# Southlakes Estate
# Development Control Plan 2

Adopted by Council on 9 July 2018

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# Part 1 Introduction

## 1.1 Name and application of this Plan

This Development Control Plan is known as the Southlakes Estate Development Control Plan (the Plan) Number 2.

## 1.2 Purpose of this Plan

The purpose of this Plan is to:

- Provide guidance to developers/applicants/builders in the design of development proposals for land to which this Plan applies.
- Communicate the planning, design and environmental objectives and controls against which the Consent Authority will assess development applications in the Southlakes Estate.
- Provide guidance on the orderly, efficient and environmentally sensitive development of the Southlakes Estate.
- Promote quality urban design outcomes within the context of environmental, social and economic sustainability.

## 1.3 Savings and transitional arrangements

If a development application is made before the commencement of this Plan in relation to land to which this Plan applies and the application has not been finally determined before that commencement, the application may be determined as if this Plan had not commenced.

## 1.4 Statutory context

This Plan has been prepared by Council in accordance with Section 3.43 of the Environmental Planning and Assessment Act, 1979 (the Act) and Part 3 of the Environmental Planning and Assessment Regulation, 2000 (the Regulation).

The Plan was adopted by Council and commenced on 27 July 2016.

The Plan should be read in conjunction with the Dubbo Local Environmental Plan 2011 (LEP) and the Dubbo Development Control Plan 2013 (DCP).

## 1.5 Application of Plan

This Plan applies to land zoned R1 General Residential, R2 Low Density Residential, RE1 Public Recreation and B1 Neighbourhood Centre within the area identified in Figure 1 below within Lot 1002 DP 1236775, Lot 503 DP 1152321 and Lot 77 DP 1237332, only, of the South-East Dubbo Residential Urban Release Area.

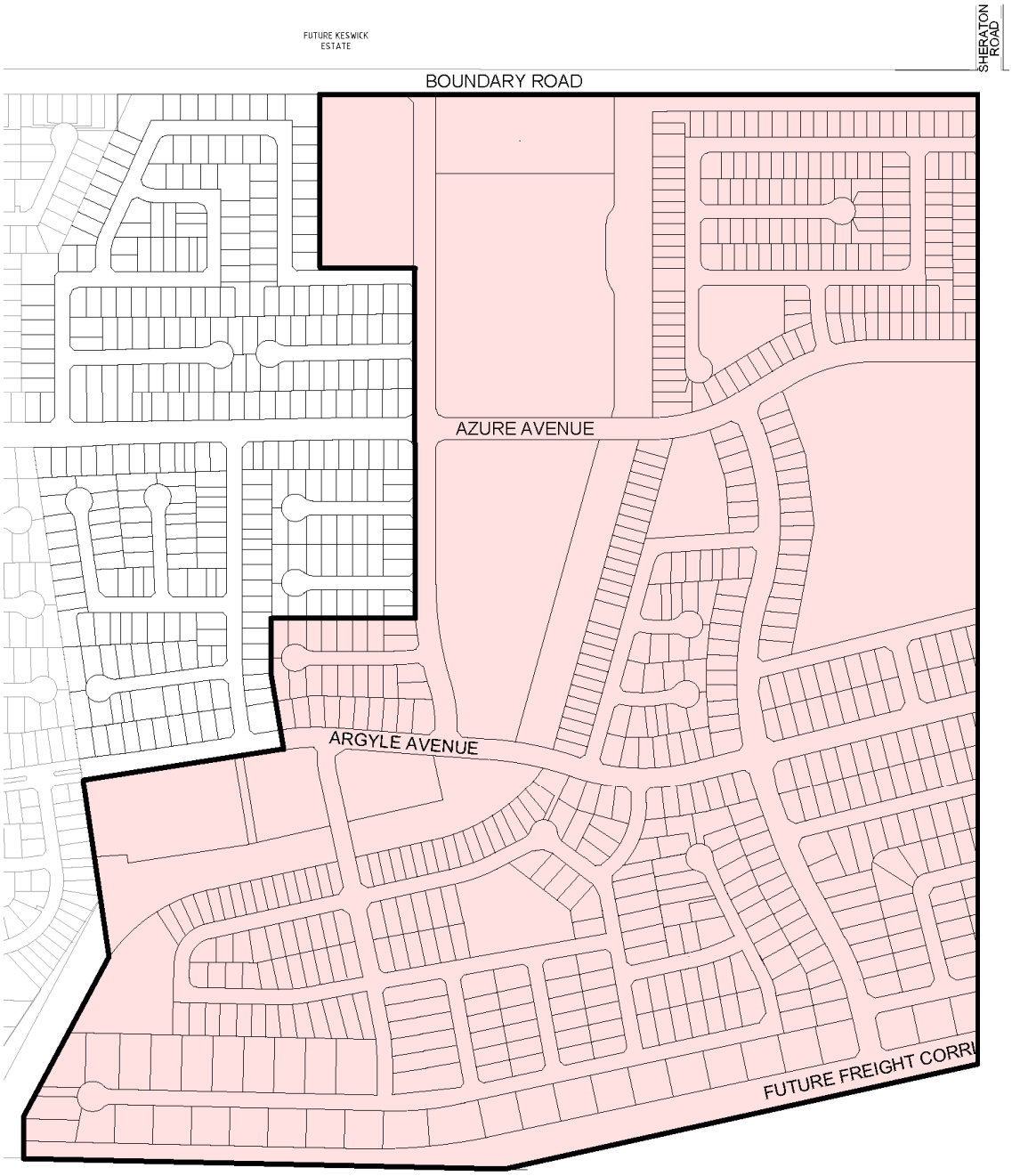


Figure 1. Area to which this Plan applies

## 1.6 Background

This Plan has been written to guide development of the subject land. The development controls provided here rely on the proponent demonstrating how development of the land meets the objectives of each relevant element and the associated performance criteria.

## 1.7 Relationship to other plans and documents

Under the Act, Council is required to take into consideration the relevant provisions of this Plan in determining an application for development on land to which this Plan applies.

In the event of any inconsistency between an Environmental Planning Instrument (EPI) and this Plan, the provisions of the EPI will prevail.

Council in the assessment of a development application will consider all matters specified in Section 4.15 (previously s79C) of the Act. Compliance with any EPI or this Plan does not infer development consent will be granted.

## 1.8 How to use this Plan

When preparing a development application, all relevant sections of the Plan are required to be considered.

The majority of the sections in the Plan incorporate design elements that are required to be considered and addressed by a proponent in the design process.

Each section of the Plan has a consistent format to allow for ease of use and understanding. The objectives of each section are stated at the top of the page and development is required to focus on satisfying these objectives.

Below the objectives is a table with two columns. The column on the left outlines the aim of the design element, while the column on the right offers default design guidelines that an applicant can choose to use in their development in lieu of designing to satisfy the intent of the column on the left.

In summary, the column on the left provides more flexibility in design, while the column on the right provides standard solutions that are acceptable to Council.

If a proponent chooses not to use the 'Acceptable Solutions' in the right hand column, written detail must be provided with any development application specifying how the design satisfies the 'Performance Criteria' in the left hand column.

An example of how an element of the Plan is structured is provided as follows:

| **Performance criteria**<br>The streetscape character objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Built form**<br>P1 The frontage of buildings and their entries are readily apparent from the street. | A1.1 Buildings adjacent to the public street, address the street by having a front door or living room window facing the street.<br><br>A1.2 Where dual occupancies are situated on corner blocks (where one is not a lane), the development is designed to face each street frontage. |
| P2 Building height at the street frontage maintains a compatible scale with adjacent development. | A2.1 Differences in building height between existing buildings and new development is not more than one storey when viewed from the public street and adjoining properties.<br><br>A2.2 Where a building is adjoined on either side by a single storey building, the second storey is setback a minimum of 3 m from the front of the building to achieve a stepped height.<br><br>A2.3 The design includes attic rooms which provide additional floor space with minimal streetscape impact. |

## 1.9 Strategic context

**Dubbo Urban Areas Development Strategy 1996**

The Dubbo Urban Areas Development Strategy 1996 has facilitated the creation of a range of lifestyle options for the urban area of the city. Through the restriction of urban development to a defined area, Council is seeking to protect the long-term future of agricultural land located beyond the urban area.

These lifestyle options have been developed through the Dubbo Urban Areas Development Strategy (UADS) adopted by Council in 1996 and the Review of the UADS adopted by Council in 2007. The Dubbo Local Environmental Plan 2011 (LEP) facilitates achievement of the Strategy components in zoning land for the sustainable development of the City.

The following figure details the context of the planning documents applicable to residential land.

**Dubbo Urban Areas Development Strategy 1996-2015**

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**Review of the Dubbo Urban Areas Development Strategy 2007**

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**Dubbo Local Environmental Plan 2011**

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**Dubbo Development Control Plan 2013**

The UADS consists of the following components:

- Residential Areas Development Strategy;
- Commercial Areas Development Strategy;
- Industrial Areas Development Strategy;
- Institutional Areas Development Strategy;
- Recreational Areas Development Strategy; and
- Future Directions and Structure Plan.

The UADS was created to manage the development and conservation of land within the urban area of the City by ensuring the Dubbo Central Business District (CBD) is at the centre of the City.

Centralisation of the CBD will be facilitated by further residential development being undertaken in west Dubbo. The Strategy includes extensive areas in north-west and south-west Dubbo as being suitable for further residential development to incorporate the following:

North-west sector – 2,600 lots (approximately)
South-west sector – 3,281 lots (approximately)

The UADS also allows for infill subdivision opportunities in the south-east sector with the LEP allowing for the potential development of 1,059 lots within this sector. The Southlakes Estate is in the South-East Dubbo Residential Urban Release Area.

**South-East Dubbo Residential Urban Release Area Stage 1 Structure Plan**

Council has prepared a Stage 1 Structure Plan for the South-East Dubbo Residential Urban Release Area. The role of the Stage 1 Structure Plan is to set the overall direction for development in the South-East Dubbo Residential Urban Release Area and in particular the Southlakes Estate. The Stage 1 Structure Plan also informs land use decisions in the LEP and will allow developers in the area to pursue partial development having regard to overall infrastructure and servicing constraints.

The land subject to this Plan is included in the Stage 1 Structure Plan.

## 1.10 Notification of development

Council will generally not publicly notify any development application for a dwelling house within the area to which the Plan applies. However, if in the opinion of the Council a proposed development could impact the amenity of surrounding development, Council may publicly notify and/or advertise the development application in local print media.

Any development application received by Council for non-residential development will be publicly notified to adjoining and adjacent property owners in the immediate locality who in the opinion of Council may be impacted by the proposed development.

# Part 2 Residential Development and Subdivision

## 2.1 Residential Subdivision Controls

This section is designed to encourage current 'best practice' solutions for subdivision design. The achievement of pleasant, safe and functional subdivision is the main objective for subdivision design.

This section lists subdivision design elements under the following headings:

| | |
|---|---|
| Element 1 | Streetscape character and building design |
| Element 2 | Lot layout |
| Element 3 | Public open space and landscaping |
| Element 4 | Infrastructure |
| Element 5 | Street design and road hierarchy |
| Element 6 | Pedestrian and cycle links |
| Element 7 | Stormwater management |
| Element 8 | Water quality management |

Each design element has been structured so that it contains:

- 'Objectives' for each design element that describe the required outcomes;
- 'Performance criteria' which outlines the range of matters which shall be addressed to satisfy the objectives (ie the performance criteria explains how an objective is to be achieved);

Note: Not all performance criteria will be applicable to every development.

- 'Acceptable Solutions' which are specific measures which illustrate one way of meeting both the performance criteria and objectives of an element. They are examples only and are not mandatory; and
- 'References' to relevant clauses of the DLEP, other relevant legislation, Council policies and literature relevant to the design element.

**Element 1. Streetscape Character and Building Design**

**Introduction**

Successful neighbourhoods have a sense of community, are designed to promote social interaction, are pleasant to live in and have a high level of safety for residents and visitors. Good neighbourhood design considers how residents will interact within the neighbourhood and considers the street and pedestrian networks in addition to housing.

**Objectives**

- To provide neighbourhoods that offer opportunities for social interaction;
- To encourage aesthetically- pleasing neighbourhood designs that cater for a broad diversity of housing needs;
- To ensure motor vehicles do not dominate the neighbourhood; and
- To encourage walking and cycling.

| **Performance criteria**<br>The streetscape character and building design objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P1 Natural and cultural features in the area are emphasised and enhanced in the design of neighbourhoods. | A1.1 Watercourses, natural vegetation and heritage items are retained and emphasised in the design. |
| P2 The layout provides for community focal points and public open space that promotes social interaction and caters for a range of uses by the community. | A2.1 Pedestrian connectivity is maximised within and between each residential neighbourhood with a particular focus on pedestrian routes connecting to public open space, bus stops, educational establishments and community/recreation facilities. |
| P3 The layouts of street blocks establish a clear urban structure and are of a size and length that promotes and encourages walking and cycling. | A3.1 Street blocks are to be generally a maximum of 250 m long and 90 m deep. |
| P4 Neighbourhood design provides for passive surveillance of residences and public areas to enhance personal safety and minimise the potential for crime. | A4.1 The subdivision layout minimises narrow pedestrian pathways between or behind development (for example, at cul-de-sac heads) and sound barriers and fencing which remove or reduce passive surveillance of higher order roads. |

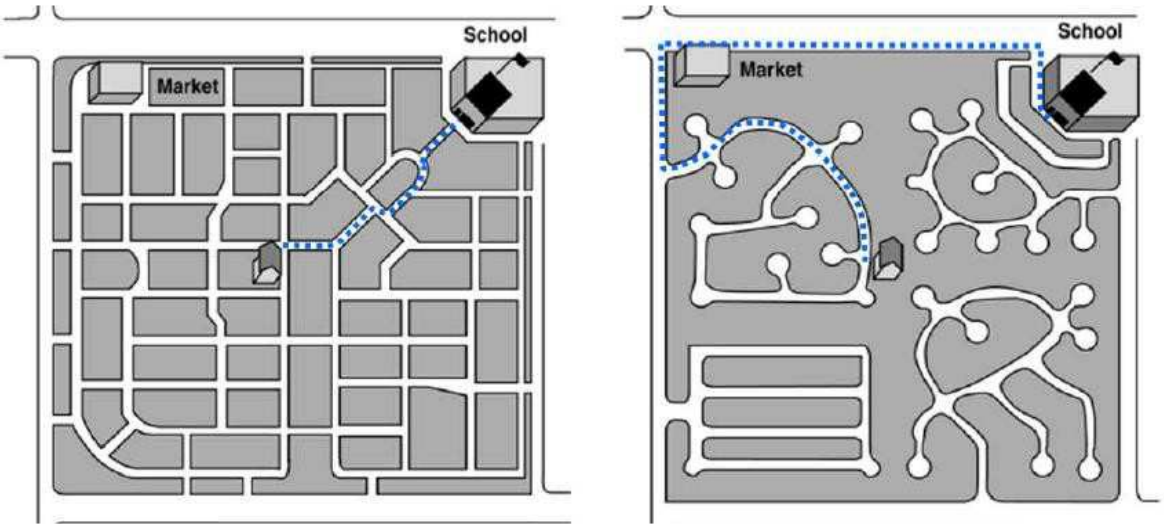
| **Performance criteria**<br>The streetscape character and building design objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| | A4.2 Neighbourhood design enhances legibility and way-finding through an easily-understood street layout and provides vistas towards natural features and buildings.<br><br>A4.3 Neighbourhoods are designed with high levels of physical connectivity for pedestrians, cyclists and vehicles, both within and to adjacent neighbourhoods. |
| P5 Street networks provide good external connections for local vehicle, pedestrian and cycle movements. | A5.1 The overall subdivision development shall achieve a minimum Internal Connectivity Index (ICI) score of 1.30.<br><br>A5.2 In the case of staged subdivision development, an individual stage/s of a subdivision may have an Internal Connectivity Index score below 1.30. However, the Internal Connectivity Index score of the overall Southlakes Residential Housing Estate must be maintained at a minimum of 1.30.<br><br>Note: The importance of a well-connected subdivision which can be achieved through a good ICI is further explained in the following section. |

**Internal Connectivity Index**

The Internal Connectivity Index (ICI) is calculated by the number of street links divided by the number of street nodes (Ewing, 1996). A link is defined as a segment of road between two intersections or from an intersection to a cul-de-sac, including road segments leading from the adjoining highway network or adjacent development.

A node is defined as an intersection and the end of a cul-de sac. They do not include the end of a stub-out at the property line. The higher the connectivity index, the more connected the roadway network. Residential subdivisions that are dominated by cul-de-sacs provide discontinuous street networks, reduce the number of footpaths, provide few alternate travel routes and tend to force all trips onto a limited number of arterial roads.

