and removal of deep rooted vegetation reducing rates of evapotranspiration. Even small changes in sensitive areas can result in the balance being irrecoverably altered and salinisation occurring.

Some building methods may also contribute to the process of urban salinity. In particular, compacted surfaces and filling can restrict groundwater flow and result in a concentration of salt in one area. Cutting into slopes for building can result in saline soils or ground water being exposed and intercepted. The use of imported fill material may be an additional source of salt or the filling may be less permeable, preventing good drainage. These issues may also result in problems with the design and construction of roads. In particular, the building of embankments and the compaction of layers can interfere with groundwater flow. Also the inappropriate positioning, grading and construction of drains can result in surface and groundwater mixing and stagnant pools forming that evaporate leaving salt encrusted ground.

Salinity issues may also arise as the result of cumulative impacts. A common example is from the gradual removal of vegetation across a site, which can contribute to a change in the hydrological regime from reduced evapotranspiration, a consequential rise in the ground water table, and subsequent salinity problems. Where vegetation is gradually removed the water table rises as a result of a smaller volume of water being used by the plants, allowing salts to be mobilised. Of more relevance in an urban landscape is the potential for an increase in water inputs into the hydrological regime. These increased inputs commonly come from watering of gardens and playing fields, infiltration of storm water and sewage and other service leakage.

These inputs may seem minor on their own but their cumulative effects over time produce an elevated groundwater table and eventually high levels of salinity.

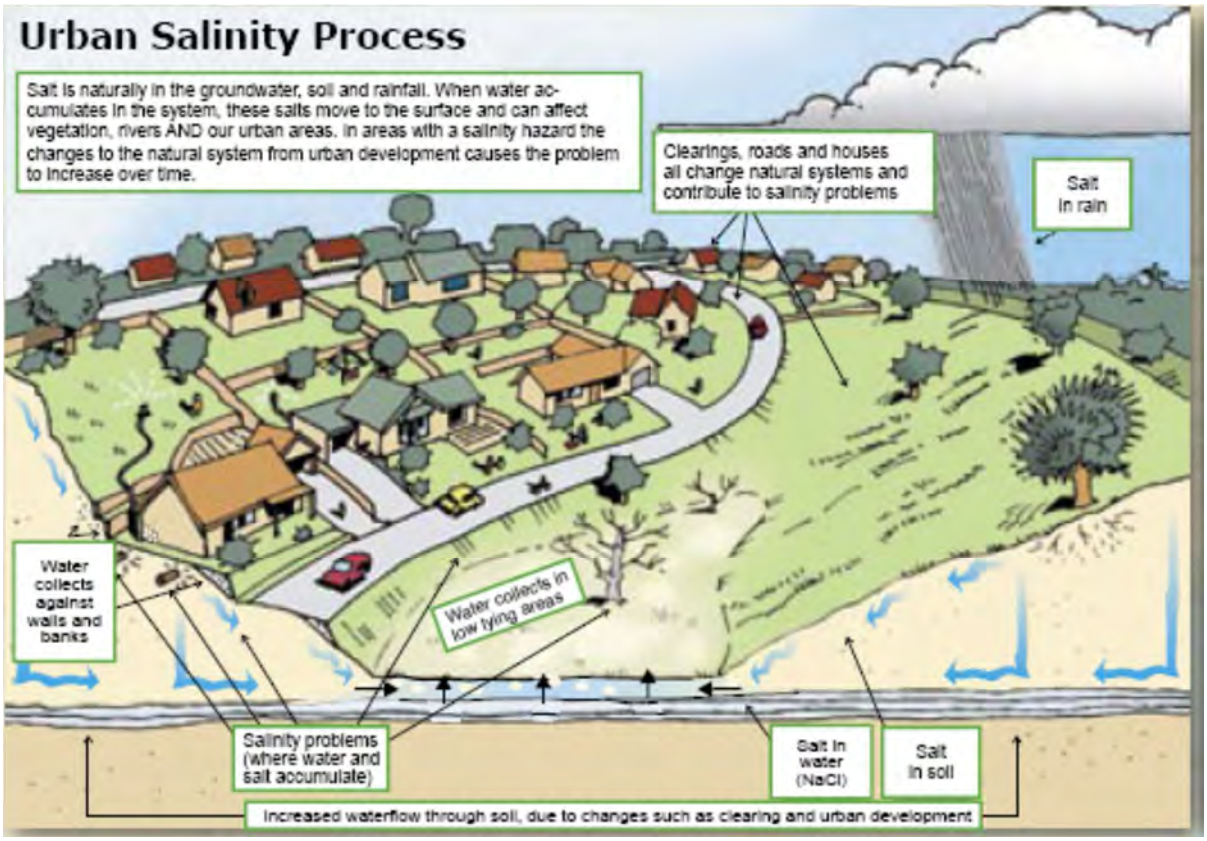


Figure 1: The Urban Salinity Process (from "Good Housekeeping to Manage Urban Salinity" by the Department of Infrastructure Planning and Natural Resources) illustrates the urban salinity process and identifies situations where salinity problems can develop due to inappropriate planning and design.

1.3 Effects of Salinity in an Urban Environment

Excess salinity in an urban environment can result in significant problems. It can manifest itself in a number of ways.

The effects of salinity can be observed in damage to building materials, infrastructure including pipework and roads and in death or poor health of vegetation. The effect of urban salinity is the result of both physical and chemical actions of the salt on concrete, bricks and metals. Salt moves into the pores of concrete and bricks and becomes concentrated when the water evaporates and can result in breakdown of materials and corrosion. Evidence of this may include crumbling, eroding or powdering of mortar or bricks, flaking of brick facing and cracking or corrosion of bricks.

High levels of salinity can result in damage to and even death of plants. Signs that vegetation is under stress from salinity include the discolouration and wilting of leaves and the death of less salt tolerant plant species. It may also be hard to establish lawns in areas that are subject to high salinity.

High levels of salinity may also affect soil structure, chemistry and productivity. This can reduce plant growth which in turn alters soil structure, chemistry and nutrient levels. As soils become more saline, plants and micro-organisms decline and soil structure deteriorates.

Water logging may also occur following a decline in nutrient levels. Over time, the alteration of soil structure can lead to the formation of gullies and other forms of soil erosion.

Salinity may also result in the corrosion of steel pipes, structural steel and reinforcement and can damage

underground service pipes resulting in significant financial costs.

Damage to pipes has the potential to exacerbate the problem by further recharging of groundwater aquifers

Salinity can also have a significant effect on buildings and associated infrastructure where cutting and filling exposes buildings/structures to elevated salinity levels. This may include:

- degradation of bricks, concrete, road base and kerbing materials leading to expansion, cracking, strength and mass loss;
- corrosion of reinforcement and loss of structural integrity;
- rising/falling damp; and
- non-structural impacts, such as efflorescence on bricks.

These impacts can be prevented, minimised, or mitigated by the implementation of appropriate management measures as outlined in **Section 3**.

2.0 Salinity Hazard Assessment

2.1 Salinity Risk Map

A **Salinity Risk Map** is shown in as an attachment to this Appendix. The recommended responses to salinity risks are as follows:

- Moderate Salinity Potential Areas: The salinity of the area is considered typical of western Sydney. Precautionary measures may be considered.
- High Salinity Potential Areas: The salinity risk of these areas are considered typical for creek line and floodplain areas in Western Sydney. Precautionary measures should be taken.
- Known Salinity Areas: These are areas known to have mild to moderately aggressive soils. Precautionary measures must be taken - see Section 3.4.

