Armidale
Dumaresq Council

Armidale Dumaresq
Development Control Plan 2012

Section 1 Development Control Plan General Matters

Effective date 26 June 2013
Revision date 29 October 2020

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Part 1 Introduction

1.1 Name of this Development Control Plan

The name of this document is the *Armidale Dumaresq Development Control Plan 2012 (DCP 2012)*.

1.2 Commencement of this Development Control Plan

The *Armidale Dumaresq Development Control Plan (DCP) 2012* was adopted by Council on 24 June 2013 and came into effect on 26 June 2013.

1.3 Repeal of Armidale Dumaresq Development Control Plan 2007

This *Armidale Dumaresq DCP 2012* replaces the *Armidale Dumaresq DCP 2007*. Applications lodged for assessment up to the date of adoption of this Plan will be assessed under the DCP applicable at the lodgement date of the application.

1.4 Legislative background

This DCP has been prepared pursuant to Part 3 of the *Environmental Planning and Assessment Act 1979 (EPA Act)*. Development Consent under the EPA Act is required for most building works, subdivision of land, and changes in land use. Consent may also be required for undertaking 'works' such as significant earthworks. However, some projects with minor environmental impact can be carried out without development consent. Relevant State government State Environmental Policies and Council's Local Environmental Plan (LEP) identify whether consent is needed to carry out a particular development.

1.5 Relationship to the Armidale Dumaresq Local Environmental Plan 2012

LEPs are statutory planning instruments and should be read with this document. LEPs establish the type of development that is permissible in particular locations. This is done mainly through land use zoning and other statutory provisions and standards outlined in the LEP.

Where an LEP permits and a development application must be submitted, this DCP provides further guidance and more detailed requirements that specific proposals must address.

This DCP supports the LEPs applying to Armidale Dumaresq local government area. Armidale Dumaresq LEP 2012 (LEP 2012) applies to most of Armidale Dumaresq. The areas that LEP 2012 does not apply to are identified on the LEP maps as a 'Deferred Matter'. In the 'Deferred Matter' areas Armidale Dumaresq LEP 2008 (LEP 2008) applies.

A copy of our current LEPs and any amendments can be obtained from the NSW Parliamentary Council's website, www.legislation.nsw.gov.au (under 'Environmental Planning Instruments in force'); from Council's offices at 135 Rusden Street, Armidale; or, on Council's website www.armidale.nsw.gov.au

1.6 Relationship to legislation, plans and policies

Other Federal, State and local legislation and Council policies may apply to your development, including matters relating to issues such as infrastructure, signage, access for people with a disability, health requirements, engineering, and utility services.

Where there is an inconsistency between the provisions of an environmental planning instrument, (such as a State Environmental Planning Policy Council's LEP 2012 and this DCP, the environmental planning instrument will prevail to the extent of the inconsistency.

1.7 Aims and objectives of this plan

The aim of this Plan is to explain the legislative planning requirements for development activity in the Armidale Dumaresq local government area, including land subdivision, land use, and construction and building.

The objectives of DCP 2012 are:

O.1 To outline the controls required for development (including subdivision and construction) in specific land use zones.

O.2 To encourage excellence in design to ensure buildings maximise solar access to living areas and private open space, and use any site to its best advantage.

O.3 To promote health, safety and amenity in the planning, design, construction and performance of individual buildings and the built environment.

O.4 To protect the environment, including the impacts on land, air and water, flora and fauna, habitats and biodiversity from the built environment.

O.5 To promote sustainability in infrastructure provision, construction materials, waste minimisation, and energy and water saving products.

O.6 To preserve and protect rural and scenic landscapes.

O.7 To avoid land use conflict and protect amenity.

O.8 To conserve and promote the heritage attributes.

1.8 Land to which Development Control Plan 2012 applies

DCP 2012 applies to all land in the Armidale Dumaresq local government area.

The following table outlines the current zone names in the LEP 2012 applying to land in the Armidale Dumaresq LGA.

R1	General Residential	B2	Local Centre
R2	Low Density Residential	B3	Commercial Core
R5	Large Lot Residential	B4	Mixed Use
RU1	Primary Production	B5	Business Development
RU3	Forestry	B7	Business Park
RU4	Primary Production Small Lots	IN1	General Industrial
RU5	Village	IN2	Light Industrial
E3	Environmental Management	RE1	Public Recreation
E4	Environmental Living	RE2	Private Recreation
SP2	Infrastructure		

1.9 Amendments to the development control plan

Any amendments made to the DCP can only take effect after a process of public exhibition, consideration of submissions, formal adoption by Council and notification of commencement in a local newspaper.