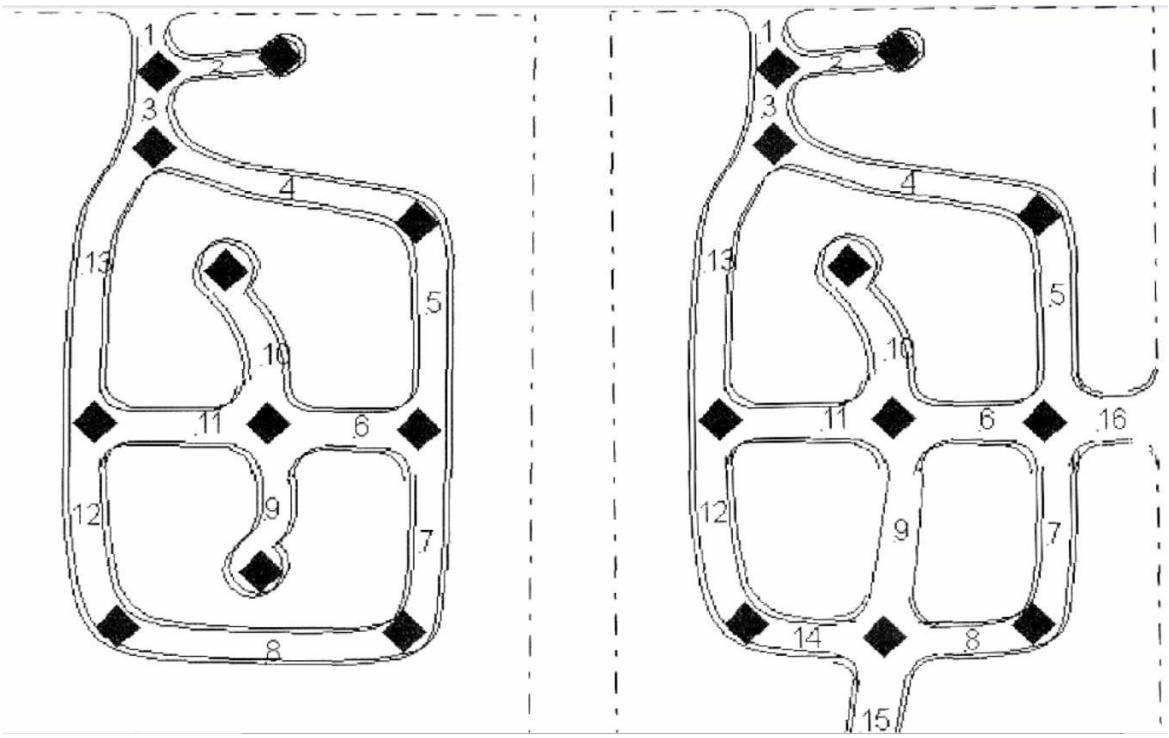
Figure 2 shows two examples of a subdivision. The example on the left shows a well-connected subdivision layout that minimises the distance to travel from a dwelling house to a focal point. The example on the right shows the same trip through a poorly connected subdivision.




A well-connected subdivision layout

A poorly-connected subdivision layout

Figure 2. Subdivision connectivity examples




Example 1. 13 links/11 nodes = 1.18 ratio Example 2. 16 links/11 nodes = 1.45 ratio

Figure 3. Calculation of the Internal Connectivity Index (ICI)

**Element 2. Lot Layout**

**Introduction**

Provision of an efficient and effective lot layout can allow for the creation of neighbourhoods that encourage connectivity and achieve quality urban design outcomes.

The arrangement of future dwellings will have an important influence on the quality of the neighbourhood that develops and should be considered as part of the lot design.

**Objectives**

- To provide a range of lot sizes to suit a variety of household types and requirements whilst considering the surrounding established area.
- To create attractive residential streets by removing garages and driveways from street frontages, improving the presentation of houses and maximising on street parking spaces and street trees.

| **Performance criteria**<br>The lot layout objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Lot frontage**<br>P1 Lots are designed to optimise outlook and proximity to public and community facilities, parks and public transport with increased residential activity. | There is no applicable Acceptable Solution to this Performance Criteria. |
| P2 Lots are of a suitable configuration to reduce garage dominance in residential streets. | There is no applicable Acceptable Solution to this Performance Criteria. |
| P3 The design of lots provides 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. | There is no applicable Acceptable Solution to this Performance Criteria. |
| **Lot types**<br>P4 A range of residential lot types (area, frontage, depth and access) is provided to ensure a mix of housing types and dwelling sizes and to create coherent streetscapes with distinctive garden suburb, suburban and urban characters across a neighbourhood. | A4.1 Within each street block, the subdivision design shall provide varied lot frontages to provide a differentiation in design and housing product. |

| **Performance criteria**<br>The lot layout objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P5 There is a variety of dwelling size, type and design to promote housing choice and create attractive streetscapes with distinctive characters is encouraged. | A5.1 Lots should generally be rectangular in shape.<br><br>Where lots are an irregular shape, they are to be of a sufficient size and orientation to enable siting of residential accommodation to meet the controls in this Plan.<br><br>A5.2 Where residential development adjoins land zoned RE1 Public Recreation and/or is utilised for open space purposes, the subdivision is to create lots to enable a living area within the dwelling to overlook open space or drainage land.<br><br>A5.3 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. |
| **Battle-axe lots**<br>P6 Battle-axe lots shall only be provided in limited circumstances where the topography and development orientation results in regular subdivision not being able to be achieved. | A6 Battle-axe lots are provided in accordance with the principles for the location of battle-axe lots as shown in Figure 3. |
| P7 The visual impact to the streetscape of battle-axe entry ways and driveways should be ameliorated, where possible. | A7 The driveway or shared driveway will include adjacent planting and trees, as indicated in Figure 4. |

| **Performance criteria**<br>The lot layout objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Corner lots**<br>P8 To ensure corner lots are of sufficient dimensions and size to enable residential controls to be met. | A8.1 Corner lots are to be designed to allow residential accommodation to positively address both street frontages as indicated in Figure 5.<br><br>P8.2 Garages on corner lots are encouraged to be accessed from the secondary street or from a rear lane. |

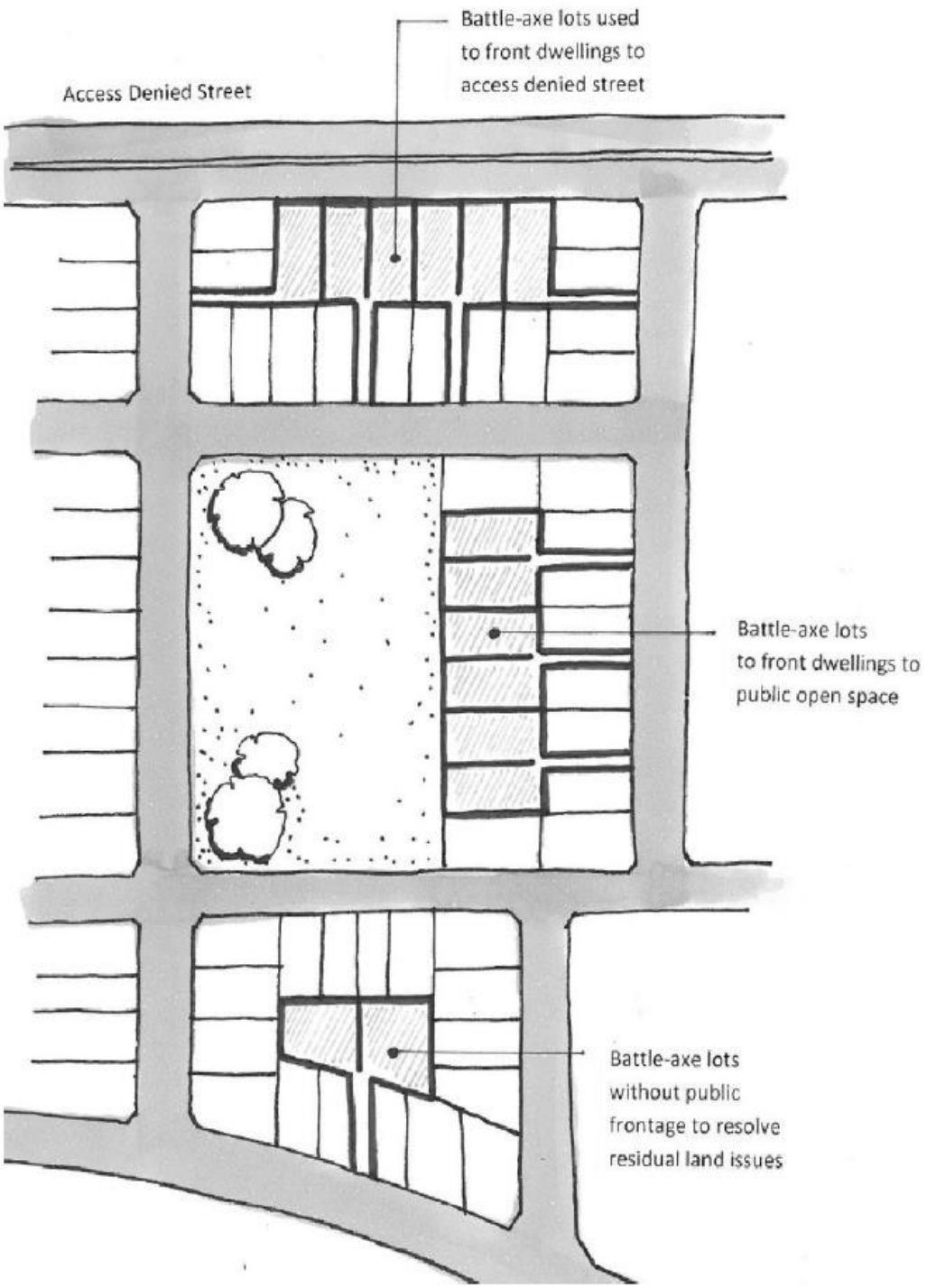



Figure 4. Examples of battle-axe lots

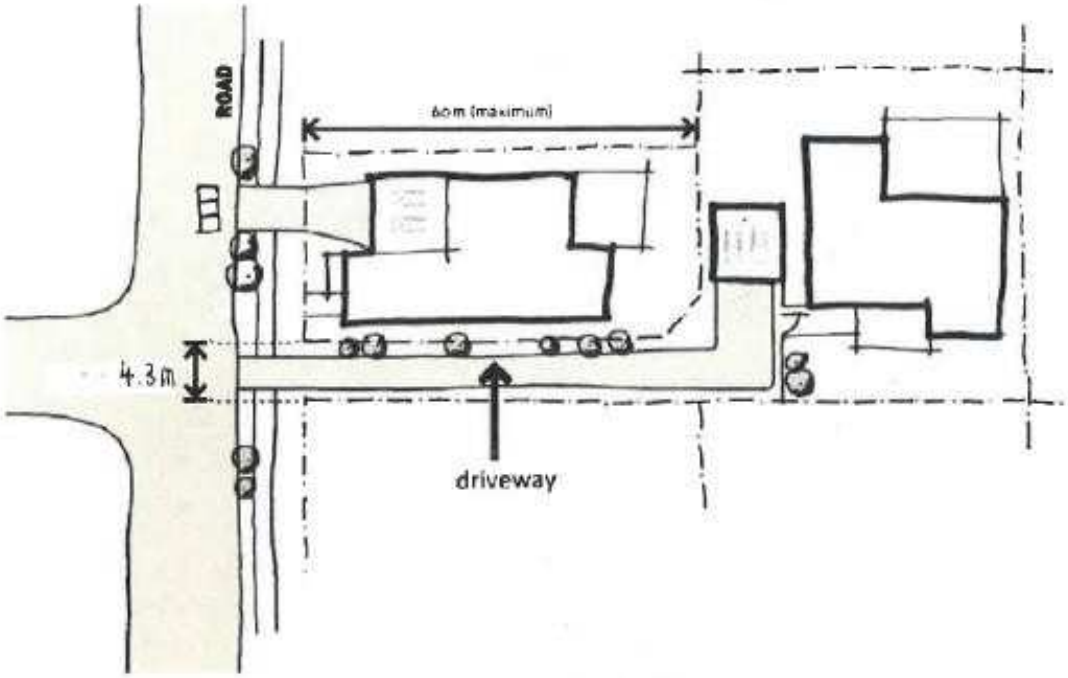



Figure 5. Example of driveway location and alignments for battle-axe lots

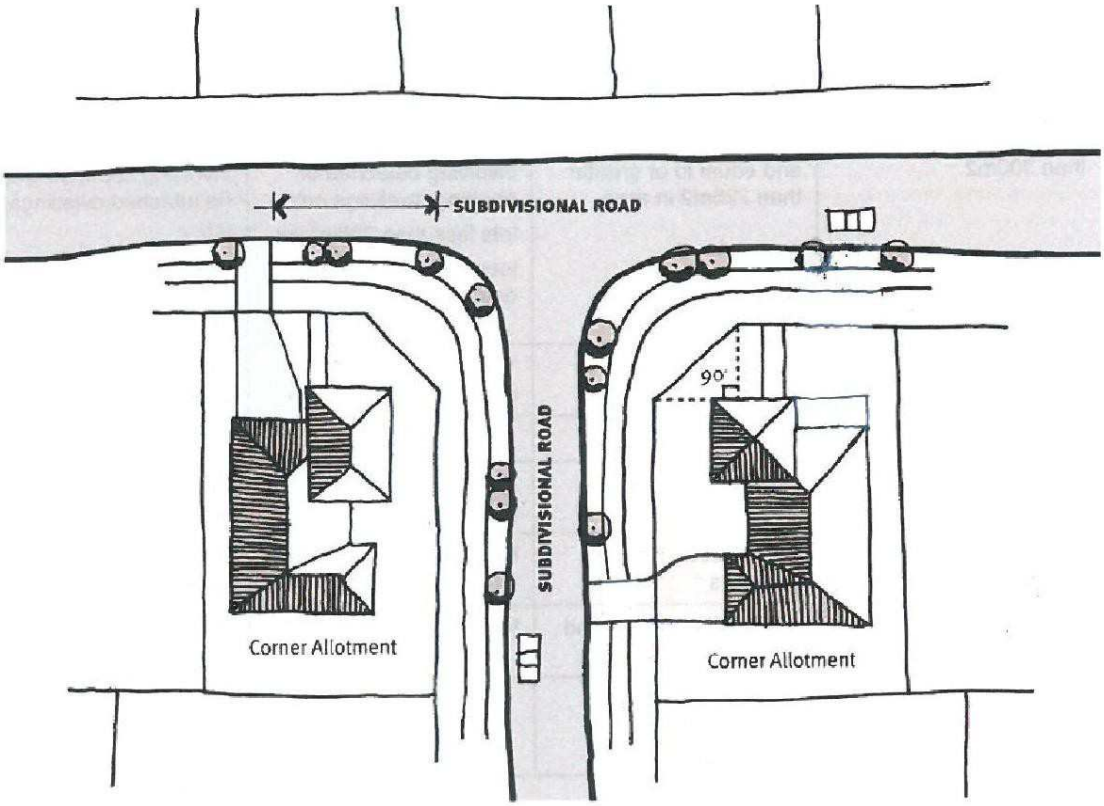



Figure 6. Corner lots

**Element 3. Landscaping**

**Objectives**

- To provide landscaping that contributes to the identity and environmental health of the community; and
- To ensure streetscape components do not detrimentally affect solar access to individual dwellings.

| **Performance criteria**<br>The public open space and landscaping objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Landscaping – General**<br>P1 Landscaping is designed and located to not negatively impact on built infrastructure. | A1.1 Landscaping is provided in accordance with the requirements of a Landscaping Schedule that has been approved by Council's Community and Recreation Services Division. |
| P2 Landscaping is undertaken in an environmentally sustainable manner which limits the time and costs associated with maintenance. | A2.1 Existing native trees are retained wherever possible.<br><br>A2.2 Species selected are suitable for the local climate.<br><br>A2.3 Species selected require a minimal amount of watering.<br><br>A2.4 Landscaping does not impact ground-water levels by encouraging over-watering resulting in groundwater level increases or the pollution of waters. |
| **Street trees**<br>P3 Street trees are selected to provide summer shading while not impeding solar access to dwellings in winter. | A3.1 Street trees are provided in accordance with the requirements of Council's Community and Recreation Services Division generally and any applicable tree planting standards.<br><br>A3.2 Deciduous trees are selected where shadows would adversely impact solar access. |

| **Performance criteria**<br>The public open space and landscaping objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| | A3.3 Taller tree species are planted on the northern side of east-west aligned streets, shorter species are planted on the southern side.<br><br>A3.4 Endemic species or species with a proven tolerance to the local climate and conditions that preserve solar access of adjoining properties are provided.<br><br>A3.5 Plantings with low maintenance and low water consumption are provided.<br><br>A3.6 Evergreen species for windbreaks and planting along the south or west side of the area are protected against wind. |

**Element 4. Infrastructure**

**Objectives**

- To ensure residential areas are serviced with essential services in a cost-effective and timely manner, and;
- To ensure residential areas are adequately serviced with water and sewerage infrastructure.
- To ensure acoustic infrastructure adequately mitigates adverse noise impacts on residential development.