Regardless of the apparent salinity risk for a site shown on a map, soil testing should be used to confirm the presence or absence of saline soils and shallow groundwater, and appropriate measures to manage salinity should be provided as part of a Development Application. Refer to Section 2.2.2 in the main body of this DCP for further information.

3.0 Salinity Management Guidelines

3.1 Introduction

The Salinity Management Guidelines contain:

- general measures to consider across the site;
- measures applying to high risk areas;
- appropriate management strategies for the management of groundwater, site design and urban development;
- measures to be taken at various stages of development; and
- strategies and measures for specific works.

3.2 General Measures

The following general measures apply to all development within the Vineyard Precinct. Where there is an

inconsistency, the specific controls in the following sections take precedence. All development should be consistent with the Western Sydney Salinity Code of Practice 2004.

Note that the practices for managing salinity will differ depending on the type of land use that is proposed on the site. For example, practices for land zoned Open Space and Recreation will require different approaches than practices within the Local Centre and residential zones.

1. Filling areas are to be graded, revegetated and adequate surface drainage infrastructure installed as soon as practical to avoid excessive infiltration, minimise salt leaching and soil erosion.
2. Drainage infrastructure in vulnerable areas is to be installed as soon as practical to avoid excessive water infiltration, ponding of water on-site and salt leaching.
3. Watering or irrigation practices are to be managed to avoid excessive infiltration and water logging.
4. Pipes used for stormwater drainage should be sealed to minimise the risk of leakage.
5. Concrete of suitable strength and reinforcement cover is to be used for drainage structures and wherever contact with water and increased soil moisture is expected.
6. Exposure and disturbance of subsoil material must be reduced by minimising cut and fill.
7. Natural drainage patterns are to be maintained as far as practical.
8. Native plant species with minimal water requirements, tolerant to EC levels of 4000µS/cm are to be selected for revegetation or plantings. Native vegetation must be retained or restored on site where possible.
9. Drainage, sewerage and water infrastructure is to be regularly maintained and repaired to prevent leakage.
10. Groundwater extraction does not occur on the site.
11. Design and construction to be carried out in accordance with relevant Australian Standards, Building Codes and current 'Industry Best Practice' in regard to urban salinity.
12. Any imported fill must have its salinity levels tested and must not exceed a level of 2 dS/cm. Soils exceeding this level must not be imported onto the site.
13. Reversing or mixing the soil profile when undertaking cut and fill activities must be avoided. Soils must be replaced in their original order.
14. In seepage and discharge areas or areas with a high potential, sulphate resistant building materials must be used.
15. In areas with sodic or saline B Horizons, disturbance to the soil should be reduced and the exposure of building materials to the corrosive elements in these soils minimised. Appropriate construction techniques such as suspended slab or piering to encourage ventilation and prevent soil moisture from being forced up the walls of the structure should be used.
16. The manufacturer's advice must be complied with regarding durability and correct use of all building materials.
17. Sulphate resistant materials should be used for underground services, roads and paths.
18. Roads must have well designed sub surface drainage.
19. Roads and shoulder areas must be designed to drain surface water such that there is no

excessive concentration of runoff or ponding which may result in water logging or additional recharge of groundwater. Road shoulders must also be sealed.

20. Surface drains should be provided along the top of batter slopes of greater than 2.5 metres height to reduce the potential for concentrated flows of water which may cause scour. Well graded subsoil should be provided at the base of all slopes where there are road pavements below the slope to reduce the risk of water logging.
21. The addition of salts in the materials, fill or water used during construction must be limited.
22. A waterproof seal must be used on roads to minimise evaporation and the concentration of salt.
23. Road cuttings should not intercept known salt affected or water logged areas.
24. Roads should not be designed in a manner that impedes the sub-soil flow or creates hydraulic pressure causing groundwater discharge.
25. Natural drainage patterns and infiltration rates must be maintained as far as practicable.
26. Drainage should not be designed to discharge to groundwater or salinity affected areas that is likely to cause increased water logging adjacent to the road or that concentrate surface runoff.
27. Detention basins and other measures must not leak and cause localised damp soil conditions or recharge to the groundwater.
28. Stormwater detention structures and other measures must be constructed with impermeable liners and avoid the infiltration of water into the surrounding landscape or groundwater above that which would naturally occur. If using a clay lining the possibility that on site clays may be saline should be investigated before they are used for this purpose. In these situations an impermeable geotech fabric may be preferable.
29. Materials and waters used in the construction of roads and fill embankments should be selected to contain minimal or no salt. Where it is difficult a capping layer of either topsoil or sandy materials should be placed to reduce capillary rise, act as a drainage layer and also reduce the potential for dispersive behaviour in the sodic soils.
30. Batter slopes should be compacted with control of the moisture content to optimum moisture content plus 2 per cent or otherwise over-filled, compacted and then trimmed back to the final alignment to minimise infiltration through the exposed filling batters and the potential resulting flushing of salts from the filling. If the later is to be carried out, the outer zone (3 metres) of the fill should be placed at optimum moisture content plus 2 per cent.

3.3 Groundwater Management

The key to controlling salinity is to avoid groundwater rising close to the surface where it can evaporate, concentrating the salt present in the groundwater. Care should also be taken to avoid raising the groundwater tables, as this is likely to result in an increased surface expression of salinity and may lead to waterlogging and groundwater infiltration into underground infrastructure.

Some general measures to reduce the volume of discharge into the aquifer and reduce risk of rising groundwater tables are:

1. Avoid over-watering of lawns, parks and other landscaped areas.
2. Minimise the number of shallow open pools that can readily dry out.
3. Plant native vegetation that utilises rainfall efficiently and minimise lawn areas on land not

required for recreational uses. Landscape with native trees, shrubs and grasses that require little irrigation. Prevent unnecessary removal of vegetation and trees.

4. Appropriate design, construction and maintenance of water supply, sewage and stormwater pipes to avoid leaking.
5. Ensure an appropriate ratio of hard (impermeable) and permeable surfaces to avoid rainwater runoff infiltrating the ground in large volumes at any given location.
6. Direct runoff from paved areas into lines stormwater drains rather than along grassed channels as necessary.
7. Line or locate any ponds higher in the landscape to avoid recharge where proximity to the water table is likely to create a 'mound' in the groundwater table.
8. Minimise the use of stormwater percolation systems (eg rubble pits, disposal of excess water by irrigation). Ensure that on-site rainwater tanks overflow to the stormwater system.
9. Ensure any trunk stormwater detention infrastructure is appropriately designed and constructed.
10. Ensure adequate surface drainage for all development, including proper geotechnical assessments of planned drainage basins, artificial wetlands and recreational waterbodies.

3.4 High Risk Areas

In areas identified as having a high salinity risk on either the Salinity Hazard Map or site specific studies or for development in close proximity to creek lines the following measures must be taken:

1. Detailed sampling and testing of soils and groundwater is required to confirm current salinity conditions and identify any risks that may be posed by development, as part of the design of subdivisions. A salinity assessment report is to be submitted with subdivision DAs in high risk areas.
2. Reduced development densities are to be considered to reduce pressure on groundwater in catchment areas.
3. Unless site specific testing shows otherwise and/ or other management measures can be shown to achieve sufficient protection, floor slabs are to be elevated above ground level and have a minimum concrete strength of 32MPa.
4. Existing riparian corridors are to be maintained and revegetated.
5. Detailed salinity investigations are to be undertaken prior to development or the installation of infrastructure and the recommended management measures are to be implemented.

3.5 Site Design

Control methods for management of salinity during site development should start with adherence to careful stripping and separation of non-saline topsoil from slightly and moderately saline subsoils. Soils must be replaced in the original order where possible to avoid bringing salts to the surface.