Adopted amendments to this DCP at the date of publication of this edition are set out in the table below:

Amendment Number	***Section of the DCP Amended***	***Details of Council Resolution and Date of Effect***
1	Part 5 and 6 deleted	Resolution Number 279/19 Date of Effect 29 October 2020

Part 2 What is a development control plan?

Development Control Plans (DCPs) provide specific, more comprehensive guidelines for certain types of development, or areas and precincts within Armidale Dumaresq. The detailed guidelines contained within a DCP are in addition to the provisions of the legal planning instrument (SEPP or LEP). DCPs are important in the planning system because they provide a flexible means of identifying additional development controls for addressing development issues without the need for a formal statutory plan.

Part 3 Variations to development controls

3.1 Variations for individual applications/assessment on merit

All development applications are assessed in relation to the relevant legislation, and the merits and circumstances of the application. The development controls in this DCP are a set of 'deemed to satisfy' provisions that Council is satisfied will achieve the relevant objectives. Council will consider alternative solutions where an Applicant can demonstrate that the development would satisfy the objectives. Alternative solutions must demonstrate that a better outcome can be achieved than would be the case if the development standard were applied.

Where applicants wish to apply for variations to controls in this DCP, we recommend early discussion with planning staff.

Please refer to the provisions in Clause 4.6 of the LEP 2012 where it is proposed to vary a development standard in the LEP.

Part 4 Structure of this plan

This Plan has the following six sections:

Section 1 – Development control plan general matters

Section 1 includes material which has general application and explains what a DCP is; and where and when it applies. This Part also explains the process of development consent. It does not outline the provisions for Exempt Development or Complying Development. These matters are dealt with in the *State Environmental Planning Policy (Exempt and Complying Development) Code 2008* and other legislative instruments.

Where development consent is required for construction, demolishing and subdivision, a development application is required by Council. This part sets out procedural and other matters relevant to Council's role as a development consent authority. This includes information to be addressed in applications, criteria for assessment and requirements for notifying the public of applications we receive.

Section 2 – Site analysis and land constraints

This section outlines the site issues to be addressed in a development application, including designing to manage site attributes and constraints.

Sections 3, 4 5 & 6 – Development controls

These sections describe the relevant controls for development applications for various types of development activity, such as subdivision, residential development, commercial development, industrial development and so on.

Section 7 – Locality specific precincts

This section contains information on special provisions applicable to particular localities. Please check whether your proposed development is located in one of these areas.

Part 5 Assessment of Development applications on council owned or controlled land

5.1 Who undertakes assessment on Council owned land?

When considering an application for land that Council owns or controls, and where Council would normally be the decision-maker, an independent assessment of the application will be undertaken by:

a) appropriately qualified Council Officers not involved in preparing or commissioning the application; and/or

b) appropriately qualified Consultants; and/or

c) appropriately qualified officers of another Council.

Where outside assistance is required, Council will consider the estimated cost of the development, the public interest in the matter and the extent of any public concern that may be evident to Council on the matter. Small-scale, uncontroversial applications would always be processed 'in-house'. Consultants, or the staff of another Council, would normally be used where there are inadequate internal resources to separate Council's functions or the matter is considered significant in size, cost or in terms of public interest.

5.2 Determination of council applications

An application for land which we own or control will be determined at an open meeting of the Council, unless:

a) the application involves matters which must be considered in private, pursuant to s.10 of the *Local Government Act 1993*, in which case we will first discuss the most appropriate means of dealing with the matter with our legal advisors or the state government; or

b) the development does not involve:

   i) 'Designated development' under the *Environmental Planning and Assessment Act 1979*; or

   ii) development to which s.23G of the EP&A Act applies, involving determination by a Joint Regional Planning Panel; and

   iii) development that is of State significance under the Act or which under any other relevant legislation requires determination by an agency other than Council; or

c) the development is not being undertaken primarily to return a financial benefit to the council or the proposal relates to an operational activity of the council; and

d) no objections have been received in response to public notification of the application; and

e) the proposed development complies with all applicable development standards; and

f) Councillors have previously been notified of the proposal;

in which case the application may be determined by the General Manager or delegate, provided they have not been involved in the preparation of the application.

Part 6 Political donations

Section 147 of the *Environmental Planning and Assessment Act 1979* makes specific provision for the declaration by applicants or persons making submissions (or their associates) in relation to development applications under the Act, where they have made certain political donations or gifts to a local Councillor or employee of Council.

Such declarations must then be maintained in a public register and included on Council's web site. Further details of the relevant requirements are included in Council's development application forms and notification letters.

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Section 2 Site Analysis and General Controls

Chapter 2.1 Site Analysis

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Step 1

Check the zoning of your land (see zoning maps and LEP 2012).

Is the development permissible within the zone?

No

No further action.

Discuss possible alternatives with planning staff.