| **Performance criteria**<br>The infrastructure objectives maybe achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Utilities**<br>P1 Design and provision of utility services including sewerage, water, electricity, gas, street lighting and communication services are cost-effective over their lifecycle and incorporate provisions to minimise adverse environmental impact in the short and long term. | A1.1 The design and provision of utility services conforms to the requirements of relevant service authorities.<br><br>A1.2 Water and sewerage services are to be provided to each allotment at the full cost of the developer.<br><br>A1.3 Water and sewerage services are to be designed and constructed in accordance with the requirements of NAT-SPEC (Council version) Development Specification Series – Design and Development Specification Services – Construction.<br><br>A1.4 Electricity supply is provided via underground trenching in accordance with the requirements of the energy supply authority. |
| **Common trenching**<br>P2 Compatible public utility services are located in common trenching in order to minimise the land required and the costs for underground services. | A2.1 Services are located next to each other in accordance with Council's Policy for trenching allocation in footways (Standard Drawing 5268). |

| **Performance criteria**<br>The infrastructure objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Availability of services**<br>P3 Water supply and sewerage networks are available, accessible, and easy to maintain and are cost-effective based on life cycle costs. | A3.1 Council will not consent to the subdivision of land until adequate water supply and facilities for sewage and drainage are available or until arrangements satisfactory to Council have been made for the provision of such supply and facilities.<br><br>A3.2 Development is to be carried out within the water supply and sewer catchments as described by Council's Dubbo Branch, Policy for Water and Sewerage.<br><br>Note: Where water and/or sewer are available, any new allotments will be connected to the system. Where not available, refer to A3.1. |
| **Acoustic infrastructure**<br>P4 The amenity of residential accommodation is adequately protected from any acoustic impacts from the Southern Distributor Road. | P4.1 Any development application for residential subdivision of land shall provide information addressing acoustic impacts of the Southern Distributor. Council may require a development proponent to provide an acoustic assessment with any development application for residential subdivision.<br><br>P4.2 Residential subdivision shall be designed to take into account the acoustic requirements and treatments to alleviate the impacts of the Southern Distributor. |

**Element 5. Street Design and Road Hierarchy**

**Objectives**

- To ensure streets fulfil their designated function within the street network;
- To facilitate public service utilities;
- Encourage street designs that accommodate drainage systems, and;
- Create safe and attractive street environments.

| **Performance criteria**<br>The street design and road hierarchy objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Function and width**<br>P1 The street reserve width is sufficient to cater for all street functions, including:<br>- Safe and efficient movement of all users, including pedestrians and cyclists;<br>- Provision for parked vehicles;<br>- Provision for landscaping; and<br>- Location, construction and maintenance of public utilities. | A1.1 The road hierarchy complies with the relevant Residential Release Strategy.<br><br>A1.2 The road hierarchy is designed and constructed in accordance with Aus-Spec (Dubbo Regional Council version).<br><br>A1.3 Road reserve widths are in conformity with the Dubbo Road Transportation Strategy to 2045 (or its subsequent replacement).<br><br>A1.4 The road layout provides appropriate connectivity as approved by Council, between adjoining residential estates for both vehicular and pedestrian movement. |
| P2 The verge width is sufficient to provide for special site conditions and future requirements. | A2.1 The verge width is increased where necessary to allow space for:<br>- Larger scale landscaping;<br>- Indented parking;<br>- Future carriageway widening;<br>- Retaining walls;<br>- Cycle paths; and<br>- Overland flow paths. |
| **Design for safety**<br>P3 Street design caters for all pedestrian users including the elderly, disabled and children by designing streets to limit the speed motorists can travel. | P3.1 The length of straight streets are limited to between 200 m to 250 m for a speed of 50 km/hr. |

| **Performance criteria**<br>The street design and road hierarchy objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| | P3.2 Incorporating speed control devices (mostly for redesigning existing streets) such as:<br>- Horizontal deflection devices:<br>- Roundabouts;<br>- Slow points;<br>- Median islands;<br>- Street narrowing;<br>- Vertical deflection devices;<br>- Speed humps and dips; and<br>- Raised platforms at pedestrian crossings or thresholds. |
| **Driveway access**<br>P4 Driveway egress movements do not create a safety hazard. | A4.1 Motorists can enter or reverse from a residential lot in a single movement.<br><br>A4.2 Motorists enter and leave multi-dwelling housing developments and non-residential developments in a forward direction.<br><br>A4.3 Lot design enables driveways on major collector streets and streets which carry more than 3,000 vpd to be designed to promote forward movement of vehicles across the verge. |
| **Geometric design**<br>P5 Bus routes have a carriageway width that:<br>- Allows for the movement of buses unimpeded by parked cars;<br>- Safely accommodates cyclists; and<br>- Avoids cars overtaking parked buses. | A5.1 The geometry of streets identified as bus routes provides suitable turning, stopping sight distance, grade and parking for buses. |

| **Performance criteria**<br>The street design and road hierarchy objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P6 Geometric design for intersections, roundabouts and slow points is consistent with the vehicle speed intended for each street. | A6.1 Sufficient area is provided at the head of cul-de-sacs for waste disposal vehicles to make a three point turn. |
| **On-street parking**<br>P7 Car parking is provided in accordance with projected needs determined by:<br>- The number and size of probable future dwellings;<br>- The car parking requirements of likely future residents;<br>- Availability of public transports.<br>- Likely future onsite parking provisions;<br>- Location of non-residential uses such as schools/shops; and<br>- The occasional need for overflow parking. | A7.1 One on-street parking space is to be provided per dwelling. These are to be located against the kerb or in pairs in parking bays constructed within the verge, located within 60m of each allotment. |
| **Design**<br>P8 Car parking is designed and located to:<br>- Conveniently and safely serve users, including pedestrians, cyclists and motorists;<br>- Enable efficient use of car spaces and access ways including adequate manoeuvrability between the street and lots;<br>- Fit in with adopted street network and hierarchy objectives and any related traffic movement plans;<br>- Be cost effective; and<br>- Achieve relevant streetscape objectives. | There is no applicable Acceptable Solution to this Performance Criteria. |

**Element 6. Pedestrian and Cycle Links**

**Objective**

- To encourage walking and cycling by providing safe and convenient movement networks to points of attraction and beyond the development.

| **Performance criteria**<br>The pedestrian and cycle links objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Planning**<br>P1 The residential street and path network provides a network of pedestrian and cyclist routes, with connections to adjoining streets, open spaces and activity centres. | A1.1 Where a Traffic Calming Plan or an approved Pedestrian and Cyclist Plan exist, pedestrian and cyclist paths are provided in accordance with that Plan.<br><br>A1.2 Pedestrian and cycle paths are provided in accordance with the Dubbo Strategic Open Space Master Plan.<br><br>A1.3 A network of footpaths and cycle routes is provided that accounts for:<br>- The need to encourage walking and cycling;<br>- Likely users (eg school children, parents with prams, aged/, commuter and cyclists);<br>- Opportunities to link open space networks and community facilities including public transport, local activity centres, schools and neighbouring shopping centres;<br>- Topography; and<br>- Cyclist and pedestrian safety. |
| **Location and design**<br>P2 The alignment of paths allows safe and convenient use by pedestrians and cyclists and is varied to preserve trees and other significant features. A focus on vistas and landmarks adds visual interest where they exist. | There is no applicable Acceptable Solution to this Performance Criteria. |

| **Performance criteria**<br>The pedestrian and cycle links objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P3 Footpaths and cycle ways are well-lit and located where there is casual surveillance. | P3.1 Lighting conforms to AS/NZ 1158.1. |
| P4 Footpaths or shared paths are designed and constructed at appropriate widths, longitudinal gradient and sight distance to cater for the number of projected pedestrians and cyclists and user types (e.g. the aged, the very young, people with prams and people with disabilities). | A4.1 Collector streets on which there is access to lots or where there is a planned pedestrian or cyclist path are provided with a separate path on each side clear of the carriageway pavement.<br><br>A4.2 A pedestrian (only) footpath, where required, is 1.2 m wide and is constructed of concrete or paving block for the full width and is located central to the existing or proposed kerb. Shared pedestrian and cyclist paths shall be 2.5 metres in width.<br><br>A4.3 Footpaths are widened to full width in the vicinity of meeting points, schools, shops and other activity centres.<br><br>A4.4 Maximum longitudinal gradient of cycle paths is no greater than that at any adjacent street pavement. |
| P5 Provision is made for the location of seats in appropriate places. | A5.1 Seats to be provided in accordance with the requirements of Council's Dubbo Branch, Parks and Landcare Services Division. |
| P6 There is adequate provision for passing with paths widened at potential conflict points or junctions on high-use facilities to allow for passing of pedestrians/cyclists. | A6.1 Paths are widened at potential conflict points or junctions in areas of high use such as schools, corner stores etc. |

| **Performance criteria**<br>The pedestrian and cycle links objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Safe crossings**<br>P7 Safe street crossings are provided for all street users with safe sight distances and adequate pavement markings, warning signs and safety rails (where appropriate for cyclists). | A7.1 Where traffic volumes exceed 3,000 vpd or speeds exceed 50 km/hr, safe crossings are created with the use of pedestrian refuges, slow points, thresholds or other appropriate mechanisms<br><br>A7.2 Pram and wheelchair crossings are provided at all kerbs and are adequately designed for this purpose as well as assisting sight-impaired people. |
| **Construction**<br>P8 Pedestrian and cyclist paths are constructed to provide a stable surface for projected users and is easily maintained. | There is no applicable Acceptable Solution to this Performance Criteria. |

**Element 7. Stormwater Management**

**Objectives**

- To provide major and minor drainage systems which:
  - Adequately protect people and the natural and built environments to an acceptable level of risk and in a cost effective manner in terms of initial costs and maintenance, and;
  - Contribute positively to environmental enhancement of catchment areas.
- To manage any water leaving the site (during construction and operation) with stormwater treatment measures.

| **Performance criteria**<br>The stormwater management objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P1 Post development peak flows (up to 100 year ARI storm events) are limited to 'pre-development' levels. | A1.1 Water sensitive urban design or onsite bio-retention in the form of rain gardens, swales and absorption trenches are amalgamated into the design of the road network.<br><br>A1.2 In areas where there is a likelihood of salinity impacts, infiltration shall not be used. |
| P2 The stormwater drainage system has the capacity to safely convey stormwater flows resulting from the relevant design storm under normal operating conditions, taking partial minor system blockage into account. | A2.1 The design and construction of the stormwater drainage system is in accordance with the requirements of Australian Rainfall and Runoff 1987 and Aus-Spec (Council version) Development Specification Series – Design and Development Specification Series – Construction.<br><br>A2.2 Construction Certificate plans for subdivisions shall show all minor and major stormwater systems clearly defined and identified. Minor systems for residential areas are designed to cater for the 1-in-100 year storm event. These systems are to be evident as 'self-draining' without impacting on flooding of residential houses etc. |

| **Performance criteria**<br>The stormwater management objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P3 Natural streams and vegetation are retained wherever practicable and safe, to maximise community benefit. | A3.1 Natural streams and vegetation are incorporated into the stormwater drainage system for the subdivision and open space requirements. |
| P4 The stormwater system/drainage network is designed to ensure that there are no flow paths which would increase risk to public safety and property. | A4.1 While addressing the stormwater drainage requirements above, the incorporation of sports grounds and other less flood-sensitive land uses into the drainage corridor and the appropriate placement of detention basins. |
| P5 The system design allows for the safe passage of vehicles at reduced speeds on streets which have been affected by run-off from the relevant design storm. | A5.1 The system allows for the safe passage of vehicles at reduced speeds on streets which have been affected by run-off from a 20% AEP event. |
| **Site drainage**<br>P6 Subdivision design and layout provides for adequate site drainage. | A6.1 Where site topography prevents the discharge of stormwater directly to the street gutter or a Council controlled piped system, inter-allotment drainage is provided to accept run-off from all existing or future impervious areas that are likely to be directly connected.<br><br>A6.2 The design and construction of the inter-allotment drainage system are in accordance with the requirements of Australian Rainfall and Runoff (1987) and Aus-Spec (Dubbo Regional Council version) Development Specification Series – Design and Development Specification Series – Construction. |

| **Performance criteria**<br>The stormwater management objectives may be achieved where: | Acceptable solutions<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Flooding**<br>P7.1 Where residences (new or existing) are proposed in flood-affected areas, these shall be protected from flood waters.<br><br>P7.2 Flood-ways are developed in a manner which ensures that there is a low risk of property damage. | A7.1 The finished floor level of residential accommodation is located at or above the 'flood planning level' to provide protection to life and property in accordance with the accepted level of risk. |

**Element 8. Water Quality Management**

**Objective**

- To provide water quality management systems which:
  - Ensure that disturbance to natural stream systems is minimised, and;
  - Stormwater discharge to surface and underground receiving waters, during construction and in developing catchments, does not degrade the quality of water in the receiving areas.

| **Performance criteria**<br>The water quality management objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P1 Adequate provision is made for measures during construction to ensure that the land form is stabilised and erosion is controlled. | A1.1 An Erosion and Sediment Control Plan is prepared by suitably qualified professionals using the 'Blue Book – Managing Urban Stormwater: Soils and Construction' and provided to Council. |
| P2 The system design optimises the interception, retention and removal of water-borne pollutants through the use of appropriate criteria prior to their discharge to receiving waters. | A2.1 The Erosion and Sediment Control Plan is to comply with the document 'Managing Urban Stormwater: Soils and Construction', produced by NSW Department of Housing. |
| P3 The system design minimises the environmental impact of urban run-off on surfaces receiving water quality and on other aspects of the natural environment, such as creek configuration and existing vegetation, by employing techniques which are appropriate and effective in reducing run-off and pollution travel. | A3.1 Water pollution control ponds or wetlands are developed (where appropriate) for final treatment before discharge to the wider environment and should be sited to minimise impacts on the natural environment.<br><br>A3.2 Sensors are used to control watering systems. |

## 2.2 Residential Design (Dwellings, Dual Occupancy and Multi-Dwelling Housing)

This section is designed to encourage 'best practice' solutions and clearly explain requirements for the development of dwelling houses, dual occupancy (attached and detached) and multi-dwelling housing development.

The objectives of this section are:

- To facilitate a mix of dwelling sizes complementing the character of the area and that provide accommodation for all sectors of the community; and
- To facilitate low density residential accommodation with an economic use of infrastructure.

This section lists design elements under the following headings:

| | |
|---|---|
| Element 1 | Streetscape character |
| Element 2 | Building setbacks |
| Element 3 | Solar access |
| Element 4 | Private open space and landscaping |
| Element 5 | Infrastructure |
| Element 6 | Visual and acoustic privacy |
| Element 7 | Vehicular access and car parking |
| Element 8 | Waste management |
| Element 9 | Site facilities |
| Element 10 | Environmental Management |
| Element 11 | Non-residential uses |
| Element 12 | Signage |

Each design element has been structured so that it contains:

- 'Objectives' describing the required outcomes;
- 'Performance criteria' outlining the range of matters that need to be addressed to satisfy the objectives (ie the performance criteria explains how an objective is to be achieved);

Note: Not all performance criteria will be applicable to every development.

- 'Acceptable solutions' are specific measures which illustrate one way of meeting both the performance criteria and objectives of an element. They are examples only and are not mandatory; and
- 'References' to relevant clauses of the LEP, other relevant legislation, Council policies and literature relevant to the design element.