The A and top of the B (i.e. B1) horizon are generally not saline and should be recovered and stockpiled separately. The lower B (i.e. B2) and C horizons are generally the more saline layers and where exposed need to be covered with say 100 - 200 mm of B1 then 100 - 200 mm of topsoil (A) for landscape finishes. Building platforms should be capped with 100 - 200 mm of B1 horizon non saline subsoil.

Precautionary measures in subdivision design to reduce the potential for salinity problems include:

1. avoiding water collecting in low lying areas, along shallow creeks, floodways, in ponds,

depressions, or behind fill embankments or near trenches on the uphill sides of roads. This can lead to waterlogging of the soils, evaporative concentration of salts, and eventual breakdown in soil structure resulting in accelerated erosion;

2. roads and the shoulder areas should be designed to be well drained, particularly with regard to drainage of surface water. There should not be excessive concentrations of runoff or ponding that would lead to water logging of the pavement or additional recharge to the groundwater. Road shoulders should be included in the sealing program;
3. surface drains should generally be provided along the top of batter slopes of greater than 2.5 m height to reduce the potential for concentrated flows of water down slopes possibly causing scour. Well graded subsoil drainage should be provided at the base of all slopes where there are road pavements below the slope to reduce the risk of waterlogging;
4. where possible materials and waters used in the construction of roads and fill embankments should be selected to contain minimal or no salt. This may be difficult for cuts and fills in lower areas where saline soils are exposed in cut or excavated then placed as filling. Under these circumstances where salinisation could be a problem, a capping layer of either topsoil or sandy materials should be placed to reduce capillary rise, act as a drainage layer and also reduce the potential for dispersive behaviour in the sodic soils;
5. to minimise infiltration through the exposed filling batters and the potential resulting flushing of salts from the filling, it is suggested that the batter slopes be specifically compacted to the requirements as described above but with control of the moisture content to OMC + 2% or otherwise over-filled, compacted and then trimmed back to the final alignment. If the later is to be carried out, the outer zone (say 3 m wide) of the filling should be placed at OMC + 2%;
6. gypsum should be mixed into filling containing sodic soils and cuts where sodic soils are exposed on slopes to improve soil structure and to minimise erosion potential;
7. consideration could be given to planning to use deeper infrastructure service lines, deeper than say 1.2 m, to promote subsurface drainage by incorporating slotted drainage pipes fitting into the stormwater pits in lower areas where pipe invert levels are within about 1 m of existing groundwater levels. This is likely to be more appropriate where good drainage can be planned as in certain situations poorly graded subsoil drainage and water collecting in pits may make things worse raising the water table and increasing the risk of salinisation; and
8. salt tolerant grasses and trees should be considered close to the creek and in areas of moderate and greater salinity to reduce soil erosion and to stabilise the soils and creek banks as well as maintain the existing evapotranspiration and groundwater levels. Reference should be made to an experienced landscape planner or agronomist. Advice from landscape technologists is that a wide range of indigenous and native species are available that will tolerate the anticipated level of salinity.

3.6 Residential and Other Buildings

Figure 2 presents diagrammatically a selection of salinity management tips for domestic dwellings.

The extent of measures adopted during construction in particular the concrete and masonry requirements should depend on the particular level of salinity or aggressivity at the actual site. Based on measurements and observations to date, it is anticipated that extreme salinity protection measures, such as increased durability concrete, barrier membranes, pier and beam, etc will not be required over most of the building areas. Nevertheless, for the construction of buildings on moderately or more saline sites, the following controls are to be implemented:

1. Soil from building sites in areas suspected to be more than slightly saline (ECe > 4 dS/m) should be sampled, tested and classified for soil salinity and aggressivity. This should preferably be carried

out by a geotechnical consultant at the same time the site is classified for soil reactivity (shrink – swell behaviour as described in *Australian Standard AS 2870 – 1996 Residential slabs and footings*). The salinity classification would involve limited additional testing of soil or water samples for pH, electrical conductivity, total dissolved solids (TDS), sodicity, and possibly sulphates and chlorides.

2. On moderately or more saline sites, a thick layer of sand (say 100 mm minimum) followed by a membrane of thick plastic should be placed under the concrete slab to act as a moisture barrier and drainage layer to restrict capillary rise under the slab. Alternatively concrete grade of at least N25 and minimum 45 mm reinforcement cover should be adequate in moderately saline areas increasing to N32 and 50 mm cover respectively for very saline (ECe from 8 to 16 dS/m) areas.
3. The need for higher than normal strength concrete and use of sulphate resistant cement should be considered in potentially highly saline (ECe > 16 dS/m) or aggressive areas in order to reduce the risk of reinforcement corrosion in concrete slabs. A minimum of 55 mm of concrete cover on slab reinforcement, proper compaction and curing concrete are also suggested to produce a dense low permeability concrete.
4. As an alternative to slab on ground construction, suspended slab or pier and beam construction should be considered, particularly on sloping sites as this will minimise exposure to potentially corrosive soils and reduce the potential cut and fill on site which could alter subsurface flows.
5. Other measures that can be considered to improve the durability of concrete in saline environments should be considered. These include reducing the water cement ratio (hence increasing strength), minimising cracks and joins in plumbing on or near the concrete, reducing turbulence of any water flowing over the concrete and using a quality assurance supplier.
6. It is essential that in all masonry buildings that a brick damp course be properly installed so that it cannot be bridged either internally or externally. This will prevent moisture moving into brick work and up the wall.
7. As there are various exposure classifications and durability ratings for the wide range of masonry available, reference should be made to the supplier in choosing suitable bricks of at least exposure quality. Water proofing agents can also be added to mortar to further restrict potential water movement.
8. In high salinity areas, bricks that are not susceptible to damage from salt water should be used. These are generally less permeable, do not contain salts during their construction and have good internal strength so that they can withstand any stress imposed on them by any salt encrustation.
9. As indicated on **Figure 2**, service connections and stormwater runoffs should be checked to avoid leaky pipes which may affect off site areas lower down the slope and increase groundwater recharge resulting in increases in groundwater levels.