Step 2

Read relevant Chapters in Section 2 Site Analysis and General Controls

Read other Chapters identified as relevant in your site analysis process.

Read the Chapter relevant for your development type.

Step 3

Undertake preliminary site analysis to identify all site constraints

and prepare conceptual sketch plans, ideas and suggested solutions to constraints.

Step 4

Consult with your Planning Consultant/Designer and use the site analysis process to inform your design.

Ensure your development takes into account the advantages and contraints idenitfied on your site and maximises solar access to habitable buildings.

Address these matters in your SEE.

Obtain relevant specialist reports.

Prepare your Development Application.

Step 5

During the above process you may wish to meet with Council staff for a pre-development application meeting.

When meeting with Council, bring all relevant material including concept plans and sketches to this meeting.

Your Planning Consultant/Designer should also attend this meeting.

Step 6

Make an appointment with a Planner to submit completed:

- Development Application form;
- Site Analysis, Site, Floor and Elevation plans (where relevant);
- Statement of Environmental effects (SEE); and
- any relevant specialist reports.

Step 7

Development Application checked by Council, lodged and fees paid.

Part 1 General provisions

1.1 Introduction

This chapter outlines the site analysis requirements for all development in the Armidale Dumaresq local government area. Undertaking site analysis is mandatory for any development, including subdivision. The site analysis establishes the development context by identifying and explaining graphically how the proposed buildings, works or lots will relate to each other and their immediate surrounds, and will show the key influences on the design. The site analysis will identify land use conflicts, and highlight the advantages, and the hazards and constraints, on the site.

The purpose of this chapter is to outline the process of undertaking an analysis of your site, and how this site analysis will inform your development proposal.

1.2 Objectives

The objectives of this chapter are:

O.1 To encourage thoughtful planning, including lot layout and the design of new development, that considers the site advantages and constraints to maximise the effective use of the site.

O.2 To reduce the risk to landowners and the public of loss of life; injury; or damage to property.

O.3 To provide guidance on suitable passive and active protection measures relating to siting, layout, design and construction techniques, and landscaping where site constraints and hazards occur.

O.4 To ensure that the lot layout and the design of new development minimises the environmental impact of development, and the impact on the amenity of the locality and the streetscape.

1.3 Land to which this chapter applies

This chapter applies to all land in the Armidale Dumaresq local government area.

1.4 Addressing the guidelines in this chapter

The guidelines for site analysis are set out in this chapter. These are expressed in the form of objectives that need to be addressed for each development proposal. For each objective (O), 'acceptable solutions' (S) are provided which, if met, will ensure compliance. Alternative approaches may be proposed, provided these adequately address the relevant objectives and comply with legislation.

Part 2 Site Analysis

A site analysis is necessary to ensure that the development is of high quality, sensitive to its environment and positively contributes to its context. A thorough site analysis will ensure that site layout and building design addresses existing and possible future opportunities and constraints of both the principal site and its surrounds.

An analysis of the site and its context is a fundamental stage of the design process and will support many key design decisions relating to the proposal. The site analysis allows consideration of a range of issues that may affect development, such as; siting for solar access; overshadowing; community safety; road access; availability of essential services; aspect and views; privacy; vegetation; heritage; noise; bushfire risk; energy consumption and waste generation.

The applicant must demonstrate to Council that a site analysis has been undertaken in preparing the site for development, and that due consideration has been given to the identified opportunities and

constraints. Where land use conflicts, hazards and or constraints are identified on the site, these must be addressed in the development application; in the Statement of Environmental Effects (SEE); and in your site analysis and site plans. Specialist reports may also be required.

Section 2 - Site Analysis and General Controls must be read in conjunction with the relevant chapter relating to the type of development being undertaken. Other chapters in Section 2 relate to specific land use and constraints issues.

2.1 Heritage items and/or Heritage Conservation Areas

S.1 Where development is to take place on a heritage item (or an interim heritage item), or in a heritage conservation area, the relevant provisions in *LEP 2012* Clause 5.10 and heritage Chapters 2.3 European Heritage or 2.4 Aboriginal Heritage must be addressed.

2.2 Removal or pruning of trees to facilitate development

S.2 Where tree removal or pruning is required to facilitate development, the relevant provisions in *LEP 2012* Clause 5.9 and Chapter 2.2 – Tree Preservation must be addressed.

S.3 All existing vegetation and vegetation proposed for removal must be identified on a site plan (including location and species).

S.4 Buildings, internal driveways and outbuildings must be sited to minimise the requirement for tree removal.

2.3 Proposals for removal of street trees to facilitate development

S.5 Proposals for street tree removal must be addressed prior to submitting a Development Application.