**Element 1. Streetscape Character**

**Objectives**

- To design residential housing development to complement existing streetscape and neighbourhood character;
- To design residential housing in keeping with the desired future streetscape and neighbourhood character; and
- To provide a mix of dwelling sizes complementing the character of the area and that provide accommodation for all sectors of the community.

| **Performance criteria**<br>The streetscape character objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Built form**<br>P1 The frontage of buildings and their entries are readily apparent from the street. | A1.1 Buildings adjacent to the public street, address the street by having a front door facing the street.<br><br>A1.2 The minimum frontage for dual occupancy developments is 15m.<br><br>A1.3 Where dual occupancy or multi-dwelling housing are situated on corner blocks (where one is not a laneway), the development is designed to face each street frontage.<br><br>A1.4 Dual occupancy development shall not be designed as 'mirror image'.<br><br>A1.5 The site area for multi-dwelling housing is a minimum of 700 m² and has a minimum frontage of 20 m.<br><br>A1.6 Where any dwellings associated with a multi-dwelling housing development are located adjacent to a public road, those dwellings are to be orientated to directly address the street and not an 'internal' road or driveway, as indicated in Figure 7. |

| **Performance criteria**<br>The streetscape character objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P2 The development is to be designed to respect and reinforce the positive characteristics of the neighbourhood, including:<br>• Built form;<br>• Bulk and scale;<br>• Vegetation; and<br>• Topography. | A2 Design elements to consider include:<br>• Massing and proportions;<br>• Roof form and pitch;<br>• Facade articulation and detailing;<br>• Window and door proportions;<br>• Features such as verandahs, eaves and parapets;<br>• Building materials, patterns, textures and colours;<br>• Decorative elements;<br>• Vehicular footpath crossing (location and width);<br>• Fence styles; and<br>• Building setbacks. |

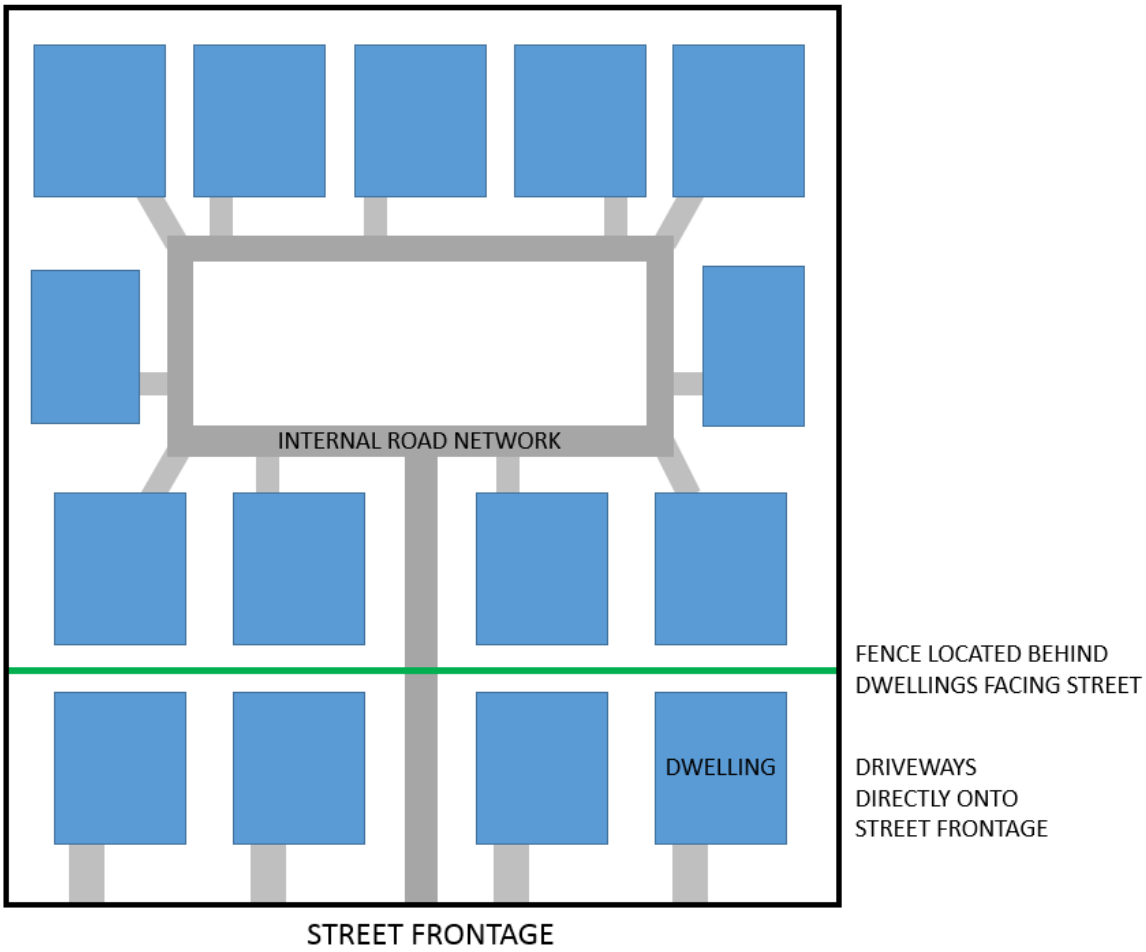



Figure 7. Example of a multi-dwelling development addressing the street frontage

| **Performance criteria**<br>The streetscape character objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P3 Walls visible from the street are adequately detailed for visual interest. | A3.1 This may be achieved by recesses, windows, projections or variations of colour, texture or materials.<br><br>A3.2 Walls longer than 10 m are articulated with a variation of not less than 600 mm for a minimum length of 4 m. |
| P4 Garages and parking structures (carports) are sited and detailed to ensure they do not dominate the street frontage, integrate with features of the dwelling and do not dominate views of the dwelling from the street. | A4.1 The width of a garage door or parking structure facing the street shall not be greater than 50% of the total width of the front of the building for an allotment in excess of 12 m in width, measured at the street frontage.<br><br>A4.2 Garages or parking structures are located in line with or behind the alignment of the front façade/ entrance of the dwelling, with a minimum setback of 5.5 m (see Element 2 – Building Setbacks), where the street frontage is in excess of 12 m. |
| **Fencing**<br>P6 Fencing is consistent with the existing character of the area. | A6 Fences shall take elements from neighbouring properties where elements are representative of the character of the street. |
| P7 Front fences enable outlook from the development to the street or open space to facilitate surveillance and safety.<br><br>Front fences provide noise attenuation on classified roads.<br><br>Front fences provide security in areas where there is a difference of land use (eg residential, commercial or industrial). | A7.1 Front fences have a maximum height of 1.2 m if solid or less than 20% transparent and 1.5 m if greater than 50% transparent.<br><br>A7.2 A front fence on the secondary frontage may have a maximum height of 1.8 m for 50% of the length of the boundary to the secondary road, which is measured from the corner splay of the primary road boundary. In addition, |

| **Performance criteria**<br>The streetscape character objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| | • The fence is constructed of materials which are consistent with those used in development on the site and adjoining developments; and<br>• The fence is softened with the use of landscaping.<br><br>A7.3 Solid front fences to main roads or highways for the purposes of noise attenuation may be considered to a height of 1.8 m provided that:<br>• The fence does not exceed 5 m in length without articulation or detailing to provide visual interest;<br>• The fence is constructed of materials which are consistent with those used in the development on the site and adjoining developments (other than solid metal panels or chain wire fencing); and<br>• The fence is softened with the use of landscaping. |
| P8 Fencing style and materials reflect the local streetscape and do not cause undue overshadowing of adjoining development.<br><br>Note: Barbed/razor wire or electrified fencing in residential areas is not permitted. | A8.1 Side fences on corner allotments are setback and/or articulated to provide for vegetation screening to soften the visual impact of the fence.<br><br>A8.2 Side fences forward of the building line are not constructed of solid metal panels or chain wire fencing (including factory pre-coloured materials). |

| **Performance criteria**<br>The streetscape character objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P9 Fencing on corner allotments does not impede motorists' visibility at the intersection. | A9.1 Fencing is either splayed, setback, reduced in height or transparent to maintain visibility for motorists.<br><br>Note: The extent of the splay will be determined by Council in consideration of the characteristics of the road and the radius of the kerb return. |
| P10 Gates are designed to ensure pedestrian and motorist safety.<br><br>Note: Gates are not permitted to open across the footpath (c21, Roads Regulation, 2008). | A10.1 Where a driveway is provided through a solid fence, adequate visibility for the driver is maintained. |

**Element 2. Building Setbacks**

**Objectives**

- To ensure that the setback of a building from the property boundaries, the height and length of walls, site coverage and visual bulk are acceptable in the neighbouring setting, and;
- To ensure habitable rooms of dwellings and private open space within the development and in adjacent development can receive adequate sunlight, ventilation and amenity.

| **Performance criteria**<br>The building setback objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Front boundary setback – Dwellings and ancillary structures**<br>P1 The setback of the development from the front boundary of the allotment is consistent with established setbacks, or is consistent with the desired amenity of the locality.<br><br>Residential development on corner allotments shall address both street frontages.<br><br>Note:<br><br>The setback is measured from the property boundary to the first vertical structural element of the development. No portico, posts, etc shall be any closer than the stated setback.<br><br>This applies to a dwelling house and any ancillary structure that is attached or detached to a dwelling house. | **Primary frontage**<br><br>A1.1 Minimum setback of 4.5 m from the front property boundary where no streetscape setback has been established.<br><br>A1.2 In established areas, infill development is to be setback the average of the front building setbacks of the adjoining and adjacent dwellings, if the difference between the setbacks of the adjoining buildings is greater than 2 m. Alternatively, a dwelling may be progressively stepped in as detailed in Figure 7.<br><br>**Secondary Frontage**<br>A1.3 The secondary (side) setback is 3 m. Where the corner is splayed, residential development is designed accordingly. |

| **Performance criteria**<br>The building setback objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Side and rear boundary setbacks – dwellings**<br>P2 The setback of the development from the side and rear boundaries of the allotment is consistent with established setbacks or is consistent with the desired amenity of the locality.<br><br>Note: The setback is measured from the property boundary to the first vertical structural element of the development. No portico, posts etc. shall be any closer than the stated setback.<br><br>Note: This applies to a dwelling house and any ancillary structure that is attached or detached to a dwelling house. | A2.1 Residential development is setback such that it complies with the requirements of the National Construction Code (NCC). |
| **Front boundary setback – garages and carports**<br>P3 The location of garages and carports does not diminish the attractiveness of the streetscape, does not dominate views of the dwelling from the street and integrates with features of associated dwellings. | **Primary frontage**<br><br>A3.1 Garages and carports are setback a minimum of 5.5 m from the front property boundary and in line with or behind the alignment of the front façade of the dwelling. This does not apply to allotments where the frontage is less than 12 m in width.<br><br>**Secondary frontage**<br>A3.2 Garages and carports on secondary frontages of corner allotments may extend beyond the alignment of the secondary façade of the dwelling and shall achieve a minimum 5.5 m setback from the secondary property boundary (see Figure 8). |

| Performance criteria<br>The building setback objectives may be achieved where: | Acceptable solutions<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Side and rear boundary setbacks – garages and carports**<br>P4 The location of garages and carports does not diminish the attractiveness of the locality and integrates with features of associated dwellings. | A4.1 Garages and carports are setback such that they comply with the requirements of the Building Code of Australia.<br><br>Where a garage or carport is provided on a secondary street frontage, regular building setback requirements of this Plan are applicable. |

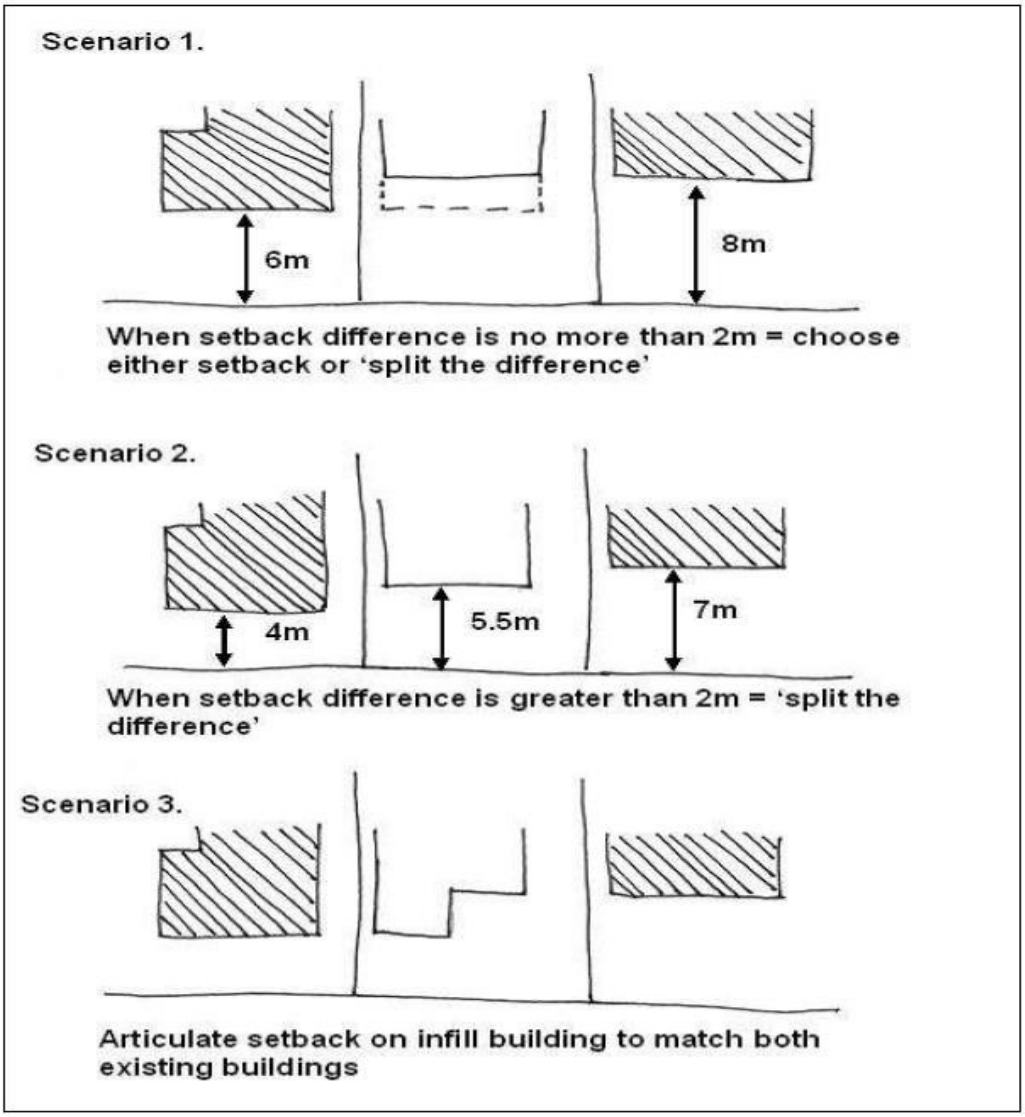



Figure 8. Setbacks for infill development in established areas

**PRIMARY FRONTAGE**

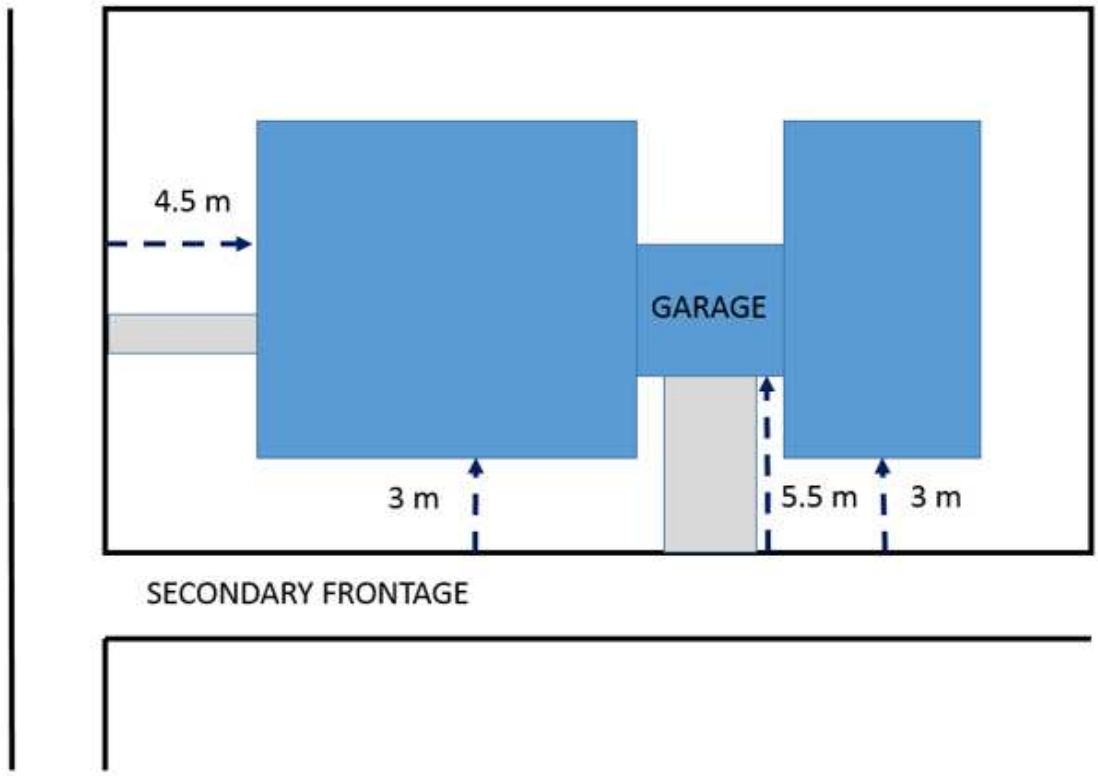



Figure 9. Corner allotment with the main entry to the primary road and the garage to the secondary road, with a setback minimum of 5.5 m

**Element 3. Solar Access**

**Objectives**

- To ensure all development provides an acceptable level of solar access for occupants, and;
- To ensure development does not significantly impact on the solar access and amenity of adjoining and adjacent allotments.