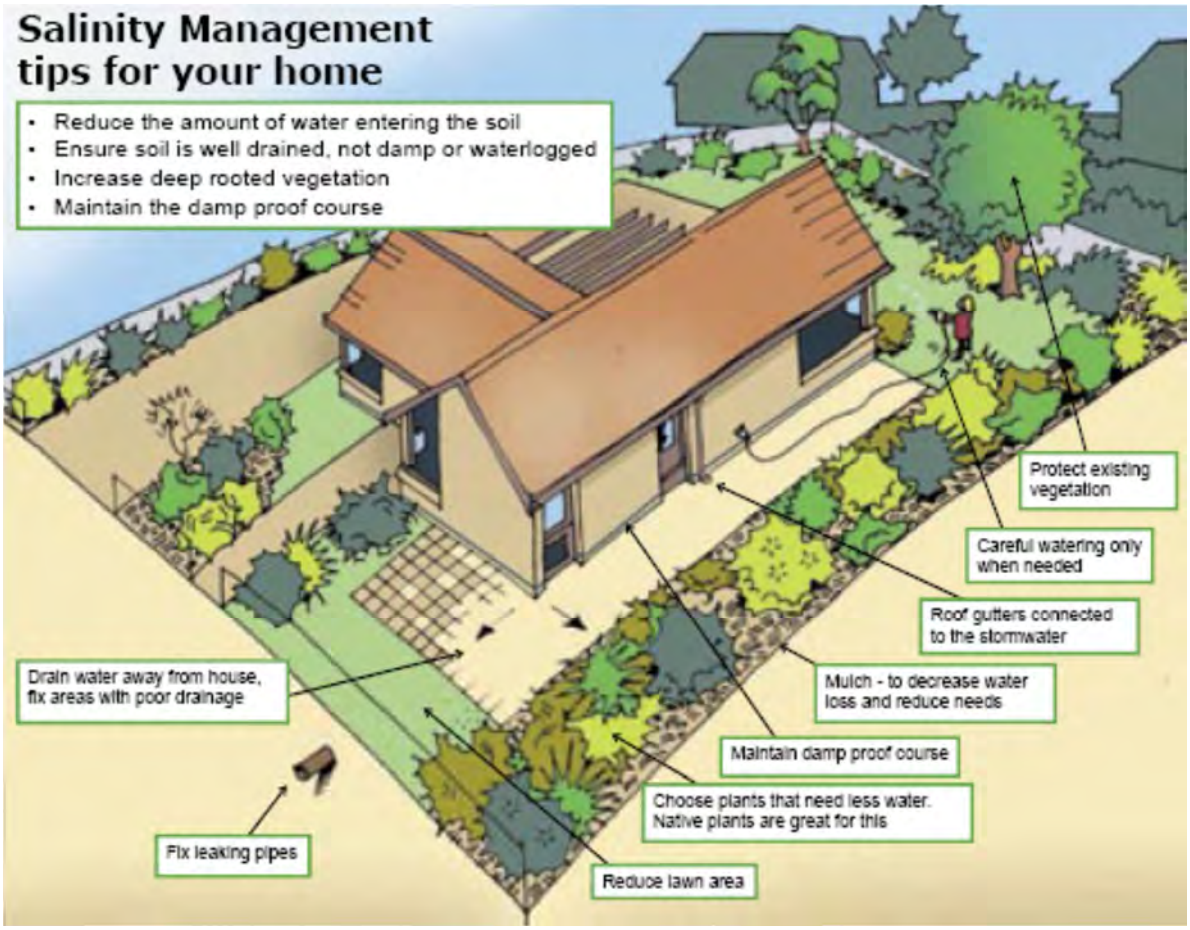


Figure 2: Salinity Management at Home (DIPNR)

3.7 Measures for Specific Assets

Table 1 summarises salinity management measures that are to be applied to the planning, design and construction of specific categories of assets.

Table 1: Salinity management measures for specific assets

Asset	Stage	Measure
Infrastructure and Utilities (Road Pavement, Drainage, Pipes, Structures, Pits, Substations, Duct Crossings, Sewer and Water Pipes)	Precinct Planning	Consider appropriate site selection to prevent structural degradation and Avoid low lying areas and areas near creek lines.
	DA	Design and size drainage infrastructure to reduce the intensity of local and regional flooding. Ensure appropriate embankment designs. Design systems to avoid the interception of surface flow or groundwater recharge.
	DA/construction	Avoid the use of materials such as clay and brass for piping. Ensure sufficient clearance to groundwater. Install appropriate subsoil drainage. Use materials of appropriate strength and cover for reinforcement. Avoid the disturbance of natural drainage patterns where possible. If this is not possible then realign drainage lines as close to natural patterns as possible.
	Post-development	Maintain and repair to minimise leakages.
Landscaping and Existing Vegetation	DA/Construction/ Post Development	Retain and/or establish the use of native salt-tolerant species, especially if deep rooted to minimise irrigation requirements. Line waterbodies to minimise groundwater discharge. Avoid overwatering of lawns, gardens and parklands. If possible, use 'smart' sprinkler systems or subsoil drip/capillary action systems and maintain them regularly. Carry out site specific investigations into the potential impacts of recycled water use and implement the recommendations of these studies. Ensure that existing riparian corridors are maintained.
Miscellaneous (Floor Slabs, Masonry Walls, Foundations, Carparks)	DA/Construction	Ensure sufficient clearance to groundwater or install subsoil drainage. Avoid disturbance of the natural drainage pattern. Damp proof courses and vapour barriers are to be properly installed where applicable and maintained to ensure they are not breached by later additions. Use admixtures for waterproofing and corrosion prevention. On ground level, provide a sand/gravel layer of sufficient depth under the slab. Install appropriate membranes under slabs and ensure that they are extended to the outside face of the external edge beam up to the finished ground level. Use concrete of appropriate strength and cover for reinforcement. For floor slabs, ensure that concrete is of the appropriate strength and cover for reinforcement and are properly cured. The following requirements apply: • minimum strength of 25MPs where the slab is at ground level • cover must be at a reinforcement height of: • 50mm from unprotected ground • 30mm from a membrane in contact with the ground • 50mm for strip footings and beams irrespective of the use of a damp proof membrane Ensure that damp proof course consists of adequate material and is correctly placed. Ensure that exposure class masonry units are used below any damp proof course, including for strip footings, and that appropriate mortar and mixing ratios are used.

Asset	Stage	Measure
		Select foundation type and material in accordance with Australian Standards with consideration of soil aggressivity. Allow for sufficient corrosion of steel or install the appropriate protective systems. Use permeable paving where practical.
Earthworks (Excavations, Cut and Fill, Re-contouring and Stockpiling)	Construction	Revegetate and provide surface drainage as quickly as practical Install adequate erosion controls such as silt fences during excavation and until site stabilisation. Avoid excavation intersecting the groundwater, where possible. Ensure imported fill is non/slightly saline. Place cut materials in the original in-situ order, or if this is not possible, bury the most saline soil underneath less saline soil. Monitor runoff from stockpiles and conduct the appropriate tests to determine whether gypsum should be added. Ensure that stockpiles have adequate controls in place for erosion, covering and stabilisation.

4.0 References

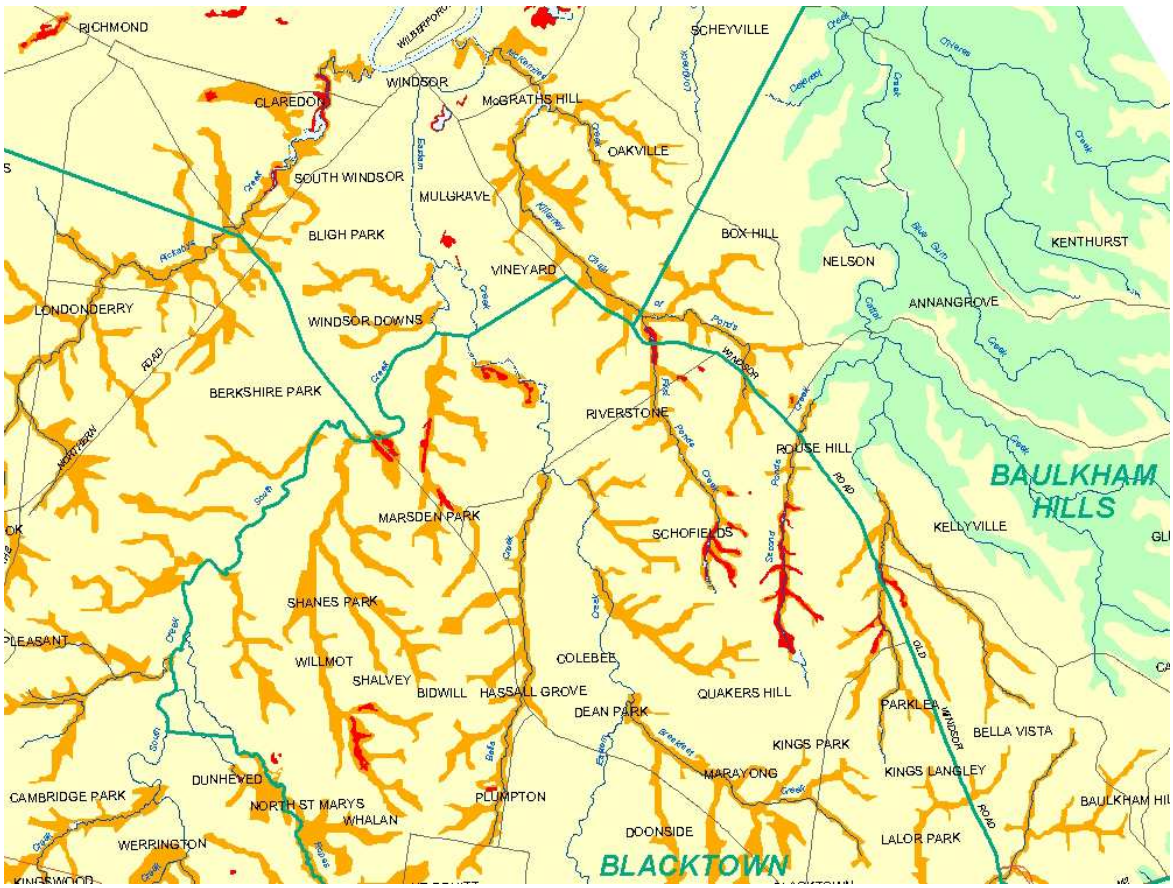
Douglas Partners Pty Ltd and Sydney Environmental and Soil Laboratory. 1998. Salinity Management Report for Second Ponds Creek. Report to Blacktown City Council and Landcom.