Note: Street tree removal is considered in Council's POL120 Urban Streetscape (Street Vegetation) Policy. All alternatives to street tree removal must be considered and alternative solutions addressed in any application. Compensation for the removal of street trees is required.

2.4 Essential services

LEP 2012 Clause 6.6 requires that development consent must not be granted unless services that are essential for the development are available or that adequate arrangements have been made to make them available when required. This includes services for:

a) the supply of water;
b) the disposal and management of sewage;
c) stormwater drainage or on-site conservation;
d) the supply of electricity;
e) suitable road access.

It is recommended at the site analysis stage of the development that applicants seek advice from the appropriate servicing authority to confirm that the relevant services and service capacity for the specific development is, or can be, made available.

The following information must be identified on a site plan:

S.1 The location of utility services, including electricity poles and lines (above and below ground), stormwater drainage lines, natural drainage and kerb crossings.

S.2 The location of any infrastructure easement or rights-of-way.

2.4.1 Water supply

S.3 Water servicing requirements are outlined in Council's Water and Sewerage Development Servicing Plans and the relevant DCP Chapter.

2.4.2 Sewerage system requirements

S.4 Sewerage servicing requirements are outlined in Council's Water and Sewerage Development Servicing Plans and the relevant DCP Chapter.

2.4.3 Electricity and telecommunications supply

S.5 Electricity supply must be provided in accordance with the requirements of the relevant authority.

S.6 Where an electricity supply is proposed, consideration is to be given to the likely future extension of the power supply into surrounding properties that may be subject to future subdivision or development. In these circumstances, logical, efficient and environmentally sensitive extensions to electricity supply networks should be planned in consultation with the relevant power authority.

S.7 Council will also consider alternative methods of providing power if:

a) it is provided in accordance with relevant Australian Standards;

b) it can be demonstrated that it will be sufficient to meet the needs of the proposed use of the land; and

c) where the power supply is to serve more than one lot, appropriate measures or agreements will be put in place to ensure ongoing provision and maintenance.

S.8 Internal connections of the power supply are to be located to avoid or minimise the removal of trees.

S.9 Electricity boxes and telecommunications supply boxes should not be located on the front façade of a new building.

S.10 Battleaxe allotments are to be serviced with underground electricity to the rear of the accessway.

S.11 The developer is responsible for the cost of any extension and connection of electricity, telecommunication and NBN services.

Electricity Sub-Stations and Telstra Multiplexers

Essential Energy and Telstra are to be consulted to determine if provision must be made for either sub-stations or multiplexers within any subdivision. Applicants must supply written evidence that they have consulted the relevant authorities and addressed the Council's preference for infrastructure locations as part of the documentation accompanying any subdivision application.

S.12 Sub-stations or multiplexers are to be located within public reserve areas where possible.

2.4.4 Stormwater drainage

S.13 Stormwater drainage requirements are outlined in DCP Chapter 2.7 Floodplain Protection and Stormwater Drainage.

S.14 Stormwater drainage systems must be designed to be easily accessible and maintained.

S.15 Drainage from sites should reflect the pre-existing or natural situation in terms of location, quantity, quality and velocity. The works are to include measures for sediment control, denitrification and scour protection.

S.16 In some circumstances, drainage easements over adjoining properties may be required.

	Consent from the adjoining property owner is to be submitted as part of the development application.
	2.4.5 Road access
S.17	Road access requirements are outlined in the relevant DCP Chapter.
2.5	**Flood prone land**
The following provisions are based on the recommendations of the Armidale Floodplain Management Plan (1998) and the Armidale Flood Study (2004) but with changes to the definitions and terms used so that they are consistent with those in the NSW Government Floodplain Management Manual (2005). For land outside Armidale, Council has not undertaken flood studies for watercourses. However, Council has completed studies for land subject to a Probable Maximum Flood (PMF) in the event of a dambreak for properties downstream from Dumaresq Dam, Puddledock Dam, and Malpas Dam/Gara Dam. Flood maps for a Dambreak PMF are held at Council.	
S.18	Development in mapped flood prone areas must be designed to take into account the provisions of *LEP 2012* Clause 6.2 Flood planning, Chapter 2.7 Floodplain Protection and Stormwater Drainage and be designed in accordance with the current Council's Floodplain Management Policy POL038.
2.6	**Bushfire prone land**
O.1	To reduce the level of fire risk associated with building in bushfire-prone areas by adopting suitable passive and active protection measures relating to siting, layout, design and construction techniques, and landscaping.
O.2	To provide access for emergency vehicles and evacuation routes.
Subdivision and construction on bushfire prone land requires approval under Section 100B of the *Rural Fires Act 1997* and is therefore integrated development for the purposes of Section 91A of the *Environmental Planning and Assessment Act 1979*.	
S.19	A bush fire safety authority (s100B) must be obtained before undertaking subdivision of bush fire prone land for residential or rural residential purposes or development of bush fire prone land for a special fire protection purpose (refer to Rural Fires Act).
S.20	All development (including subdivision) on designated bush fire prone land must meet the requirements of the current *Planning for Bush Fire Protection* and its Appendices, and the current Australian Standards *AS3959 – Construction of Buildings in Bush Fire Prone Areas.* This will include addressing the following key issues: a) asset protection zones between the proposed building and adjacent unmanaged vegetation; b) water supply for fire fighting purposes; c) road access; d) emergency vehicles and possible evacuation; e) footpath connections; f) access layout, design and construction standards; g) the location of utilities.
S.21	Emergency and/or footpath connections are to be provided into residential areas with only one road access and with more than 30 allotments.