| **Performance criteria**<br>The solar access objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Solar access**<br>P1 Development is designed to ensure solar access is available to habitable rooms, solar collectors (photovoltaic panels, solar hot water systems etc.) private open space and clothes drying facilities.<br><br>Note 1: Council requires the submission of a shadow diagram to demonstrate the impact of overshadowing on adjoining and adjacent allotments for any residential development above single storey.<br><br>Shadow diagrams are to be prepared for 9 am, 12 noon and 3 pm on 22 June. The shadow diagrams are to demonstrate the extent of overshadowing of the proposed and existing development on the subject land and adjacent sites.<br><br>Note 2: The length of shadows cast by the sun in Dubbo for 22 June is able to be calculated using the information provided at the end of this element. | A1.1 Dwellings are sited in accordance with Figure 9.<br><br>A1.2 On lots with an east/west orientation, the setback on the north-side of the lot is increased to allow for maximum solar access to habitable rooms located on the north-side of the dwelling.<br><br>A1.3 A roof area sufficient to meet the space requirements for a solar hot water service is provided where it faces within 20$^{o}$ of north and receives direct sunlight between the hours of 9 am and 3 pm on 22 June.<br><br>A1.4 Outdoor clothes drying areas are located to ensure adequate sunlight and ventilation are provided between the hours of 9 am and 3 pm on 22 June to a plane of 1 m above the finished ground-level under the drying lines. |
| P2 The proposed development does not reduce the level of solar access currently enjoyed by adjoining or adjacent allotments. | A2.1 Habitable rooms of adjoining development receive a minimum of four hours solar access between the hours of 9 am and 3 pm on 22 June. |

| **Performance criteria**<br>The solar access objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| | A2.2 Principal private open space (PPOS) of adjoining and adjacent development receives a minimum of four hours solar access over 75% of the principal private open space area between 9 am and 3 pm on 22 June.<br><br>A2.3 Landscaping is designed to ensure that when mature, required areas of private open space or established BBQ/pergola areas on adjoining allotments maintain solar access on 22 June in accordance with A2.2.<br><br>A2.4 The solar impact of development shall be shown with the submission of shadow diagrams taken on 22 June (winter solstice). |

House orientation not encouraged:

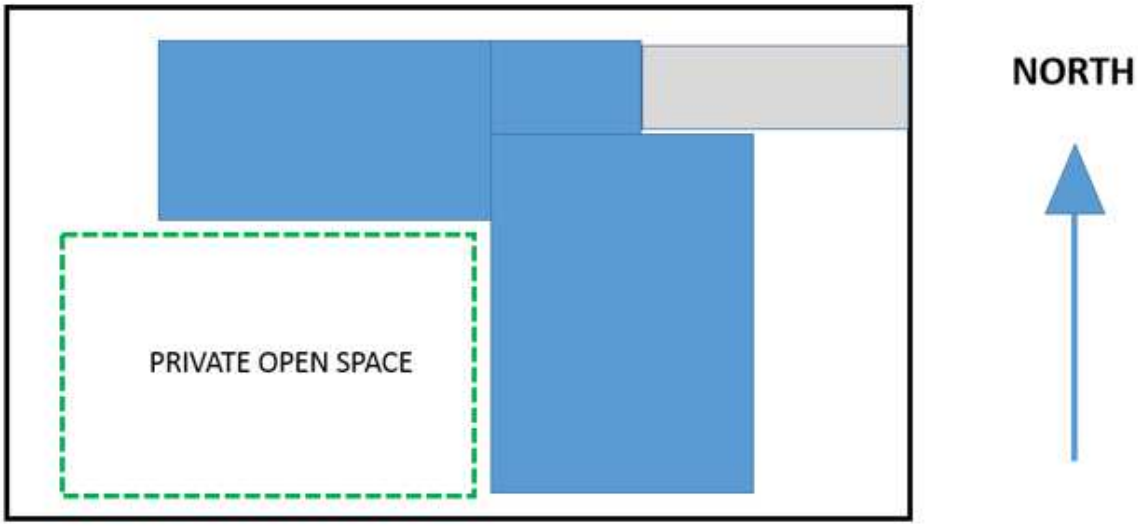



Figure 10. Siting of dwellings on east/west lots

Rationale

A dwelling built close to the northern boundary results in little to no winter sunlight being able to enter habitable rooms in the dwelling. The location of the house increases the shading of the private open space area.

House orientation encouraged:

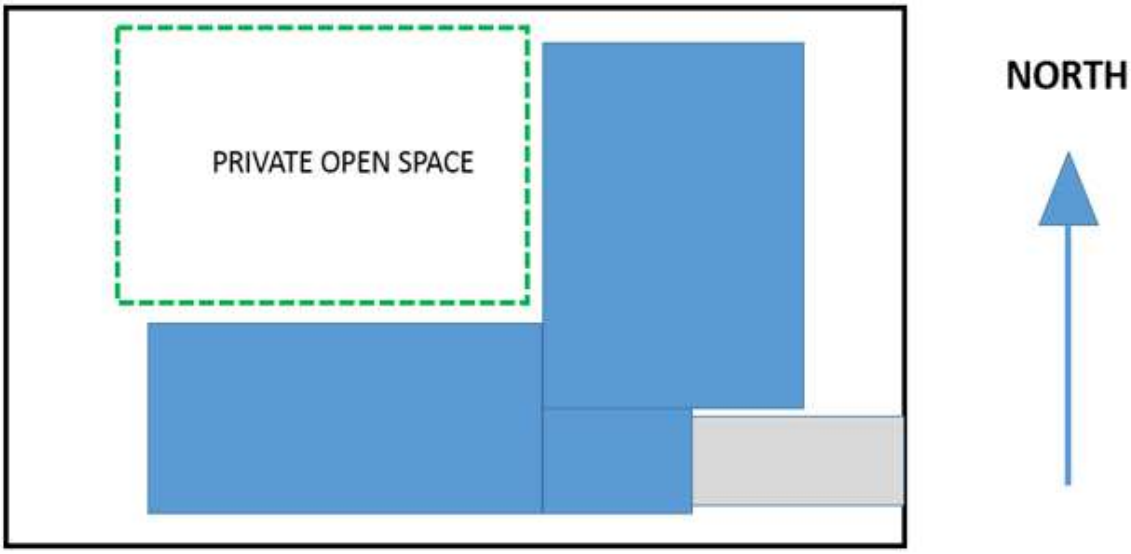



Figure 11. Siting of dwellings on east/west lots

Rationale

A dwelling built close to the southern boundary enables winter sunlight to enter habitable rooms in the dwelling. Good solar access is available to private open space during winter.

**Element 4. Private Open Space and Landscaping**

**Objectives**

- To provide private outdoor open space that is well-integrated with the development and is of sufficient area to meet the needs of occupants;
- To provide a pleasant, safe and attractive level of residential amenity, and;
- To ensure landscaping is appropriate in nature and scale for the site and the local environment.

| **Performance criteria**<br>The private open space and landscaping objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Private open space**<br>P1 Private open space is of an area and dimension facilitating its intended use.<br><br>Note: See Element 3 – Solar Access requirements for private open space development in residential areas. | A1.1 Dwelling houses and dual occupancy developments shall have a Principal Private Open Space (PPOS) area, in addition to the general Private Open Space (POS).<br><br>A1.2 The PPOS area has a minimum area per dwelling of 25 $m^2$ and a minimum dimension of 5 m. This area can include covered (not enclosed) outdoor entertainment areas.<br><br>A1.3 Dwelling houses and dual occupancies have an overall minimum POS area (including PPOS) of 20% of the site area (excluding the area located forward of the front building line).<br><br>A1.4 Multi-dwelling housing has an overall minimum POS area (including PPOS) of 5% of the site area per dwelling within the development (excluding the area located forward of the building line). |

| **Performance criteria**<br>The private open space and landscaping objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P2 Private open space is easily accessible by the occupants of the development and provides an acceptable level of privacy. | A2.1 All Principal Private Open Space (PPOS) is directly accessible from the main living area.<br><br>A2.2 All private open space is located behind the front building line and is screened to provide for the privacy of occupants and the occupants of adjoining properties. |
| **Landscaping**<br>P3 Landscaping is provided at a scale and density which is appropriate for the development. | A3.1 Landscaping is provided in accordance with the requirements of the Landscaping Schedule.<br><br>A3.2 The height and density of vegetation at maturity should be suitable to screen and soften the development.<br><br>A3.3 A landscape plan is required to be provided for assessment with the lodgement of development applications for dual occupancy and multi-dwelling developments. |
| P4 Landscaping is located to not impact infrastructure, development on the site or development adjoining the site. | A4.1 Species are selected and located taking into consideration the size of the root zone of the tree at maturity and the likelihood of potential for the tree to shed/drop material.<br><br>A4.2 Landscape species are selected and located to ensure the amenity of adjoining and adjacent properties is not impacted.<br><br>This shall ensure that inappropriate vegetation is not provided that reduces the level of solar access enjoyed by adjoining and adjacent properties and is likely to provide any safety impacts to residents. |

| **Performance criteria**<br>The private open space and landscaping objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P5 Landscaping activities are undertaken in an environmentally sustainable manner which limits the time and costs associated with maintenance. | A5.1 Existing native trees are retained.<br><br>A5.2 Species selected are suitable for the local climate.<br><br>A5.3 Species selected require a minimal amount of watering (Waterwise Garden).<br><br>A5.4 Landscaping does not impact ground-water levels by over watering resulting in ground-water level increases or the pollution of waters.<br><br>A5.5 Landscaping is provided with a timed watering system and moisture meter to determine if watering is required.<br><br>A5.6 Sensors are used to control watering systems (see also Element 9). |

**Element 5. Infrastructure**

**Objectives**

- To encourage residential development in areas where is can take advantage of existing physical and social infrastructure;
- To ensure infrastructure has the capacity or can be economically extended to accommodate new residential development;
- To efficiently provide development with appropriate physical services, and;
- To minimise the impact of increased stormwater run-off to drainage systems.

| **Performance criteria**<br>The infrastructure objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P1 Residential development shall not overload the capacity of public infrastructure including reticulated services, streets, open space and human services. | A1.1 Physical infrastructure is provided by the proponent in accordance with the former Council's adopted version of NAT Spec and relevant policies. |
| P2 Design and layout of residential development provides space (including easements) and facilities to enable efficient and cost-effective provision of telecommunication services. | A2.1 Development is connected to a telecommunication system provided in accordance with the requirements of the appropriate authority. |
| P3 The development is connected to reticulated sewerage, water supply and electricity systems and to natural gas where available. | A3.1 Development is connected to Council's reticulated water supply, stormwater drainage and sewerage system to the former Council's adopted version of AUSPEC and relevant policies (including separate water meters where the development is to be subdivided).<br><br>A3.2 Development is located where ready access to an electricity supply is available or where electricity supply can be easily extended. |

| **Performance criteria**<br>The infrastructure objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| | A3.3 Where Council sewerage services are not available, an approved effluent disposal system is installed and located so it is not:<br>- Situated on flood-affected land;<br>- Within or adjacent to drainage lines; and<br>- Likely to contaminate any surface or groundwater supplies. |
| P4 In areas where drainage infrastructure has little or no excess capacity, developments which would generate stormwater run-off beyond that equivalent to 35% site cover (or beyond that presently generated by the site if greater) should provide for stormwater drainage mitigation or upgrading of the local drainage system. | A4.1 Onsite stormwater detention shall be provided with delayed release into the stormwater system.<br><br>A4.2 Minimal impervious areas shall be provided. |

**Element 6. Visual and Acoustic Privacy**

**Objectives**

- To limit overlooking of private open space and views into neighbouring development;
- To substantially contain noise within each dwelling and to limit noise from communal areas or shared facilities affecting nearby dwellings, and;
- To protect internal living and sleeping areas from inappropriate levels of external noise.

| **Performance criteria**<br>The visual acoustic and privacy objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Visual privacy**<br>P1 Private open space and living rooms of adjacent residential accommodation are protected from direct overlooking by an appropriate layout, screening device and distance.<br><br>Note: No screening is required if:<br>- Bathrooms, toilets, laundries, storage rooms or other non-habitable rooms have translucent glazing or sill heights of at least 1.5 m.<br>- Habitable rooms having sill heights of 1.5 m or greater above floor level or translucent glazing to any window less than 1.5 m above floor level.<br>- Habitable rooms facing a property boundary have a visual barrier of at least 1.5 m high (fences and barriers other than landscaping are not to be any higher than 1.8 m) and the floor level of the room is less than 0.6 m above the level of the ground at the boundary. | A1.1 Windows of habitable rooms with an outlook to habitable room windows in adjacent development within 10 m:<br>- Are offset a minimum distance of 1 m from the edge of the opposite window in the proposed development;<br>- Have a sill height of 1.5 m above floor level;<br>- Have a fixed obscure glazing in any window pane below 1.5 m above floor level; or<br>- Have screens which obscure the view from habitable room windows, balconies, stairs, landings, terraces and decks or other private, communal or public areas within a development into private open space and/or habitable rooms of existing residential accommo-dation.<br><br>A1.2 Screens are solid, translucent or perforated panels or trellis which:<br>- Have a minimum of 25% openings;<br>- Are permanent and fixed;<br>- Are of durable materials such as galvanised steel, iodised aluminium or treated timber; and |

| **Performance criteria**<br>The visual acoustic and privacy objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| | - Are painted or coloured to blend in with the surrounding environment.<br><br>A1.3 Windows and balconies of residential accommodation shall be designed to prevent overlooking of more than 50% of the private open space of any adjoining residential accommodation. |
| **Acoustic Privacy**<br>P2 The transmission of noise to and the impact upon habitable rooms within the proposed development and adjoining and adjacent development is minimised. | A2.1 Living rooms or garages of residential development does not adjoin or abut bedrooms of adjacent residential development.<br><br>A2.2 The plumbing of residential development and is separate and contained sufficiently to prevent transmission of noise.<br><br>A2.3 Electrical, mechanical or hydraulic equipment or plant generating a noise level no greater than 5dBA above ambient L90 sound level at the boundary of the property.<br><br>A2.4 Dividing walls and floors between residential uses are constructed in order to comply with the requirements of P art F5 of the BCA (Class 2 and 3 buildings only).<br><br>A2.5 Residential development is constructed to ensure habitable rooms are not exposed to noise levels in excess of the standards contained in the relevant Australian Standard(s) including AS 3671 – Road Traffic. |

| **Performance criteria**<br>The visual acoustic and privacy objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| | A2.6 Residential development adjacent to the Southern Distributor road corridor are to be constructed in accordance with the recommendations of a detailed Acoustic Study prepared by a suitably qualified acoustic consultant. |

**Element 7. Vehicular access and car parking**

**Objectives**

- To provide adequate and convenient parking for residents, visitors and service vehicles;
- To ensure street and access ways provide safe and convenient vehicle access to dwellings and can be efficiently managed; and
- To avoid parking and traffic difficulties in the development and the neighbourhood.

| **Performance criteria**<br>The vehicular access and car parking objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Parking provision**<br>P1 Car parking is provided according to projected needs, the location of the land and the characteristics of the immediate locality. | A1.1 Dwelling houses and dual occupancy development provides the following vehicle parking:<br>- One bedroom dwelling – one car parking space per dwelling, situated behind the front building setback; and<br>- Dwelling with two or more bedrooms – two car parking spaces per dwelling. At least one of the required spaces shall be situated behind the front building setback.<br>-<br>A1.2 Multi-dwelling housing development provides the following vehicle parking behind the front building set-back:<br>– One bedroom unit – one car parking space per unit;<br>– Two or more bedroom unit – two car parking spaces per unit; and<br>– Visitor parking – one car parking space for every four units or part thereof with a minimum of one car parking space. |

| **Performance criteria**<br>The vehicular access and car parking objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Design**<br>P2 Car parking facilities are designed and located to:<br>- Conveniently and safely serve users including pedestrians, cyclists and vehicles;<br>- Enable efficient use of car spaces and access ways including adequate manoeuvrability for vehicles between the street and the lot;<br>- Conform to the adopted street network hierarchy and objectives of the hierarchy and along with any related local traffic management plans;<br>- Be cost effective; and<br>- Protect the streetscape. | A2.1 The dimensions of car spaces and access comply with AS2890.1.<br><br>A2.2 Access ways and driveways are designed to enable vehicles to enter the designated parking space in a single turning movement and leave the space in no more than two turning movements.<br><br>A2.3 Where five or more car spaces (or three or more dwellings) are served, or a driveway connects to a distributor road, manoeuvring space is provided to make it unnecessary for cars to reverse on to or off the road. The entrance is at least 5 m wide for a distance of 7 m to allow vehicles to pass each other.<br><br>A2.4 The design and appearance of garages and carports shall:<br>- Be in line with or behind the alignment of the front façade of the dwelling (noting that they cannot be less than 5.5 m from the front property boundary in the R2 zone);<br>- Garages and carports on secondary frontages of corner allotments may extend beyond the alignment of the secondary façade of the dwelling but shall achieve a minimum 5.5 m setback from the secondary property boundary; |

| **Performance criteria**<br>The vehicular access and car parking objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| | - Lots with a narrow frontage of 15 m or less have a single width garage/carport;<br>- Large parking areas are broken up with trees, buildings or different surface treatments;<br>- Parking is located so that the front windows of a dwelling are not obscured;<br>- The dwelling design highlights the entry and front rooms rather than the garage; and<br>- Garages are located under the roof of two-storey dwellings. |
| **Emergency vehicle access**<br>P3 Standing and turning areas for service, emergency or delivery vehicles are provided where access to any dwelling from a public street is remote or difficult. | A3.1 Access ways are designed to cater for an 'AUSTROADS 8.8 m length Design Service Vehicle'. |
| **Surface treatment**<br>P4 Driveways, car parks and access points are designed in accordance with Part 4 Parking. | A4.1 Car spaces, accessways and driveways are formed, defined and drained to a Council drainage system and surfaced with:<br>- An all-weather seal such as concrete, coloured concrete, asphalt or mortared pavers; and<br>- Stable, smooth, semi-porous paving material (such as brick, stone or concrete pavers) laid to the paving standard of light vehicle use. |

| **Performance criteria**<br>The vehicular access and car parking objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Location of driveways and accessways from residential accommodation development**<br>P5 Shared driveways, accessways and car parks of other dwellings are setback from habitable rooms of adjoining residential uses to enhance resident's privacy. | A5.1 Shared driveways, accessways and car parks of other residential uses are setback a minimum of 1.5 m from windows to habitable rooms of residential accommodation unless the floor level of the dwelling is at least 1 m above the driveway. The setback may be reduced to 1.0 m when the driveway etc. is bound by a fence of 1.5 m in height. |