DIPNR. 2002. Salinity Potential in Western Sydney.

SMEC Testing services. SMEC Land Capability and Contamination Report. Report to the Growth Centres Commission. Alex Avenue, Schofields, 16407/3816B, August 2007.)

Western Sydney Regional Organisation of Councils (WSROC). 2003. Western Sydney Salinity Code of Practice

5.0 Attachment: Salinity Risk Map



and appropriate investigation should be undertaken on a site-specific basis. This Salinity Map is not a substitute for on site investigation. This map should also be used in conjunction with the document "Guidelines to Accompany Map of Salinity Potential for Western Sydney - 2002". Failure to do so may result in an inaccurate assessment of the potential for salinity hazard at a particular site.

Extract from DIPNR. 2002. "Salinity Potential in Western Sydney"

http://www.environment.nsw.gov.au/salinity/science/assessments.htm

Appendix D

Preferred Plant Species

1.0 Preferred Plant Species

The purpose of this Appendix to provide guidance for the selection of plant species that are suitable for use within the Vineyard Precinct.

Table 1 below provides the preferred species to be used for landscaping. **Table 2** lists the species that should be avoided.

Table 1: Preferred Plant Species

Scientific Name	Common Name	Mature Height	Mature Spread	Native
Trees				
Acer buergeranum	Trident Maple	**6m**	**3m**	**X**
Agonis flexuosa	Willow Myrtle	**14m**	**6m**	√
Angophora floribunda	Rough Barked Apple	**20m**	**6m**	√
Banksia integrifolia	Coastal Banksia	**20m**	**6m**	√
Casuarina glauca	Swamp She-Oak	**15m**	**5m**	√
Corymbia maculata	Spotted Gum	**30m**	**8m**	√
Eucalyptus amplifolia	Cabbage Gum	**30m**	**5m**	√
Eucalyptus crebra	Narrow Leafed Red Ironbark	**30m**	**8m**	√
Eucalyptus microcorys	Tallow-wood	**40m**	**8m**	√
Eucalyptus moluccana	Grey Box	**30m**	**8m**	√
Eucalyptus tereticornis	Forest Red Gum	**40m**	**4m**	√
Fraxinus 'Raywoodii'	Claret Ash	**20m**	**8m**	**X**
Melaleuca linarifolia	Snow In Summer	**10m**	**4m**	√
Melaleuca nodosa	Ball Honeymyrtle	**4m**	**2.5m**	√
Melaleuca stypheloides	Prickly Paperbark	**10m**	**3m**	√
Melia azedarach	White Cedar	**15m**	**5m**	**X**
Sapium sebiferum	Chinese Tallow Tree	**7m**	**3m**	**X**
Shrubs				
Acemena smithii 'Hedge Master'	Lilly Pilly	**2m**	**1m**	√
Anigozanthos flavidus	Tall Kangaroo Paw	**2m**	**1m**	√
Banksia spinulosa	Hairpin Banksia	**3m**	**2m**	√
Brunoniella australis	Blue Trumpet	**0.3m**	**0.4m**	√
Bursaria spinosa	Tasmanian Christmas Bush	**10m**	**6m**	√
Callistemon linariifolius	Narrow-leaved Bottlebrush	**3.5m**	**2m**	√
Crinum pedunculatum	Crinum Lily	**2.5m**	**2.5m**	√
Doryanthes excelsa	Gymea Lily	**3m**	**2m**	√
Dodenea viscose	Giant Hop Bush	**3m**	**3m**	√
Gardenia augusta	Common Gardenia	**1.5m**	**1.0m**	**X**
Grevillea poorinda "Royal Mantle"	Grevillea	**1.5m**	**1.5m**	√
Hakea sericea	Silky Hakea	**6m**	**3m**	√
Kunzea ambigua	Tick Bush	**2.5m**	**2m**	√
Micromyrtus ciliata	Fringed Heath Myrtle	**0.15m**	**1.5m**	√
Phormium tenax "Purpureum"	NZ Purple Flax	**1.0m**	**1.0m**	**X**
Thryptomene saxicola	Rock Thryptomene	**1m**	**0.5m**	√
Westringia fruticosa	Coastal Rosemary	**2.0m**	**1.5m**	√

Scientific Name	Common Name	Mature Height	Mature Spread	Native
Ground Cover				
Aspidistra elatoir	Cast Iron Plant	**1m**	**0.8m**	**X**
Brachycome multifida	Cut Leaf Daisy	**0.3m**	**1m**	√
Dichondra repens	Kidney Weed	**0.1m**	**0.3m**	√
Grevillea 'Bronze Rambler'	Grevillea cultivar	**0.3m**	**0.4m**	√
Hardenbergia violaceae	Purple Coral Pea	**climbs to 1.5m**	**1.5m**	√
Trachelospermum jasminoides	Star Jasmine	**climbs to 6m**	**1.5m**	**X**
Viola hederacea	Native violet	**0.2m**	**0.5m**	√
Wahlenbergia gracilis	Australian Bluebell	**0.3m**	**0.25m**	√
Grasses				
Aristida ramosa	Wire Grass	**0.5m**	**0.5m**	√
Danthonia tenuoir	Wallaby Grass	**0.3m**	**0.3m**	√
Imperta cylindrica	Cogon Grass	**0.5m**	**0.5m**	√
Liriope muscari	Turf Lily	**0.6m**	**0.5m**	**X**
Microlaena stipoides var. stipoides	Microlaena	**0.5m**	**0.3m**	√
Ophiopogon japonicus	Mondo Grass	**0.35m**	**0.3m**	**X**
Pennisetum alopecrroides	Fountain Grass	**1m**	**1m**	√
Poa labillardieri	Poa	**0.4m**	**0.25m**	√
Themeda australis	Kangaroo Grass	**1m**	**0.3m**	√
Sedges/Rushes				
Carex appressa	Tall Sedge	**1m**	**0.5m**	√
Dianella caerulea	Flax Lily	**0.5m**	**0.3m**	√
Dianella revolute	Flax Lily	**1m**	**1m**	√
Gahnia aspera	Saw Sedge	**1m**	**0.4m**	√
Isolepis nodosa	Nobby Clubrush	**1m**	**1m**	√
Lomandra longifolia	Mat Rush	**0.7m**	**1m**	√
Lomandra multiflora	Many Flowered Mat Rush	**0.7m**	**0.7m**	√
Juncus usitatus	Common Rush	**1m**	**0.4m**	√
Turf				
Cynodon dactylon	Couch (improved types)	-	-	X

Note: It is important to note that this plant list is indicative only to provide a guide on the range of suitable plants for the region with consideration of functional, aesthetic, salt tolerance and horticultural requirements. The selection of species is expected to vary over time as a result of species availability, site conditions, and plant viability.