2.7 Contaminated land

State Environmental Planning Policy No. 55 – Remediation of Land advises that no consent for development may be granted unless there is consideration of whether the land is contaminated, and, where land is contaminated, whether the land is suitable either in its contaminated state, or after remediation for the proposed development.

The SEPP is supported by the Government's *Managing Land Contamination Planning Guidelines 1998*. This document provides a list of potentially contaminating activities and extensive advice about the identification, management and remediation of contaminated land.

S.22 Where a Development Application is submitted and an applicant is aware of any activities on the subject land that may have led to land contamination, including historical use of the land, this information must be provided to Council and the Environment Protection Authority (if not already provided).

S.23 Where it is proposed to carry out development on land that has been identified as contaminated or potentially contaminated, the provisions of SEPP No. 55 – Remediation of Land and Chapter 2.5 Contaminated Land and any other relevant legislation must be addressed in the development application.

2.8 Earthworks and geotechnical assessments

Earthworks include site excavation, fill, retaining walls and batters.

S.24 Where earthworks are required to facilitate development, the relevant provisions in *LEP 2012* Clause 6.1 Earthworks and Chapter 2.6 – Earthworks and Geotechnical Investigations must be applied.

Chapter 2.6 also outlines the requirements for designing to manage geotechnical risks such as slope or spring activity, and soil shrink-swell movement. Refer to Chapter 2.6 and the accompanying DJ Douglas report for geotechnical information in the Armidale area. The information in the report is to be used to undertake precautionary works and to develop appropriate engineering solutions for development where these hazards exist.

Part 3 Erosion, run-off and sediment management on site

S.1 Run-off and erosion controls must be implemented to prevent soil erosion, water pollution or the discharge of loose sediment on the surrounding land by:

a) diverting uncontaminated run-off around cleared or disturbed areas; and

b) erecting a silt fence to prevent debris escaping into drainage systems and waterways; and

c) preventing tracking of sediment by vehicles onto roads; and

d) stockpiling top soil, excavated materials, construction and landscaping supplies and debris within the lot.

S.2 Erosion and sediment control measures are to be designed to comply with the current Landcom Manual for *'Managing Urban Stormwater Soils and Construction'*.

S.3 Erosion and sediment control measures are to be implemented and maintained during the period of construction.

The development consent conditions will specify the applicable requirements for erosion and sediment control.

Part 4 State Environmental Planning Policies

4.1 State Environmental Planning Policy No 44—Koala Habitat Protection

SEPP No. 44 - Koala Habitat Protection encourages the conservation and management of natural vegetation areas that provide habitat for koalas to ensure permanent free-living populations will be maintained over their present range.

S.1 For land that has an area of more than 1 hectare, or has, together with any adjoining land in the same ownership, an area of more than 1 hectare (whether or not the development application applies to the whole, or only part, of the land), the provisions of SEPP No. 44 - Koala Habitat Protection must be considered and addressed in your development application.

4.2 State Environmental Planning Policy (Rural Lands) 2008

This clause applies to land in a rural zone (RU1, RU4 and RU3), a rural residential zone (R5) or an environment protection zone (E1, E3 and E4).

State Environmental Planning Policy (Rural Lands) 2008 requires applicants to consider the proper management, development and protection of rural lands and to reduce land use conflicts when developing rural lands for rural and related purposes.

S.2 For development in a rural zone, a rural residential zone or an environment protection zone, the provisions of *State Environmental Planning Policy (Rural Lands) 2008* must be considered and addressed in your development application.

4.3 Other State Environmental Planning Policies

A range of other State Environmental Planning Policies apply to specific types of development. A list of all SEPPs can be found under the EPIs heading 'S' at http://www.legislation.nsw.gov.au/maintop/scanact/inforce/NONE/0

Part 5 Land Use Conflicts

Potential land use conflict may arise between future development and existing adjacent land use. Nuisance can result from existing or proposed developments that generate dust, spray drift, odour, lighting, vibration or noise.