**Element 8. Waste Management**

**Objective**

- To ensure waste disposal is carried out in a manner which is environmentally responsible and sustainable.

| **Performance criteria**<br>The waste management objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Domestic solid waste**<br>P1 Domestic solid waste is disposed of in an environmentally responsible and legal manner. | A1.1 Residential development shall participate in Council's garbage and recycling materials collection service.<br><br>A1.2 Where multi-dwelling housing development cannot participate in Council's garbage and recycling materials collection service, private waste collection is required.<br><br>Sufficient space is provided on site for loading and unloading of wastes. This activity is not be undertaken on any public place.<br><br>A1.3 Recycling of wastes such as paper (mulch in garden), plastics, glass and aluminium.<br><br>A1.4 Reuse of waste such as timber.<br><br>A1.4 Dispose of waste to a Council-approved waste facility or transfer station. |
| P2 The amount of liquid waste generated is minimised. | A2.1 Toilets and water fixtures comply with the NCC Volume 3 - Plumbing Code of Australia. |
| P3 Adequate space is provided to store waste collection bins in a position which will not adversely impact upon the amenity of the area. | A3.1 Waste collection bins are stored behind the building line. |

**Element 9. Site Facilities**

**Objective**

- To ensure that site facilities are functional, readily accessed from dwellings, visually attractive, blend in with the development and street character and require minimal maintenance.

| **Performance criteria**<br>The site facilities objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Mail boxes**<br>P1 Mail boxes are located for convenient access by residents and the delivery authority. | A1.1 Individual mail boxes are located to each ground-floor entry of residential accommodation or a mail box structure is located close to the major pedestrian entrance to the site. |
| Antennae<br>P2 Telecommunications facilities are provided to serve the needs of residents and do not present any adverse visual impacts. | A2.1 The number of television antennae and other receiving structures is kept to a minimum or, where appropriate, a receiver is provided to serve all dwellings within a single building. |

**Element 10. Signage**

**Objectives**

- To ensure the residential character of the locality is maintained; and
- To ensure that any signage is appropriate for the locality and does not detract from the development or the street character.

| **Performance criteria**<br>The signage objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Signage**<br>P1 Signs are appropriate for the nature of the business and the locality. | A1.1 Signage shall:<br>- Be non-moving;<br>- Relate to the lawful use of the building (except for temporary signs) on which the sign is located;<br>- Not be detrimental to the character and functioning of the building;<br>- Not cover mechanical ventilation inlet or outlet vents;<br>- Not obstruct the sight line of vehicular traffic;<br>- Not obstruct pedestrian traffic; and<br>- Not be illuminated or flashing. |
| **Business identification signage**<br>P2 Signs are appropriate for the nature of the business and the locality. | A2.1 Home-based child care, home business, home industry and home occupation development signage shall:<br>- Meet the general requirements for signage (P1);<br>- Have one sign per premises.<br>- Have a maximum area — 0.75 $m^2$; and<br>- Not advertise specific products or brands.<br><br>Note: Signs meeting the above requirements will not require development approval. |

| **Performance criteria**<br>The signage objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| | A2.2 Permissible non-residential development signage shall:<br>- Meet the general requirements for signage (P1);<br>- Have one sign per premises; and<br>- Have a maximum area 1.5 $m^2$.<br><br>Note: Signs meeting the above requirements will not require development approval. |
| **Real estate signs (Advertising premises or land sale or rent)**<br>P3 Signs are appropriate for the residential locality and are of a temporary nature. | A3.1 Real estate signage shall:<br>- Meet the general requirements for signage (P1);<br>- Have a maximum area—3 $m^2$; and<br>- Be removed within seven days after the premises or land is sold or let.<br><br>Note: Signs meeting the above requirements will not require development approval. |
| **Temporary signs (Special events)**<br>P4 Signs are appropriate for the residential locality and are of a temporary nature. | A4.1 Temporary (special events) signage shall:<br>- Meet the general requirements for signage (P1);<br>- Have a maximum of two signs onsite;<br>- Have a maximum one sign off site, which if located in a road reserve shall be acceptable to the relevant road authority in terms of location, traffic and pedestrian safety;<br>- Have a maximum area 1.5 $m^2$ and maximum height of 1.5 m;<br>- Not include commercial advertising apart from the name of any event sponsors; and |

| **Performance criteria**<br>The signage objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| | - Not be displayed earlier than one month before or later than two days after the event.<br><br>Note: Signs meeting the above requirements will not require development approval. |

# Part 3 Commercial and Non-Residential Development and Subdivision

## 3.1 Commercial Development and Non-Residential Design

This section is designed to encourage 'best practice' solutions for neighbourhood centre development. The main objectives are to promote safe, connected, easily accessible and active neighbourhood centres that positively contribute to the community and the future growth of South-East Dubbo.

This section lists neighbourhood centre design elements under the following headings:

| | |
|---|---|
| Element 1 | Setbacks |
| Element 2 | Building Design |
| Element 3 | Landscaping |
| Element 4 | Vehicular access and parking |
| Element 5 | Fencing and security |
| Element 6 | Design for access and mobility |
| Element 7 | Waste management |
| Element 8 | Soil and water quality and noise management |
| Element 9 | Signage and advertising |
| Element 10 | Services |
| Element 11 | Ancillary residential uses |

Each design element has been structured so that it contains:

- Objectives for each design element which describe the required outcomes; and
- Performance criteria – which outline the range of matters required to be addressed to satisfy the objectives (ie the performance criteria explains how an objective is to be achieved)

Note: Not all performance criteria will be applicable to every development.

- 'Acceptable Solutions' which are specific measures which illustrate one way of meeting both the performance criteria and objectives of an element. They are examples only and are not mandatory; and
- 'References' to relevant clauses of the LEP, other relevant legislation, Council policies and literature relevant to the design element.

**Element 1. Setbacks**

**Objectives**

- To ensure that adequate area is available to accommodate landscaping as appropriate; and
- To reduce the visual impact of large commercial developments on the streetscape; and
- To reduce the impact upon adjoining non-commercial development where applicable.

| **Performance criteria**<br>The setback objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Front (road) and side setbacks**<br>P1 Setbacks respect and complement the existing streetscape and the desired future character of the locality. | A1.1 Buildings should be set back to provide suitable landscaping and vehicle parking with a minimum set-back of 10 m.<br><br>A1.2 The setbacks stated above are subject to variation based on any potential overshadowing impacts of development to adjoining development.<br><br>Detailed shadow diagrams prepared for 9 am, 12 noon and 3 pm on 22 June may be required to be provided to Council with any development application for construction of any building.<br><br>A1.3 Irrespective of front and side setbacks as above, the bulk, size, shape, etc of a building is not to impede the desired sight-lines for vehicles/ drivers at intersections, particularly in sections of road with laneways intersecting. |
| **Rear setbacks**<br>P2 Rear setbacks provide access, reduce adverse impacts on adjoining properties, allow for servicing of development and comply with the requirements of the National Construction Code (NCC). | A2.1 Buildings are set back a minimum of 10 m. |

**Element 2. Building Design**

**Objectives**

- To promote functional commercial development that makes a positive contribution to the streetscape;
- To promote commercial development that complements and enhances the visual amenity of the surrounding area; and
- To ensure building orientation is towards streets and adjoining or adjacent open space.

| **Performance criteria**<br>The building design objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P1 Buildings are designed to integrate with the streetscape and be compatible. | A1.1 Building facades adopt a contemporary appearance relating to the function of the building and the characteristics of surrounding development in the locality.<br>A1.2 Development on corner sites shall incorporate splays, curves, building entries and other architectural elements to reinforce the corner as a land mark feature of the street.<br>A1.3 Building design addresses the 'Safer By Design' guidelines.<br>A1.4 Maximum floor space shall be in accordance with the LEP, Schedule 1 Additional permitted uses. |
| P2 Architectural interest | A2.1 Architectural features should be included in the design of new buildings to provide for more visually interesting precincts. These may include:<br>– Elements which punctuate the skyline;<br>– Distinctive parapets or roof forms; – Visually interesting façades;<br>– Architectural emphasis in the built form; and<br>– A variety of window treatments. |

| **Performance criteria**<br>The building design objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| | A2.2 Building facades shall be articulated by use of colour, arrangement of elements or by varying materials.<br><br>A2.3 The pedestrian entrance point to buildings must be clearly delineated through variation in the building façade and the provision of different textures and materials. |
| P3 Building height is consistent with the scale appropriate to the location of the land | A3.1 Buildings do not overshadow adjoining or adjacent development on 22 June.<br><br>A3.3 If business or commercial development adjoins or is within a reasonable proximity to residential or other sensitive development, overshadowing diagrams are to be prepared and provided to Council for 9 am, 12 noon and 3 pm on 22 June (winter solstice). |
| P4.1 Building design allows surveillance of streets and open spaces.<br><br>P4.2 Secure and accessible vehicle parking is provided onsite for the use of tenants and visitors. | A4.1 Buildings address the street and open spaces (where applicable) to allow surveillance. Pedestrian entrance points directly face streets.<br><br>A4.2 The parking area shall be well-lit and easily accessible. Parking for dwellings shall be allocated and secure. |
| P5 The form, colours, textures and materials of buildings should enhance the quality and character of the commercial or business precinct. | A5.1 External walls and roofing materials are to be of a non-reflective material, such as brick, concrete block, rendered concrete or masonry, metal or fibre cement cladding systems or pre-coloured metal sheeting. |

| **Performance criteria**<br>The building design objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| | A5.2 All external building materials including roofing shall be of a neutral colour appropriate to the site and the surrounding locality.<br><br>A5.3 Large expansive blank walls over 15 m in length without articulation are not permitted. |
| P6 A variety of access provisions are to be provided including facilities for walking, cycling, onsite public transport and car parking. | A6.1 Development is designed to be accessible for all public and private transportation.<br><br>A6.2 Public access and movement shall be maintained across and throughout areas the site connecting to public access points and facilities ie cycleways and public transport. |

**Element 3. Landscaping**

**Objectives**

- To provide attractive landscapes which reinforce the function of the street, enhance the amenity of commercial buildings and preserve significant stands of trees or natural vegetation; and
- To provide a park environment and soften the visual impact of buildings.

| **Performance criteria**<br>The landscaping objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P1 Landscaping is considered as a component of the site planning process and reflects the zone and scale of development. | A1.1 A Landscape Plan and Planting Schedule prepared in accordance with the information provided below is provided to Council for consideration for any new development. |
| P2 Development is designed to maximise the number of trees retained onsite. | A2.1 Where there are existing trees onsite, the building design provides for their protection.<br><br>A2.2 Buildings, driveways and service trenches are located outside the dripline of existing trees and shrubs.<br><br>A2.3 During site work and construction, protective measures will be required around trees to be retained. Details illustrating these measures shall be in accordance with AS4970-2009 and are required with the landscape plan at the development application stage.<br><br>A2.4 Street trees are provided in accordance with the requirements of Council's Community and Recreation Services Division generally and Council's Tree Planting Standards. |
| P3 Landscaping is used to soften the impact of buildings, as a screen for visual intrusions, to screen parking areas and for recreation space. | A3.1 Landscaping is provided in front set-back areas to soften the appearance of buildings and improve the streetscape. |

| **Performance criteria**<br>The landscaping objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| | A3.2 Landscaping includes species that will grow to a height consistent with the height and scale of the building.<br><br>A3.3 For developments facing a road, public open space or nearby residential area trees with a mature height of at least 8.0 m are to be planted. Trees shall be a minimum 1.5 m in height at planting and be sourced from NatSpec accredited suppliers or equivalent.<br><br>A3.4 Where car parking is visible from a road, for every 10 to 12 car parking spaces, landscaping bays (1.5 m x 5.5 m) are to be provided and appropriately-sized trees and ground cover planted within each bay.<br><br>A3.5 Landscaping addresses the 'Safer By Design' guidelines.<br><br>A3.6 Species selection is to be sympathetic to existing plantings found within the precinct and in accordance with the Urban Tree Strategy. |
| P4 Landscaping shall use indigenous endemic species of a low water demand. Non endemic species will be considered where they have a proven high tolerance to heat and a low water requirement. | A4.1 Landscaping design shall incorporate known water efficient species that are suitable to Dubbo's climate and which will not cause damage to adjacent buildings or driveways.<br><br>A4.2 Adequately fixed underground watering equipment shall be installed in all landscaped areas.<br><br>A4.3 Water sensitive urban design shall be incorporated into landscape plans as deemed appropriate. |

| **Performance criteria**<br>The landscaping objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P5 Landscaping shall not have detrimental impacts on existing infrastructure. | A5.1 The landscaping design shall incorporate elements (such as root barriers or appropriate species) that prevent the damage of the built infrastructure.<br><br>A5.2 Trees are to be planted in accordance with the Dubbo Regional Council Tree Planting Standards. |

**Commercial and business development landscaping requirements**

A Landscape Plan and Planting Schedule shall include the following:

1. Location of landscaping on the site;
2. Scientific name of all plant material;
3. Height and characteristics of plant material at maturity;
4. Status of landscaping at planting;
5. Protection of existing trees (as relevant) in accordance with AS4970-2009;
6. Details of structural elements preventing damage to the built infrastructure;
7. Specification of a maintenance regime;
8. Specification of irrigation systems for maintenance of landscaping, referencing current Council standards;
9. Specification that a horticultural professional will supervise implementation of the works in the landscape plan; and
10. The plan shall be drawn to a recognised scale such as 1 to 100.

The Landscape Plan and supporting information shall be prepared by a suitably qualified and experienced landscape or horticultural professional.

**Element 4. Vehicular access and parking**

**Objectives**

- To ensure vehicular access to and from development is adequate, safe and direct; and
- To provide sufficient, convenient and functional parking and loading/unloading areas.

| **Performance criteria**<br>The vehicular access and parking objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P1 Ingress and egress points are located and sized to facilitate the safe and efficient movement of vehicles to and from the site. | A1.1 Vehicle access driveways are not within 6 m of an intersection or break in a median strip except where the median break in question has been specifically designed to facilitate such access.<br><br>A1.2 Ingress and egress points are constructed in accordance with Council Standard 5211 and 5235 at a width determined by the turning path of design vehicle using Austroads – Design Vehicles and Turning Path Templates with a desirable minimum radius (turning speed 5-15 km/h).<br><br>Note: The design vehicle used to determine the width of the ingress, egress, driveways, accessways and manoeuvring areas is to be the largest vehicle likely to enter the site.<br><br>A1.3 Ingress and egress points are signposted.<br><br>A1.4 Where separate ingress and egress points are proposed, the ingress point is the first point reached when approaching the site by road from the side of the road upon which the development is located.<br><br>A1.5 Where a separate ingress and egress point are provided, they shall be separated by a minimum distance of 3 m.<br><br>A1.6 All vehicles must enter and exit the site in a forward direction. |

| **Performance criteria**<br>The vehicular access and parking objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P2 Accessways and driveways are sized to facilitate the safe and efficient movement of vehicles to, from and within the site. | A2.1 Driveways have a minimum width of:<br>– 6 m where separate ingress and egress is provided; and<br>– 8 m where a combined ingress and egress is provided.<br><br>A2.2 The grade of all accessways, driveways and manoeuvrability areas comply with AS/NZS 2890.1 and AS 2890.2.<br><br>Note: The dimensions mentioned are a minimum only. It is still required that the width be suitable given the turning path of the required design vehicle.<br><br>A2.3 Internal accessways, manoeuvring areas etc are provided with directional signposting and line marking.<br><br>A2.4 All internal accessways are of a width and geometry to facilitate the safe and efficient movement of the design vehicle.<br><br>A2.5 All vehicles are able to enter and leave the site in a forward direction. |
| P3.1 Car parking does not adversely impact upon the visual amenity of the site and the locality.<br><br>P3.2 Car parking is conveniently located and easily accessed. | A3.1 Where car parking is to be located forward of the building line, it is provided in accordance with the following:<br>– is not located within 3 m of the property boundary; and<br>– is screened by landscaping.<br><br>A3.2 Visitor car parking is conveniently located adjacent to the main visitor's entrance to the building. |

| **Performance criteria**<br>The vehicular access and parking objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P3.3 Car parking areas are designed to facilitate the safe movement of vehicles and provide a sufficient number of spaces for the projected needs of the development.<br><br>P3.4 Car parking is provided at a rate suitable to the proposed development. | A3.3 Parking areas and numbers are provided and designed in accordance with Part 4 Parking.<br><br>A3.4 Manoeuvring areas are provided to ensure that the design vehicle can enter and leave in a forward direction. |
| P4 Facilities are provided onsite for the loading and unloading of goods. | A4.1 Onsite loading and unloading areas are provided.<br><br>A4.2 No loading or unloading is undertaken on a footpath, public road, laneway or service road.<br><br>A4.3 Loading or unloading areas are designed and provided to facilitate use by the design vehicle.<br><br>A4.4 Vehicle manoeuvring must be undertaken in a forward direction. |
| P5 All driveways, car parks, loading, unloading, manoeuvring areas etc are appropriately drained and sealed. | A5.1 All areas are sealed in accordance with Part 4 Parking.<br><br>A5.2 All sealed areas are drained to Council's stormwater system.<br><br>A5.3 No surface drainage is discharged across Council's footpath or any reserve. |