Table 2: Undesirable Plant Species

Scientiific Name	Common Name
Bambusa	Bamboo
Eriobotrya	Loquat
Ficus Elastica	Rubber tree
Ligustrum	Large and small leaf Privet
Musa	Banana plant
Toxicodendron Succedaneum	Rhus or Wax tree
Morus	Mulberry
Arecastrum romanzoffianum Schefflera	Umbrella tree
Persea	Avocado
Ailanthus	Tree of heaven
Lagunaria Patersonia	Norfolk Island hibiscus
genus Cotoneaster	Cotoneaster
genus Erythrina	Coral tree
Cinnamomum camphora Ligustrum spp.	Camphor Laurel
Pinus radiate, Pinus elliotii	Radiata Pine
Mangifera Indica	Mango tree
Salix spp.	All Willow species
Populus spp.	All Poplar species
Ricinus communis	Castor Oil plant
Gleditzia tricanthos	Honey Locust
Cortaderia Selloana	Pampas Grass
Olea europaea	African Olive
Acer Negundo	Box Elder
Syagrus romanzoffiana	Cocos Palm
Phoenix canariensis	Canary Island Date Palm

Appendix E

Lodgement Requirements

Development Application Lodgement Requirements

Table 1 below provides an indicative checklist of the lodgement requirements for all development applications (DA). For the specific documents required for a DA see **Table 2** and **3** below or contact Hawkesbury City Council.

How to use this checklist: Please use this checklist to assist in the preparation of your application. Council's Officers will review your application prior to lodging to ensure that the required information is provided.

Plan requirements: Plans should be drawn to A3 size at a scale of 1:100 (preferred) or 1:200, in ink, on unlined paper and highlighted where appropriate to assist in distinguishing proposed works from existing structures. Illegible drawings **will not** be accepted. Previously approved plans bearing Council's stamp must not be submitted for further approval.

All plans are to be sorted into complete sets. Each set of plans is to contain one copy of every sheet. Notification plans (A4 copies) are to be kept separate.

Digital copy of application: It is requested that you provide one digital copy of all plans and documents associated with your application. Details on file format and naming may be found in Council's File Format and File Naming Requirements Factsheet. Alternatively, a file scanning or conversion fee will apply.

Note: Upon a more detailed assessment of the submitted documents Council may request additional information of a technical nature or require clarification of the submitted information.

Table 1: Matrix of Lodgement Requirements

Key: ✓ Required

Document	Subdivision DA	Building DA
A4 Notification Plan	✓	✓
Archaeological assessment		
Basix Certificate		✓
Building Plans		✓
Bushfire Assessment	✓	✓
Completed DA form	✓	✓
Construction Environmental Management Plan (Part 4.3)	✓	
Contamination Assessment (Part 2.2.6)	✓	✓
Crime Risk Assessment Report (Safer by Design Evaluation)		✓
Flora and Fauna Assessment	✓	✓
Heritage Impact Statement (Part 2.2.3)	✓	✓
Landscape Plan	✓	✓
Lot Mix Table	✓	
Materials Sample Board of external colours and finishes		✓
Noise and Vibration Impact Assessment/Noise Assessment		✓
Photomontages		✓
Salinity Report & Salinity Management Plan (Part 2.2.2)	✓	✓
Scale model		✓
Shadow Diagrams		✓
Schedule of External Colours and Finishes		✓
Signage Details		✓
Site Analysis Plan	✓	✓
Soil and Water Management Plan (Part 2.2.2)	✓	✓
Statement of Environmental Effects	✓	✓
Stormwater Drainage Concept Plan	✓	
Subdivision Plans	✓	
Survey Plan	✓	✓
Traffic Impact Report	✓	✓
Tree Survey Plan/Arborist Report	✓	✓
Vegetation Management Plan (Clause 2.2.4)	✓	✓
Waste Management Plan		✓
Water Management Plan		✓
Weed Eradication and Management Plan	✓	

Lodgement Requirements for Development Applications

Table 2 below provides a description of the lodgement requirements for all development applications.

Table 2: Lodgement requirements for all DAs

Lodgement Requirement	Description
A4 Notification Plan	**Site plan and elevations must be shown in an A4 document.**
Building Plans (or subdivision plans – see below)	Building Plans must include: **Survey plan** The survey plan shall be prepared by a Registered Surveyor and is to be submitted with most applications (except where the proposal involves minor works, a change of use of an existing building or installation of signage). The survey plan shall provide the following: • Location and use of all buildings/structures on the subject land; • Location and use of adjacent buildings/structures on adjoining land; • Levels of the land (contour and spot levels) - provided to Australian Height Datum (AHD) if the land is subject to flooding; • Existing building height (provided to AHD if land subject to flooding); • Location of all trees greater than 4m in height and/or 3m in branch spread and/or trunk circumference of greater than 500mm when measured 1m above ground level on the subject property; • Location of all trees greater than 4m in height and/or 3m in branch spread and/or trunk circumference of greater than 500mm when measured 1m above ground level on adjoining properties within 6m of any proposed development; • Easements and rights of way including common or party walls; and • Location of existing services **Site plan** The site plan shall be drawn to a scale of 1:100 (preferred) or 1:200 and provide the following: • The location, boundary dimensions, site area and north point of the land; • Footprint of existing and proposed buildings in relation to site boundaries; • Existing vegetation and trees on the land and trees to be removed; • Location of any existing and proposed landscaping features such as fences, swimming pools, driveways, retaining wall and paved areas; • Contour intervals of the site ate a minimum of 500mm in the areas of the proposed development; • Encumbrances on land such as easements and right-of-carriageways; • Distance from outmost part of proposed building to all boundaries; and • Location and uses of adjoining development in relation to site boundaries. **Floor plan** The floor plan shall be drawn to a scale of 1:100 (preferred) or 1:200 and provide the following: • Room names, dimensions and intended uses; • Window and door locations and dimensions; • Floor levels and steps in floor levels; • Location of fixtures such as cupboards; • Location of plumbing fixtures; and • Wall structure and thickness.

Lodgement Requirement	Description
	Elevation plan The elevation plan shall be drawn to a scale of 1:100 (preferred) or 1:200 and provide the following: • Exterior cladding type and roof materials and a schedule of external finishes, colours and textures; • Window and door locations and dimensions; • Location of downpipes and gutters and any other external feature; and • Floor, ceiling and roof height above ground level. **Sections** The section plan shall be drawn to a scale of 1:100 (preferred) or 1:200 and provide the following: • Room names; • Distance between ground, floor, ceiling and roof levels; • Details of the extent of cut and fill in relation to natural ground level; • Roof drainage; • Internal and external sheeting; • Method of construction; and • Roof pitch and materials.
Completed DA form	The DA form is to be completed in its entirety and must be signed by all owners of the development site. This is to be lodged with the applicable DA fee.
Site Analysis Plan	Site Analysis Plan must cover the relevant factors listed below: Site analysis should include plan and section drawings of the existing features of the site, at the same scale as the site and landscape plan, together with appropriate written material. Information may include but is not limited to: • Site dimensions, site areas, north point • Location of site in relation to shops, community facilities and transport • Form and character of adjacent and opposite buildings in the streetscape, including both sides of any street that the development fronts. • Location and use of any existing buildings or built feature on the site. • Location and important characteristics of adjacent public, communal and private open spaces • Location, use, overall height (storeys, metres) and important parapet/datum lines of adjacent buildings • Location and height of existing windows and balconies on adjacent properties facing the site • Location, height and characteristics of adjacent walls and fences • Location of natural features including watercourses, major trees on and other significant vegetation on site, on adjacent properties and street trees, identified by size and botanical or common names • Topography, showing spot levels and contours 0.5metre intervals for the site, adjoining streets and land adjoining the site • Views to and from the site • Prevailing winds • Orientation and overshadowing of the site and adjoining properties by neighbouring structures and trees • Geotechnical characteristics including salinity and groundwater conditions of the site and suitability of development • Pedestrian and vehicular access points (existing and proposed)