5.1 General land use conflict matters

S.1 Where land use conflicts have been identified, a suitably qualified person must prepare an assessment of the impacts, and outline the potential affects on the proposed development and on the surrounding developments. In addition, recommendations for mitigation must be provided.

5.2 General noise and vibration matters

S.2 Where development is proposed near busy roads, rail corridors, airports, wind farms and other potential noise producing development; or, where a proposed development may generate noise that will impact on the surrounding area, the impact of the noise may require assessment.

S.3 Where a noise (acoustic) assessment is required, the assessment must be prepared by a suitably qualified person, and outline the impacts of the noise on the proposed development and surrounding developments. In addition, recommendations to mitigate the noise impact on existing or future development will be required.

S.4	For detailed information relating to noise impacts on development and the requirements for assessment, refer to Chapter 2.8 Noise.
S.5	Where development is proposed adjacent to a rail corridor, the potential impact of vibration on the development is to be identified along with measures to reduce any adverse impact.
5.3	**Airport Buffer and the Wastewater Facility Buffer**
The *LEP 2012* maps identify buffer areas around the Armidale Regional Airport and the Armidale Wastewater Facility.	
S.6	Proposals for development in the Airport Buffer and the Wastewater Facility Buffer are required to address the relevant provisions in *LEP 2012* Clause 6.4 and 6.5.
5.4	**Buffers for dust, odour or spray drift**
Existing activities on the same land on which the building is to be erected, or activities on nearby land, may adversely affect the residential amenity of a proposed dwelling, or the well being of employees or visitors to business and/or industrial sites.	
S.7	Subdivision or development adjacent to a site producing dust or spray drift must include a separation buffer from the source of at least 150m.
S.8	Subdivision or development adjacent to a site producing odour (eg. development such as a saleyards, or livestock facility), the separation distance must be at least 500m.
S.9	Reduced separation distances may be considered where the emission can be reduced or eliminated.
5.5	**Overshadowing**
S.10	Development proposals are to limit overshadowing to avoid an unreasonable reduction in sunlight access to the open space of surrounding properties, including public spaces regularly used by pedestrians.
S.11	Shadow diagrams are to be submitted with a development application for development comprising two or more storeys or exceeding 8.5 metres in height, whichever is the lesser. The diagrams should be prepared by an appropriately qualified person and be based on a survey of the relevant site and adjoining development, including public spaces and streets.
5.6	**Lighting structures in the vicinity of Armidale Regional Airport**
S.12	Consent must not be granted for lighting structures or fixtures within 4.5 kilometres of the runway ends, and 750 metres of the runway centreline extension, of the Armidale Regional Airport unless the consent authority has considered the requirements of the Civil Aviation Safety Authority for 'Lighting in the Vicinity of Aerodromes'.

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Section 2 Site Analysis and General Controls

Chapter 2.2 Tree Preservation

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Part 1 General Provisions

1.1 Introduction

Council considers it important to preserve and manage existing tree plantings to maintain the scenic qualities of the local landscape and streetscape. In addition to their aesthetic qualities, new and replacement plantings are encouraged to establish and maintain green corridors, to increase species diversity, and to reduce the impacts of pollution and climate change.

This chapter outlines the provisions for the preservation of trees or other vegetation to which 'Clause 5.9 - Preservation of trees or vegetation' of the *Armidale Dumaresq Local Environmental Plan 2012 (LEP 2012)* refers.

1.2 Objectives

The objectives of this chapter are to:

O.1 conserve the environmental heritage of Armidale and its surrounds;

O.2 retain healthy trees of environmental and aesthetic value;

O.3 minimise injury to, or destruction of, trees and native vegetation;

O.4 ensure that proper consideration is given to trees and native vegetation in designing, planning and constructing development;

O.5 retain viable representative samples of native vegetation and biodiversity values wherever practicable;

O.6 facilitate the removal of undesirable exotics, noxious weeds, dangerous trees and any other inappropriate plantings, and to replace these with suitable species.