**Element 5. Fencing and Security**

**Objectives**

- To minimise the visual impact of fencing to the locality; and
- To provide security to commercial development.

| **Performance criteria**<br>The fencing and security objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P1 Fencing and screen walls do not adversely impact upon the visual amenity of the area. Fencing and screen walls provide suitable security for commercial developments and properties. | A1.1 Fencing exceeding 900 mm in height is not provided forward of the front building line.<br><br>A1.2 Fencing does not exceed a maximum height of 1.8 m.<br><br>A1.3 Barbed wire fencing shall not be provided.<br><br>A1.4 Fencing evident from a public place shall be:<br>- Powder-coated black of a suitably high-quality design;<br>- As visually unobtrusive as possible; and - Where physically possible, softened with a high standard of landscaping.<br><br>A1.5 Access gates shall be set back from the public roadway a sufficient distance to allow a vehicle to stand without hindering vehicular or pedestrian traffic on the public road whilst the gate is opened or closed.<br><br>A1.6 Security gates associated with any fencing are not to open outwards onto any public place. |

| **Performance criteria**<br>The fencing and security objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P2 Shop-front security grilles do not adversely impact upon the visual amenity and passive surveillance of the area. | A2.1 Security grilles shall be permeable (see-through).<br><br>Note: Solid shutters on front windows and doors are not permissible.<br><br>A2.2 Security grilles shall be discreet, have minimal visual impact and shall not dominate the shop-front. |

**Element 6. Design for access and mobility**

**Objectives**

- To ensure that all developments, where appropriate, are designed and constructed to provide access and mobility got people with disabilities.

| **Performance criteria**<br>The design for access and mobility objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P1 Development provides an appropriate level of access and facilities for persons with a disability. | A1.1 Buildings are designed in accordance with the relevant provisions of the National Construction Code. |

**Element 7. Waste Management**

**Objectives**

- To provide for an efficient and environmentally responsible means of storage and/or disposal of waste and recycling products

| **Performance criteria**<br>The waste management objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P1 The capacity, size, construction and placement of solid waste, liquid waste and recyclable storage facilities is determined according to estimated amounts of waste and recyclables generated, safe means of collection, cleanliness and unobtrusive effects on the building and neighbourhood. | A1.1 Solid waste, liquid waste and recyclable storage facilities are sized appropriately and located behind the building line.<br><br>A1.2 Sufficient space is provided on site for the loading and unloading of wastes. This activity is not to be undertaken on any public place.<br><br>A1.3 Ready access to commercial waste containers by collectors and collection vehicles within close proximity to street frontages shall be provided and screened with landscaping and vegetation. |
| P2 Liquid trade waste requirements for development are considered and provided for. | A2.1 The development has a Liquid Trade Waste approval in place from Council and/or the Office of Environment and Heritage. |
| P3 Excavated material, demolition and builder's waste is disposed of in an environmentally-sustainable manner. | A3.1 Sites for disposal of excavated material, demolition and builder's waste are to be nominated by the developer at the time of lodgement of a development application. |

| **Note:** |
|---|
| Council may levy trade waste special rates and charges in addition to general sewerage rates and charges for acceptance of trade waste into the sewer and fix fees or charges for regulatory and other services in accordance with the Revenue Policy set out in the Council's Management Plan. Applicants wishing to discharge trade waste must enter into a service contract with Council which will set out the conditions associated with the discharge of trade waste to the sewer. |

**Element 8. Soil, water quality and noise management**

**Objectives**

- To minimise soil erosion and sedimentation by minimizing land disturbances and the provision of control measures at the source;
- To retard the flow of water into the natural drainage system and mitigate impacts from the Stormwater run-off; and
- To protect the surrounding area from unnecessary noise.

| **Performance criteria**<br>The soil, water quality and noise management objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Soil erosion**<br>P1 Adequate provision is made for measures during construction to ensure that the land form is stabilised and erosion is controlled. | A1.1 An Erosion and Sediment Control Plan is prepared by an appropriately qualified professional, addressing the existing site, the proposed development (works) and the protection of the environment, adjoining properties and infrastructure (road reserve, waterways and stormwater systems).<br><br>A1.2 The Erosion and Sediment Control Plan shall comply with the Office of Environment and Heritage's 'Managing Urban Stormwater: Soils and Construction'. |

| **Performance criteria**<br>The soil, water quality and noise management objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| **Stormwater quality**<br>P2.1 The stormwater system design optimises the interception, retention and removal of water-borne pollutants through the use of appropriate criteria prior to their discharge to receiving waters.<br><br>P2.2 The stormwater system design minimises the environmental impact of urban run-off on other aspects of the natural environment (creeks and vegetation) by employing techniques which are appropriate and effective in reducing run-off and pollution. | A2.1 Adequate pollution interception, first-flush systems are in place to comply with the Office of Environment and Heritage's 'Stormwater First-Flush Pollution'.<br><br>A2.2 Water sensitive urban design shall be undertaken in accordance with Part 5 Parking, Section 5.7 Internal drainage of paved areas.<br><br>A2.3 Development minimises earthworks (cut and fill). Where excavation works are intended to be undertaken, development applications may be required to be accompanied by:<br>– Geotechnical report evaluating site stability;<br>– Schedule of earth works (cut and fill); and<br>– Details of construction techniques.<br>A2.4 Gross Pollutant Traps (GPTs) are installed to intercept litter washed into the drainage system from car park and hardstand areas. |
| P3.1 Drainage from development site is not in excess of drainage from the site during its pre-development state. | A3.1 The stormwater discharge for development sites does not exceed the five year ARI storm event. Typically, an onsite stormwater detention system will be required to reduce the volume of stormwater discharge. |

| **Performance criteria**<br>The soil, water quality and noise management objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P3.2 Ground floors of commercial buildings are located above the 1% ARI flood level to provide protection to property in accordance with the accepted level of risk. | A3.2 Onsite stormwater and drainage control shall be designed for the 20 year ARI storm. Trunk drainage systems shall provide for the 20 year ARI event with overland flow paths designed for the 1% ARI storm event.<br><br>A3.3 Stormwater should be gravity drained to Council's stormwater system which may require inter-allotment drainage. |
| **Noise management**<br>P4.1 Hours of operation are restricted to avoid any noise nuisance on surrounding residential areas.<br><br>P4.2 Development is designed to minimise the potential for offensive noise to be generated.<br><br>P4.3 Noise control measures for any particular source should take account of all potentially affected points. | A4.1 Noise levels should not exceed the requirements of the Protection of the Environment Operations Act, 1997.<br><br>A4.2 Sources of noise such as garbage collection, machinery, parking areas and air conditioning plants should be sited away from adjoining properties and where necessary, be screened by walls or other acoustical treatments. |

**Element 9. Signage and advertising**

**Objective**

- To ensure building identification signs and business identification signs are compatible with the character of the locality.

| **Performance criteria**<br>The signage and advertising objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P1 Signs reflect the role and function of commercial premises. | A1.1 Signs are incorporated into the architecture of the building (ie located in recessed panels in the parapet or façade or on purpose-made structures which relate to the style and materials of the building). |
| P2 Signs are appropriate for the nature of the business and the locality. | A2.1 Signage shall:<br>- Be limited to one (1) sign per premises;<br>- Be non-flashing;<br>- Not be illuminated;<br>- Relate to the lawful use of the building or site on which the sign is located;<br>- Not be detrimental to the character and functioning of the building; and<br>- Not cover mechanical ventilation. |

**Element 10. Services**

**Objective**

- To ensure infrastructure has the capacity or can be adapted to accommodate new commercial development;
- To efficiently provide developments with appropriate physical services; and
- To minimise the impact of increased stormwater run-off on drainage systems.

| **Performance criteria**<br>The services objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P1 That commercial development will not overload the capacity of public infrastructure, including water, sewer, electricity, natural gas, roads, stormwater etc. The design and layout of commercial development provides space and facilities to enable efficient and cost effective provision of reticulated services. | A1.1 The development is connected to a reticulated electricity system, gas (where available) and is appropriate (or addresses) the immediate road and stormwater systems.<br><br>A1.2 Development may need to address easements affecting the site to ensure that orderly development occurs and problems are not exacerbated.<br><br>A1.3 The development is connected to Council's reticulated water supply, stormwater drainage and sewerage system to Council's requirements (including separate water meters where the development is to be subdivided).<br><br>A1.4 The development is connected to Essential Energy's reticulated system to the authority's requirements.<br><br>A1.5 The development is connected to a telecommunication system to the appropriate authority's requirements. |

| **Performance criteria**<br>The services objectives may be achieved where: | **Acceptable solutions**<br>The acceptable solutions illustrate one way of meeting the associated performance criteria: |
|---|---|
| P2 In areas where drainage infrastructure has little or no excess capacity, development which would generate stormwater run-off beyond that presently generated by the site shall provide for stormwater drainage mitigation or upgrading of the local drainage system. | A2.1 This may be achieved by:<br>- Constructing onsite stormwater detention with delayed release into the stormwater system;<br>- Designing the site to minimise impervious areas and;<br>- Incorporating an onsite water recycling system. |

# Part 4 Parking

## 4.1 Introduction

This section specifies the minimum number of vehicle parking spaces to be provided for a number of land use activities included in the LEP.

Council will determine the car parking requirement for land use activities not referred to in the table below based on the specific characteristics of the proposed development and the Roads and Maritime Services Guide for Traffic Generating Development.

Ancillary or incidental uses will be assessed as part of the main use of the building (eg the office of a supermarket will be included in the area of the supermarket and will not be treated as a separate office use).

Net lettable area (NLA) means the overall useable area of the building excluding amenities, stairways, lift-wells, public foyers and plant rooms.

No account shall be taken of spaces which do not have direct access to a driveway or which are double banked (stacked) or obstructed in any way when assessing the car parking spaces provided.

## 4.2 Required rate of vehicle parking

| Column 1<br>Land and building use | Column 2<br>Rate of provision |
|---|---|
| **Residential accommodation** | |
| Dwelling houses | One space per one or two bedrooms;<br>Two spaces per three or more bedrooms; and<br>Space(s) shall be provided behind the building line. |
| Dual occupancies and multi-dwelling housing<br><br>Note: Parking rate per separate domicile | One space for one bedroom premises;<br>Two spaces per two or more bedrooms; and<br>Space(s) shall be provided behind the building line. |
| Boarding houses, hostels and the like | One space per manager;<br>One space per two staff onsite at any one time; and<br>One space per bedroom |

| Column 1<br>Land and building use | Column 2<br>Rate of provision |
|---|---|
| Residential flat buildings and shop top housing (housing component only) | One space per one bedroom unit;<br>1.3 spaces per two bedroom unit;<br>1.5 spaces in excess of two bedrooms; and<br>One space for visitor parking for every four units or part thereof |
| **SEPP (Housing for Seniors or People with a Disability) 2004** | |
| Residential care facilities | One parking space for each 10 beds in the residential care facility (or one parking space for each 15 beds if the facility provides care only for persons with dementia) plus one parking space for each two persons to be employed in connection with the development and on duty at any one time. |
| Hostels | One parking space suitable for an ambulance;<br>One parking space for each five dwellings in the hostel plus one parking space for each two persons to be employed in connection with the development and on duty at any one time plus 0.5 car spaces for each bedroom where the development application is made by a person other than a social housing provider. |
| Self-contained dwellings | One car space for each five dwellings where the development application is made by, or is made by a person jointly with, a social housing provider[1]. |
| **Tourist and visitor accommodation** | |
| Bed and breakfast accommodation | One space per lettable bedroom plus two spaces for the permanent occupants of the dwelling.<br><br>Note: Space(s) shall be provided behind the building line. |
| Serviced apartments | One space for one bedroom premises; and<br>Two spaces per two or more bedrooms<br><br>Note: Space(s) shall be provided behind the building line. |

| Column 1<br>Land and building use | Column 2<br>Rate of provision |
|---|---|
| **Commercial premises** | |
| Business premises (including banks, post offices, hairdressers, etc), office premises and the like | One space per 40 $m^2$ of NLA |
| Entertainment facility | One space per 6.5 $m^2$ of NLA; |
| Restaurants/cafes | One space per 25 $m^2$ of NLA<br><br>Note: A 'change of use' from a commercial use to a restaurant/cafe in the B1 or B3 zones is exempt from the requirement to provide additional off-street parking where it involves no increase in floor area. Any increase in floor area will require parking to be provided at the above rate for the additional floor area only. |
| Takeaway food and drink premises where no onsite seating is provided | One space per 25$m^2$ of NLA |
| Retail premises including supermarkets, department stores and shopping centres | Small shops and neighbourhood shops:<br>One space per 25 $m^2$ of NLA<br><br>Shopping centres:<br>Up to 20,000 $m^2$ of NLA; and<br>One space per 20 $m^2$<br><br>Over 20,000 $m^2$ of NLA; and<br>One space per 25 $m^2$ for area greater than 20,000 $m^2$ |
| **Community land uses** | |
| Health consulting rooms | One space per 25 $m^2$ of NLA |
| Hospitals and the like | One space per 10 beds plus one space per each resident or staff doctor plus one space for each employee on duty at any one time plus ambulance parking. |
| Medical centres | One space per 25 $m^2$ of NLA |
| **Educational establishments** | |
| Infants and primary schools and secondary schools | One space per 1.5 staff plus one space per 10 students in year 12 plus adequate student set-down/pick-up areas, bus turning areas plus parking for auditoriums and sports stadia. |

| | |
|---|---|
| Higher education establishments, tertiary schools and colleges | One space per 1.5 staff plus one space per five students plus one space per five live-in students plus parking and turning areas for auditoriums and sports stadia. |
| Child care centres | One space per four children |
| Community facility (where a use is not specified ) | One space per 20 $m^2$ of public area. |
| Place of public worship, funeral homes and the like | One space per five seats plus additional provision for overflow parking onsite. |
| **Recreation land uses** | |
| Recreation facilities:<br>• Squash courts<br>• Bowling alleys<br>• Gymnasiums | <br>• Three spaces per court;<br>• Three spaces per alley;<br>• Seven spaces per 100 $m^2$ of NLA |
| **Bicycle parking** | |
| • Shopping centres<br>• Takeaway food shops (>20 seats) | • 1/100 $m^2$ NLA<br>• 1/10 seats |

## 4.3 Standard of provision

Car parking is to be provided on the site of the development. The layout and dimensions of car parking areas shall be in accordance with the design standards as set out in Schedule 1 and in accordance with AUSTROADS and Australian Standard AS2890.1:2004. All required car parking areas, driveways, turning areas and loading areas shall be paved in a bitumen seal coat, asphaltic or bituminous concrete, cement concrete, concrete paving blocks or brick paving blocks.

## 4.4 Construction requirements

The standard of wearing surface required will be dependent upon the type of development proposed having regard to traffic loadings. The pavement design incorporates the sub-base and wearing surface. The sub-base should be designed by a certified practicing engineer. As a general rule the following surfaces will be required as a minimum standard:

***Residential flat buildings, multi-dwelling housing and shop top housing*** – driveways, turning areas, loading areas and car parking areas – two coat bitumen seal;

***Serviced apartments development*** – driveways, turning areas, loading areas – bituminous or asphaltic concrete; car parking areas - two coat bitumen seal;

***Commercial development*** – driveways, turning areas and loading areas – bituminous or asphaltic concrete; car parking areas – two coat bitumen seal; and

All parking spaces shall be suitably marked by lines or other approved means. Free and uninterrupted access to car parking areas shall be maintained at all times.

## 4.5 Parking aisles

The use of 'dead-end' or 'blind' car parking aisles is not recommended where the length of the aisle exceeds 15 m from the nearest circulation aisle. The purpose of this requirement is to prevent vehicles reversing along aisles and interfering with the normal flow of traffic.

Where aisles are in effect internal roads leading to parking areas or individual garages, such as occur in multi-dwelling developments, the following minimum dimensions apply, assuming that no parking is permitted on either side of access-way between:

- 0 to 50 spaces or service bay – 6 m wide; and
- 50 plus spaces or service bays – 6.5 m wide.

Widths need to be increased by 2.7 m or 4.8 m if parallel parking is permitted on one or both sides of the accessway respectively.