Lodgement Requirement	Description
	• Location of utility services, including electricity poles, stormwater drainage lines, natural drainage, kerb crossings and easements • Location of any infrastructure easement of rights of way • Significant noise sources on and in the vicinity of the site, particularly vehicular traffic, train, aircraft and industrial operations noise • Areas of Aboriginal heritage value within and adjoining the development site. As a minimum, the site analysis plan must show the site location, boundary dimensions, site area, north point, existing vegetation and trees, location and uses of existing adjoining buildings, existing site levels to Australian Height Datum (AHD) and services.
Statement of Environmental Effects	The Statement of Environmental Effects must: • demonstrate how the proposal meets all relevant objectives and provision of any relevant environmental planning instrument or development control plan, including the SEPP and the Vineyard Precinct DCP • demonstrate that any variations sought to the controls of any environmental planning instruments or development control plans will meet the objectives of these instruments and have no adverse environmental impact. • describe the environmental impact of any proposal and set out measures to be taken to mitigate any likely adverse impact of the proposal.
Subdivision Plans (or building plans – see above)	Subdivision Plans must show: • Lot numbers • Lot sizes and dimensions • Lot orientation (north point) • Road names/numbers • Road layout • Road widths and locations • Locations of any traffic calming devices • Existing and proposed land levels to AHD (Australian Height Datum) • Existing and proposed drainage • Drainage calculations including overland flow • Any details of existing and proposed easements and services affecting or benefiting the subject land • Location of existing trees and vegetation to be removed

Table 3 below provides a description of the lodgement requirements for certain development applications.

Table 3: Lodgement requirements for specific DAs

Lodgement Requirement	Description	Required for
Basix Certificate	Submission of a current BASIX Certificate is required for any development to which BASIX applies. See www.basix.nsw.gov.au for further information.	Any Building DAs for BASIX affected development.
Building Envelope Plan	The BEP should be at a legible scale (suggested 1:500) and include the following elements: • Lot numbers, north point, scale, drawing title and site labels such as street names • Maximum permissible building envelope (setbacks, storeys, articulation zones) • Preferred principal private open space • Garage size (single or double) and location • Zero lot line boundaries A BEP should be fit for purpose and include only those elements that are necessary for that particular lot. Other elements that may be relevant to show include: • Special fencing requirements • Easements and sewer lines • Retaining walls • Preferred entry/frontage (e.g. corner lots) • Access denied frontages • Electricity kiosks or substations • Indicative yield on residue or super lots For further information, refer to the **Department of Planning and Environment Delivery Note: Building Envelope Plans**.	DAs for subdivision of lots less than $300m^2$ and equal to or greater than $25m^2$ in area, and with a width equal to or greater than 9m.
Bushfire Assessment	A Bushfire Assessment must be prepared in accordance with *Planning for Bush Fire Protection 2006.*	DAs where the site is located on Bushfire Prone Land.
Construction Environmental Management Plan	Detail the methods of protecting the environmental during construction, including monitoring and reporting, and procedures to follow in the event of an incident that is likely to cause harm to the environment. The Construction Environmental Management Plan is to be prepared in accordance with the guidelines of *Managing Urban Stormwater: Soils and Construction*, Landcom.	Subdivision DAs
Contamination Assessment	Assessment of site contamination, proposed remediation strategy and a statement from a recognised expert that the site can be remediated and made suitable for the proposed uses. A Contamination Assessment must be prepared in accordance with *State Environmental Planning Policy No 55 –*	All subdivision DAs, and Building DAs where the site has known contamination or has not been investigated for contamination.

Lodgement Requirement	Description	Required for
	Remediation of Land and the *Contaminated Land Management Act, 1995*.	
Crime Risk Assessment Report (Safer by Design Evaluation)	A Crime Risk Assessment Report must be prepared for each development to demonstrate how it addresses the objectives and controls outlined in *Crime Prevention through Environmental Design*. The report should also demonstrate consistency with the *Safer by Design Guidelines* (2002).	All building DAs
Concept Drainage Plan	The Concept Drainage Plan shall include the following information: • Existing and proposed contours and level (Australian Height Datum); • Catchment plan including boundaries of the site and adjacent properties and any areas not able to drain to the on-site detention (OSD) system; • Storage/flow calculations; • Location and invert and surface level of all proposed pits, pipes and storage chambers; • High Early Discharge Control pit and orifice detail including levels and location; • Proposed lawful point of discharge; and • Location and extent of any floodway, overland flow path or drainage easements through the site.	Subdivision DAs
Flora and Fauna Assessment	A Flora and Fauna Assessment must be prepared by a suitably qualified person in accordance with the Assessment Guidelines	All DAs for land that contains a Riparian Protection Area, a threatened species, or a threatened ecological community
Heritage Impact Statement	A Heritage Impact Statement should be prepared in accordance with the *Statement of Heritage Impact* guidelines prepared by the Heritage Office and Department of Urban Affairs & Planning 1996, revised 2002.	A Heritage Impact Statement is to be submitted with any DA on, adjacent to or in the vicinity of, land identified on **Figure 2-5.**
Landscape Plan	Information on the Landscape Plan should include: a) north point; b) scale; c) contours and spot levels; d) all parks and streets e) main structures on the site (buildings, car parking, driveways and services areas, walls, fences, paved areas, storage areas etc); f) drainage structures and above ground water storage tanks; g) existing trees to be removed or retained; h) proposed planting areas; i) proposed turfed areas;	All DAs.

Lodgement Requirement	Description	Required for
	j) plant species schedule including botanical and common names; k) details of seating and other outdoor furniture including bins, bollards and signs; l) details of paving, fencing, wall and edge treatments; m) lighting; n) irrigation systems and water requirements; o) sections and/ or elevations where necessary to describe special features or alterations in levels; and p) name and contact details of the landscape architect. All streetscape designs within a Landscape Plan must be in accordance with RMS guidelines.	
Lot Mix Table	A table showing the lot types, number and percentage of each lot type of the overall total is to be submitted with subdivision DAs.	Subdivision DAs
Materials Sample Board of external colours and finishes	A materials sample board must be submitted detailing external colours and finishes.	For Building DAs within the B2 Local Centre, and R3 Medium Density Residential Zones.
Noise and Vibration Impact Assessment	A Noise and Vibration Impact Assessment must be prepared by a suitably qualified consultant. It must provide an assessment of the impacts from noise and vibration on the proposed development and identify necessary mitigation measures to minimise any impacts.	For Building DAs: adjacent to an arterial/sub-arterial road; adjacent to a rail corridor (refer to *State Environmental Planning Policy (Infrastructure) 2007)*
Noise Assessment	A noise assessment, prepared by a suitably qualified acoustic engineer, is to demonstrate that the cumulative impact of noise from all proposed activities on the site on nearby residential properties satisfies the *NSW Industrial Noise Policy* (NSW EPA). Noise generating activities include, but are not a limited to plant/machinery associated with a building, entertainment, music etc.	Building DAs where Council deems it necessary.
Photomontages	Colour photomontages of the proposed development in its context of surrounding development must be submitted.	DAs for Residential Flat Buildings under *State Environmental Planning Policy No 65* or where Council deems it necessary.
Public Domain Plan	Applications for subdivision using approval pathways A2, B1 and B2 require a Public Domain Plan to be submitted as part of the application.	Subdivision DAs using approval pathways A2, B1 and B2.