1.3 Land to which this chapter applies

This chapter applies to the following zones in the local government area:

R1	General Residential	SP2	Infrastructure
R2	Low Density Residential	B2	Local Centre
R5	Large Lot Residential	B3	Commercial Core
RU5	Village	B4	Mixed Use
IN1	General Industrial	B5	Business Development
IN2	Light Industrial	B7	Business Park
E3	Environmental Management, except for land shown in Appendix 1	RE1	Public Recreation
E4	Environmental Living	RE2	Private Recreation

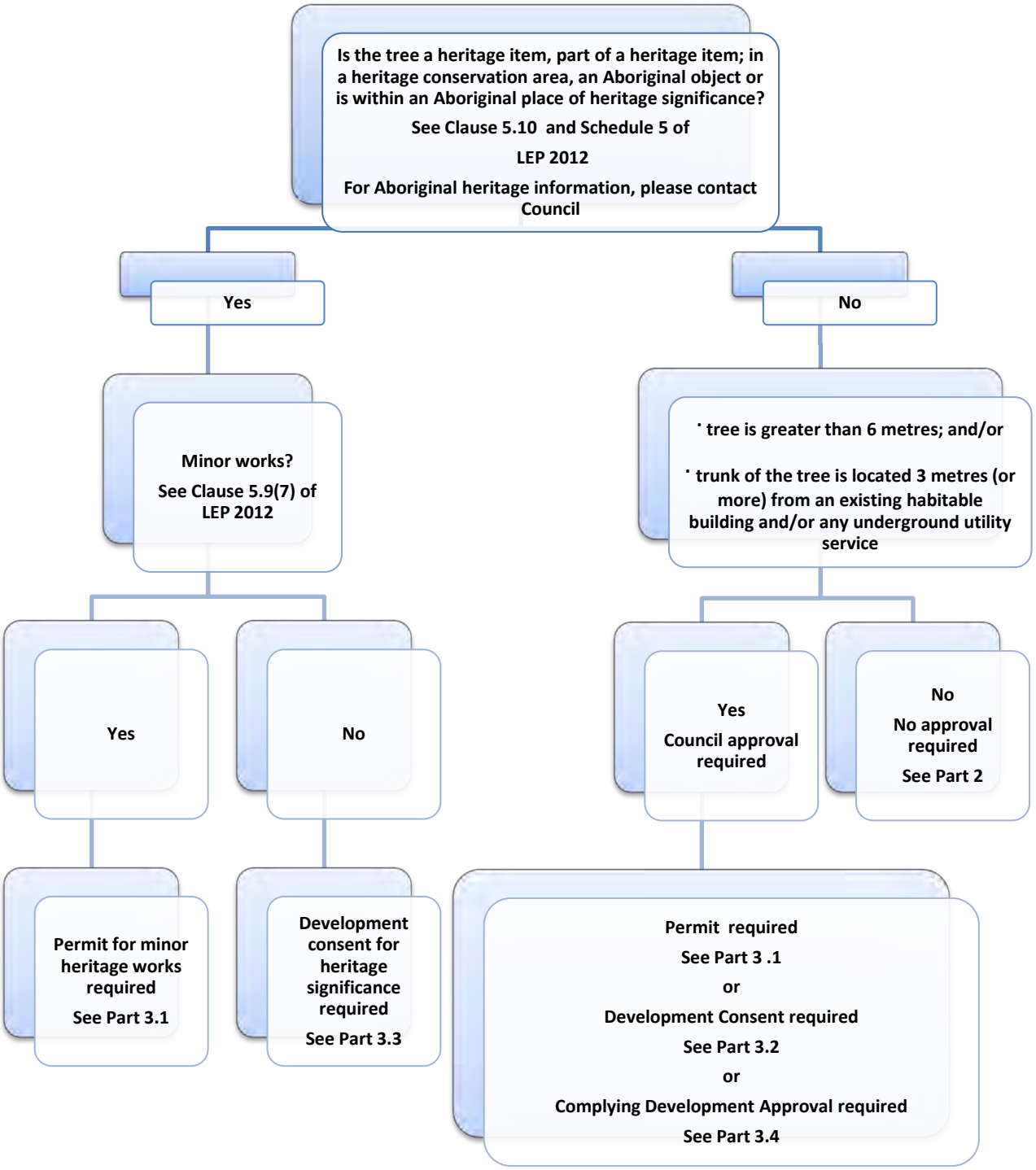
and, in the following zones where the tree, is, or forms part of a heritage item; is an Aboriginal object or is within an Aboriginal place of heritage significance.

RU1	Primary Production	E3	Environmental Management - land shown in Appendix 1
RU4	Primary Production Small Lots		

1.4 Heritage items (trees, landscapes and grounds) and heritage conservation areas

Heritage items (including trees, landscapes and grounds) and heritage conservation areas are listed in Schedule 5 – Environmental Heritage of *LEP 2012*. For information on identifying Aboriginal objects or an Aboriginal place of heritage significance, please contact Council. Further information on heritage matters can be found in Clause 5.10 of LEP 2012, and elsewhere in this DCP.

Tree removal and pruning approval process under LEP 2012



Part 2 Where Council approval is not required for tree removal or pruning

2.1 Tree pruning

Consent for pruning is not required for:

a) the removal of dead branches;

b) the crown maintenance pruning of a fruit tree grown for the purpose of fruit or fodder production;

c) the crown thinning to reduce canopy density of a tree greater than 6 metres. Crown thinning should not exceed 20% of the area of the canopy. Structural branches must be maintained. The maximum diameter of branches to be removed is 50mm.