## 4.6 Manoeuvrability

Council will not accept the use of turning circles for vehicles of smaller dimensions than those standard vehicles shown in those drawings.

For entrances and exits from a road onto the site, turning paths are to be in accordance with AUSTROADS 'Desirable minimum radius (turning speeds 5-15 km/h)'.

Vehicle turning paths within the site, as a minimum, are to be in accordance with AUSTROADS 'Absolute minimum radius (for use at mandatory stop only. Turning speed up to 5 km/h)'.

## 4.7 Internal drainage of paved areas

### 4.7.1 Development incorporating less than 10 off-street parking spaces

Internal stormwater from paved areas of developments (other than class 1a dwellings) shall be designed to comply with the current edition of the National Construction Code.

Provision in the stormwater design for relief surface drainage to Council's street system or temporary onsite pooling in the event of more intense storm events shall be made. Overflow drainage from roofs and paved areas and surcharges from piped systems shall not be permitted to enter adjoining private lands and if necessary, the system shall be increased in capacity to reduce such an occurrence to at least the '1 in 50 year' recurrence level.

### 4.7.2 Development incorporating 15 or more off-street parking spaces

Paved areas/car parks associated with developments requiring 15 or more off-street parking spaces shall adopt Water Sensitive Urban Design (WSUD) principles with any off-site flows to comply with 3.4.1 above.

WSUD offers an alternative to the above traditional approach to stormwater management through onsite reuse of the water whereby stormwater is regarded as a resource rather than a burden.

Parking areas in particular can be a large generator of run-off and polluted stormwater. Gently sloping grassed or landscaped basins (see Photo 1) may be used to capture water for reuse as well as to allow for filtration and the deposition of sediment. This is usually accomplished by incorporating specifically designed inlet structures that permit the temporary storage of water.

Suggested WSUD principles to incorporate in parking areas include:

- Porous pavement: 'overflow' or infrequently used parking areas could be constructed with porous pavement;
- Car park storage detention: incorporate gently sloping grassed areas or recessed basins into car parks to encourage detention and treatment of run-off;
- Infiltration: use infiltration trenches where appropriate to minimise run-off from the site;
- Retain natural drainage paths; and
- Landscape: incorporate vegetation to improve amenity and water use.

Detailed drainage plans with construction designs and calculations (specifying the WSUD together with provision for off-site flows complying with 3.4.1 above) are required to be submitted with the construction certificate application except where a construction certificate is not required. In such circumstances the detailed design and construction plans are to be lodged with Council in association with the development application or submitted to and approved by Council prior to construction commencing.

## 4.8 Additional drainage information

The following design parameters from AS/NZ S3500.3 are reiterated for information:

<u>Arrestors</u>

Arrestors shall be installed to remove contamination, generally silt or oil or both, from stormwater prior to discharge to the stormwater system.

<u>Inspection Openings</u>

Inspection openings shall be installed except for Class 1 buildings and where inlet/stormwater pits are provided.

With respect to stormwater systems draining relatively small catchments (ie generally less than 150 $m^2$), Council may give consideration to varying the requirement to install an arrestor(s). Arrestors serving car park areas, unless acceptable evidence is otherwise presented to justify its deletion, will be required to be designed to remove oil in addition to silt.

Council will not approve of stormwater drainage systems relying solely on surface drainage to a vehicular cross-over interception channel unless levels prevent the design of a piped system or the surface catchment is relatively small (ie generally less than 150 $m^2$). Should Council permit the use of a vehicular cross-over interception channel it shall be designed with:

- A minimum clear channel opening width of 200 mm; and
- A 'medium' grate load rating (ie wheel loadings not exceeding 3,500 kg) for residential and commercial developments.

Further, in such circumstances, any roof water from the development is to be piped separately to the Council's stormwater system or a WSUD system not discharged onto the surface drainage paved area.

When bitumen surfaces are proposed, concrete spoon drains are required to be constructed if the depressions are used to carry surface run-off to the piped drainage system rather than concrete integral kerb and gutter. No surface drainage will be permitted to discharge across Council's footways or reserves.

Sump and sump systems to drain basement car parks are not generally favoured by Council because of the problems due to pump breakdown or power failure. However, where no alternative exists, a suitably-designed and sized system with back-up pump facilities will be considered.

Note: Conceptual designs for all internal drainage of paved areas shall be submitted to Council in conjunction with the development application to indicate:

(a) How and where the development is to be drained;
(b) Do actual site levels (to Australian Height Datum [AHD]) permit drainage to the point(s) of discharge proposed; and
(c) Sufficient details as to whether the system configuration will generally be in accordance with Council's policy requirements.

The detailed drainage plans with construction designs and calculations are required to be submitted with the construction certificate application except where a construction certificate is not required. In such circumstances the detailed design and construction plans are to be lodged with Council in association with the development application or submitted to and approved by Council prior to construction commencing.

## 4.9 Access requirements

Access driveways – safety considerations

Public safety is the main consideration when planning the location of access to a development. The location of access depends on the following factors:

(a) Type of road frontage;
(b) Sight distance;
(c) Intersections; and
(d) Potential conflicts.

Direct public access from Boundary Road is to be limited to one entry/exit point.

Access driveways are to be located so as to obtain maximum sight distance. It is necessary that any vehicle entering or leaving the driveway is visible to approaching vehicles and pedestrians. The absolute minimum requirement to achieve this is stopping sight distance. This is known as Approach Sight Distance (ASD).

Ideally, the sight distance required is that which enables the driver of a vehicle waiting to leave a driveway to select a gap in the through traffic and to join the street without causing major disruption. This is the desirable sight distance. This is known as Safe Intersection Sight Distance (SISD).

AS/NZS 2890.1:2004: Off-Street Car Parking gives minimum and desirable sight distances for a range of frontage road speeds.

## 4.10 Signposting and marking

Clear and precise marking of a parking area is of prime importance in the prevention of 'choking' of the access aisles, vehicle conflict and for the general use of the facility. Details of all proposed signposting and marking for parking areas shall be submitted with the development application for Council's consideration.

One-way markings shall be clearly set out on the pavement in such a manner as to be easily readable and understandable to the users of the car park. In certain situations the installation of signs to Council's satisfaction may be required over and above the normal requirements.

White paint or markers shall be used for pavement marking.

All parking bay delineations, arrows and other information painted on the pavement shall be marked using white paint or approved markers. Delineations should not be less than 75 mm or greater than 100 mm wide.

## 4.11 Loading docks and service areas

Adequate provision is to be made onsite for the loading, unloading and manoeuvring of all delivery vehicles including service vehicles such as garbage trucks and courier vans. Particular care should be taken that all standard design vehicles can reverse, load and unload into and out of all loading areas without causing conflict to the movement of traffic onsite or in the adjacent street or pedestrians. Delivery vehicles shall stand entirely within the site during all loading and unloading operations and shall be clear of car parking, access aisles,

pedestrian access-ways and adjacent streets and footpaths.

For details of acceptable loading area requirements, reference is made to the 'Guide to Traffic Generating Developments' by RMS or the Australian Standard AS 2890.2 – 'Off-Street Parking Part 2: Commercial Vehicles Facilities'.

Details regarding the estimated type, size and frequency of delivery vehicles visiting the development are to be submitted with the development application.

## 4.12 Pedestrian access through parking areas

It is considered highly desirable that pedestrians be separated from vehicular traffic as much as is physically possible. To this end, it is recommended that consideration be given to the provision of pedestrian thoroughfares within the parking area. Such areas may be suitably integrated with the landscaping proposals for the parking area. If provided, pedestrian thoroughfares shall be provided on alignments desirable to pedestrians.

## 4.13 Circulating roadways and ramps

Design of circulating roadways and ramps shall be in accordance with AS/NZS 2890.1:2004.

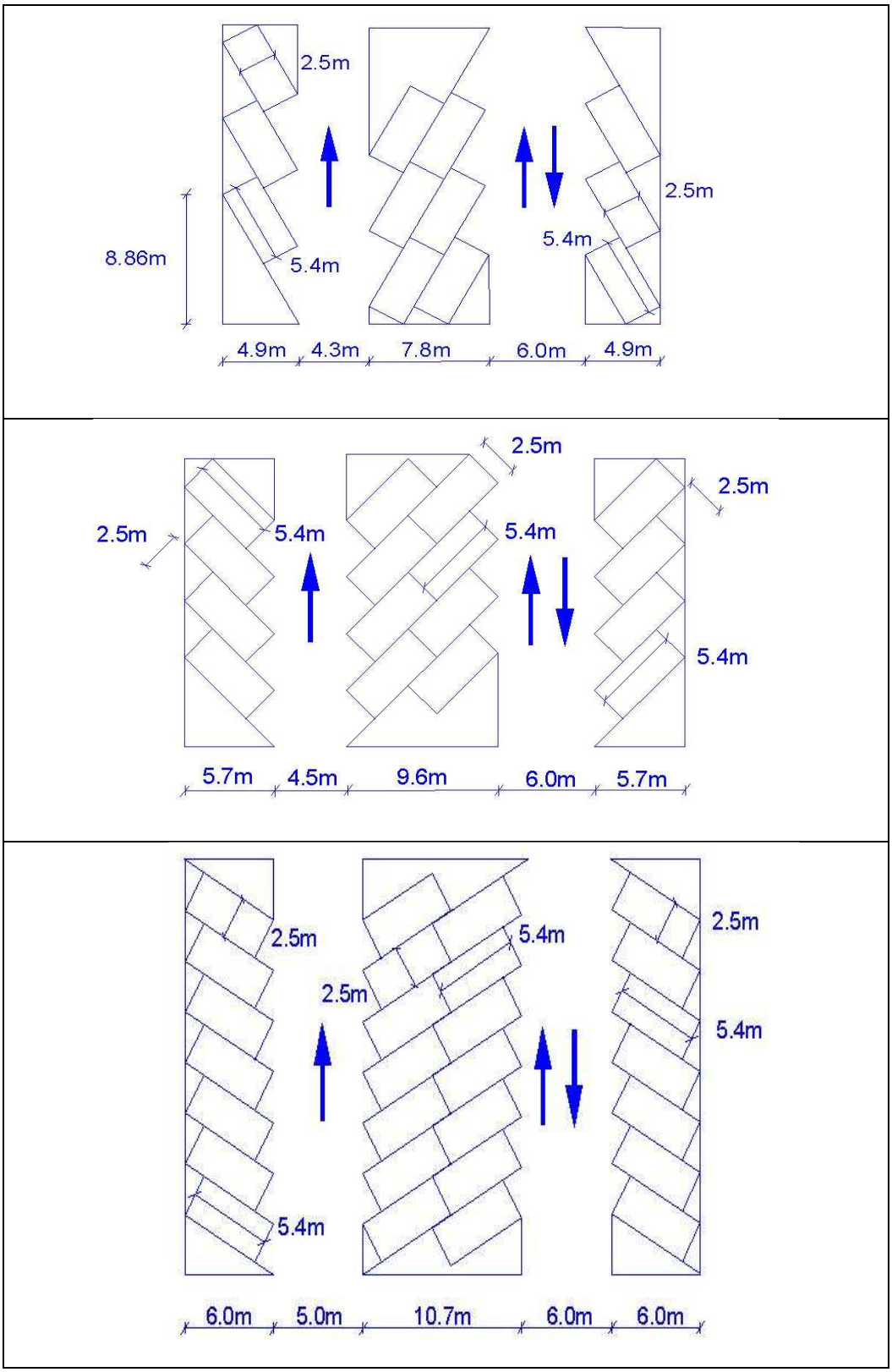
Special care shall be given to ramp grading in the design stages to ensure that the 'break-over' angle coming onto or off a ramp is not so severe as to cause scraping, impairment of vision or a pedestrian hazard.

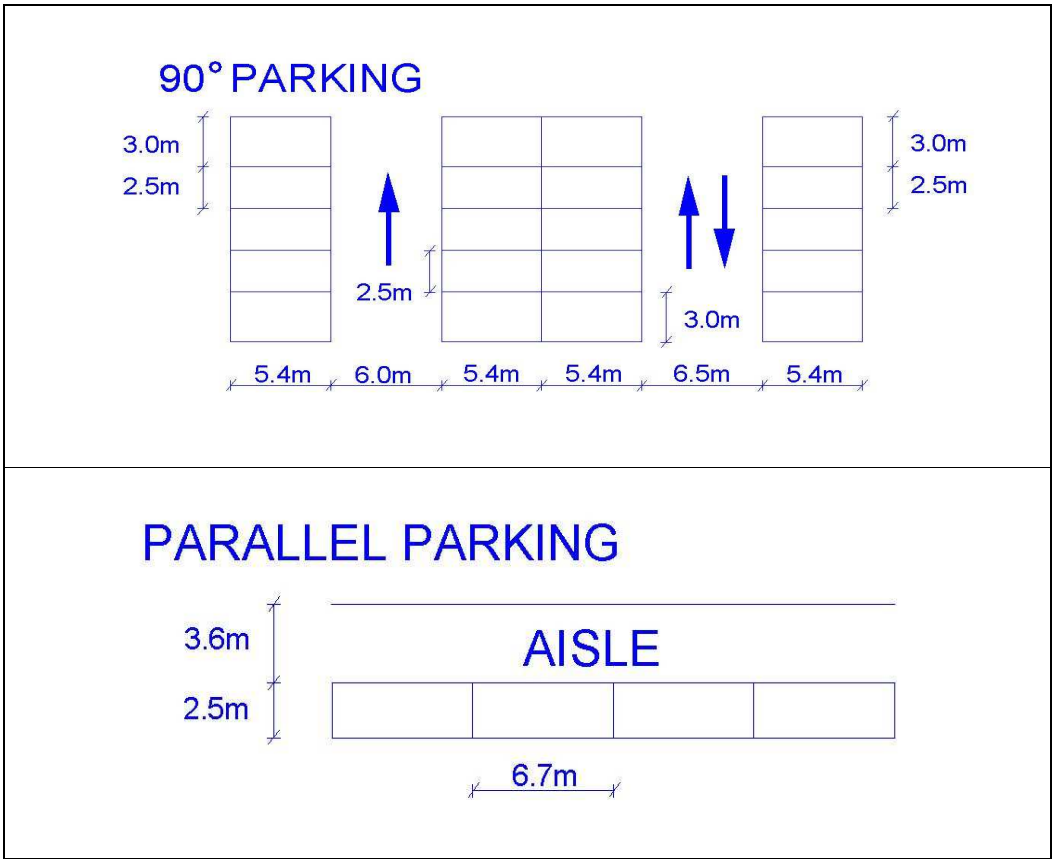
## 4.14 Parking for persons with a disability

Parking spaces for persons with a disability are to be provided and signposted in accordance with the requirements of the Australian Standard AS/NZS 2890.1:2004.

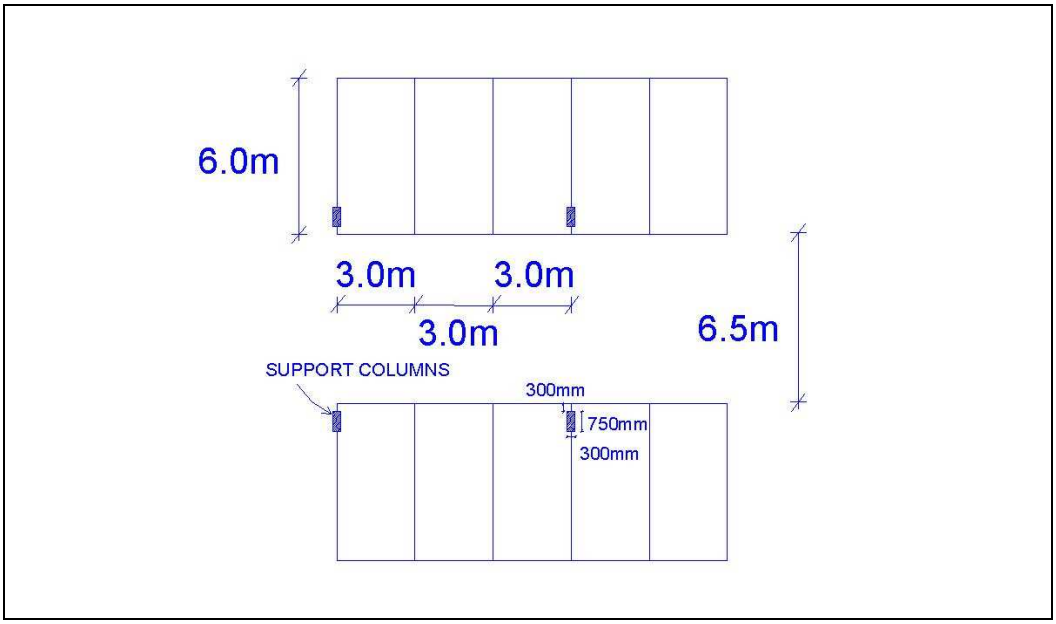
The number of accessible car parking spaces required to be provided is prescribed in Table D3.5 of the National Construction Code.

**Schedule 1: Design standards**






**Off-street car parking layout**




**Example of layout for undercover car parking area**