Lodgement Requirement	Description	Required for
Salinity Report and Salinity Management Plan	A Salinity Report must be prepared outlining what actions are proposed to minimise the impact of: • development on the saline environment. Such measures could include minimising/decreasing recharge to saline groundwater tables and waterlogged/evaporation areas by appropriate drainage, strategic tree planting and soil management strategies • the saline environment on development. Such measures could include drainage around buildings, fill rather than cut where practical, the use of building techniques and materials to resist saline attack, and moisture exclusion to prevent salt damage. The Salinity Report must be prepared by a suitably qualified person. Investigations and sampling for salinity are to be conducted in accordance with the requirements of Site Investigation for Urban Salinity (DNR). Where applicable, the salinity report shall also report on the issues of soil aggressivity and sodicity and any mitigation measure required. All works are to comply with the Western Sydney Salinity Code of Practice 2004 (WSROC). A Salinity Management Plan must be submitted based on the findings of the site specific investigation and prepared in accordance with the *Western Sydney Salinity Code of Practice 2004* (WSROC) and Appendix C of this DCP.	Subdivision DAs that involve physical works, including road works, pipes and drainage works or other earthworks, including the clearing of trees and vegetation, on land identified in **Figure 2-3** – Areas of potential salinity. Building DAs where the subdivision salinity report requires further assessment at the building stage.
Scale model	A scaled model at either 1:100 or 1:200 of the proposed development should also include reference to adjoining properties.	Building DAs where Council deems it necessary.
Shadow Diagrams	Shadow diagrams shall include: • Shadows cast by the proposed development during mid-winter 21 June; • Shadows cast at 9:00am,12 noon and 3:00pm; • The impact of the proposal on adjoining residential properties and their open space areas, and open space areas of each dwelling within the proposed development; and • Consideration of shadows from existing trees and fences. • Such diagrams should be prepared by an appropriate professional, be based on a survey of the site and buildings on adjoining sites and include details of finished ground levels.	Any DA involving a building that exceeds 1 storey in height.
Schedule of External Colours and Finishes	The Schedule must provide external materials, finishes and colours of all buildings and structures.	All Building DAs
Signage Details	Details of signage to be provided shall include:	Building DAs involving signage.

Lodgement Requirement	Description	Required for
	• Location (shown on elevation plans); • size (area); • dimensions; • colours; and • wording and logos	
Soil and Water Management Plan	Soil and Water Management Plans must be prepared in accordance with *Managing Urban Stormwater: Soils and Construction*, Landcom and are to show the following: a) Contour levels at 0.5 metre intervals or less; b) Property boundaries; c) Construction site and disturbed area boundaries outside of which no works, vehicle movements or stockpiling of materials are to occur; d) Details of access points to construction site; e) Location, details and dimensions of all permanent and temporary erosion and sediment control structures; f) Location of existing vegetation to be retained and vegetation protection fences; g) Location of vegetation to be removed and method of removal and disposal; h) All existing watercourses and/or drainage structures; i) Details of the site's catchment area; j) Temporary and permanent stormwater management; k) Material stockpile areas; l) Staging of works; and revegetation techniques.	All DAs
Traffic and Car Parking Assessment Report	Must address the traffic impacts of a proposed development on the local network within the precinct and assess the adequacy of onsite parking.	Building DAs where: the development is identified as traffic generating development under *State Environmental Planning Policy (Infrastructure) 2007*; or the car parking requirements of this DCP have not been met.
Tree Survey/Arborist Report	The Tree Survey Plan/Arborist Report must identify existing trees, trees to be removed and trees to be retained, the likely impact of development on retained trees and any measures proposed for the protection of these trees during construction.	Subdivision and Building DAs where trees are proposed for removal or where trees to be retained are likely to be impacted.
Vegetation Management Plan	The vegetation management plan must be prepared by a suitably qualified and experienced person. The vegetation management plan is to be prepared in respect to the rehabilitation and ongoing conservation of the riparian protection areas and any other area where existing native vegetation is to be retained. The vegetation management plan is to address the requirements of *Planning for Bush Fire Protection 2006*' where asset protection	All DAs where a riparian protection area is located on the land or where significant native vegetation is to be retained.

Lodgement Requirement	Description	Required for
	areas encroach into the vegetated buffer of the riparian protection areas. The Vegetation Management Plan shall include: a) A landscape plan shall be prepared as part of the vegetation management plan. Landscaping shall comprise native species of local provenance. The landscape plan shall be prepared by a suitably qualified and experienced person. b) the type of work (e.g. weed control, site preparation, planting (in accordance with the approved landscape plan), fencing, watering regime, maintenance, ongoing weed control); c) the objectives of the works (e.g. control of weeds prior to planting, soil improvement prior to planting, protection of plants, replacement plantings etc); d) the staging of the works (initial weed removal, revegetation/planting, ongoing maintenance); e) the timeframe for completion (e.g. weed control established within (stipulate timeframe) of planting, planting completed within (stipulate timeframe), watering regime until establishment (stipulate timeframe), regular inspections of planting – when and for how long after planting, etc); f) identify what weeds are to be targeted; g) identify/map the location of weeds to be removed/controlled; h) prioritise/stage the work needed to be done; i) identify whether supervision of the work by a suitably qualified person is required; or j) provide guidance as to where advice can be sought; k) consider the use of grants available for the works to be carried out (if any); l) provide a maintenance program, including inspection regimes; m) provide a mechanism by which the Plan can be reviewed and updated on a continuous basis; n) include weed management at the interface of the riparian protection areas and adjoining land; o) schedule for monitoring of weeds. p) detailed methodology for weed removal.	
Waste Management Plan	A Waste Management Plan must include details of: • The volume and type of waste generated during construction and demolition	All DAs

Lodgement Requirement	Description	Required for
	• How waste is to be stored on site • Method of disposal of recyclable and residual waste • Ongoing management • Bin type, number, size • Location and design of waste storage areas/rooms (residential and commercial) • Method and frequency of collection • Details of Garbage chutes, where applicable • Location of collection points for bin servicing • Responsibility for movement of bins from storage areas to collection points and retrieved after collection. • Responsibility for ensuring the system is maintained in a clean condition free of odour and vermin • Details on how contamination of the recycling will be minimised • Details of collection truck vehicle manoeuvring The Waste Management Plan must demonstrate and achieve a diversion in the amount of waste generated by the development that is the subject of each application, going to landfill.	
Water Management Plan	A Water Management Plan must investigate and, where feasible, provide for the integrated management and use of water. The Water Management Plan should demonstrate that other water sources have been considered including: • an integrated water collection and recycling system for capturing and recycling of roof water; • the reuse of grey water on site; • the capture and re-use of stormwater from the site; • Where possible, treating and re-using any water generated by the development; and • controlling the quality of waste water and stormwater from the site.	Building DAs within the B2 Local Centre and R3 Medium Density Residential Zones.
Weed Eradication and Management Plan	The Weed Eradication and Management Plan is to provide details as to how weeds are to be removed, suppressed and prevented from spreading. It is to identify the weed species to be targeted, with an emphasis on declared noxious weeds and environmental weeds.	Subdivision DA