2.2 Tree removal

Consent for tree removal is not required where:

a) a tree is dying or dead, and the tree is not required as the habitat of native fauna. Although consent is not required, documentation, including photographs clearly showing that the tree is dying or dead, must be taken and forwarded to Council prior to the tree removal. Any assessment by the owner of the tree must consider the habitat potential for native fauna, such as tree hollows, koala food tree species etc. If in doubt on any of the above issues, you must contact the Council for confirmation that the tree may be removed without consent;

b) the Council is satisfied that the tree is of risk to human life or property;

c) the trunk of the tree is located 3 metres (or less) from the nearest external wall of an existing habitable building and is located within the same property (this does not include a detached garage; outbuilding; pergola, deck; or caravan);

d) the trunk of the tree is located 3 metres (or less) from any underground utility service.

In addition to the above, in the E3 Environmental Management and E4 Environmental Living zones, consent is not required for the removal of native vegetation, other than trees, for the purpose of creating gardens if the area to be cleared:

a) is within 35 metres of a proposed or existing dwelling on the same lot as the proposed removal; and

b) the area is not more than 500 square metres.

2.3 Situations where this chapter does not apply

This chapter does not apply:

a) where a property vegetation plan or development consent is issued under the provisions of the *Native Vegetation Act 2003* (NV Act) (see Part 5);

b) in the RU1 Primary Production and RU4 Primary Production Small Lots zones unless the tree or vegetation has heritage significance;

c) in the E3 Environmental Management zone that is shown in Appendix 1 to this document (Map 1), unless the tree or vegetation has heritage significance;

d) where the removal is required for the maintenance of a bushfire asset protection zone required by a development consent;

e) where the tree or vegetation is required to be removed as part of a Section 66 Directive to undertake bush fire hazard reduction work under the *Rural Fires Act 1997*;

f) where the tree or vegetation is required to be removed by the NSW Rural Fire Service because it poses or will pose a significant threat to access along required fire trails, or to human life, buildings or other property during a bushfire;

g) where the tree or vegetation has otherwise become dangerous from actions associated with hazard reduction burns, or a bushfire;

h) where the tree or vegetation is required for immediate removal where this is essential for emergency access or emergency works by Council or the State Emergency Services; or

i) where the action to remove or prune the tree or vegetation is undertaken under legislation concerning the removal or pruning of trees, such as the following:

   i) Forestry Act 1916;
   ii) Noxious Weeds Act 1993;
   iii) Electricity Supply Act 1995;
   iv) Surveying and Spatial Information Act 2002;
   v) Native Vegetation Act 2003.

Part 3 Where a Council approval is required for tree removal or pruning

3.1 Permit required – no related development activity

A permit is required for the removal or pruning of a tree or vegetation where the tree removal or pruning is not part of an application for development consent or for a Complying Development Certificate (see Sections 3.2, 3.3 and 3.4 below); and

a) the height of the tree is greater than 6 metres; and/or

b) the tree is dying or dead, but the tree provides habitat for native fauna (eg. a koala food tree); and/or

c) the crown thinning (to reduce the canopy density of a tree greater than 6 metres high), is in excess of 20% of the area of the canopy; and/or

d) the tree or vegetation, is, or forms part of a heritage item; is within a heritage conservation area; is an Aboriginal object or is within an Aboriginal place of heritage significance. Council must be satisfied that the works are of a minor nature and must not have an adverse impact on the heritage item or place. If the works are not of a minor nature, development consent is required. See Clause 5.9(7)(c) & (d) and Clause 5.10(a)(i) & (ii) of the LEP 2012 for the circumstances under which a permit may be issued.

A 'Permit for Tree Removal or Pruning' form must be completed and submitted to Council. A decision will be provided in writing to the applicant after consideration under the Assessment Criteria in Part 4.

3.2 Where Council approval is required for tree removal or pruning as part of a Development Application

Where a tree or vegetation requiring Council approval under this chapter is proposed to be pruned or removed in connection with development, this pruning or removal must be addressed as part of a Development Application.

The applicant will be notified of Council's decision as part of any consent for that development. The consent may have specific conditions relating to the tree removal or pruning, including protection during site works, compensatory planting, habitat boxes and other remedial actions.

3.3 Where Council approval is required for tree removal or pruning of a tree with heritage significance

Development consent is required where the tree is, or forms part of a heritage item; is within a heritage conservation area; is an Aboriginal object or is within an Aboriginal place of heritage significance (see LEP 2012 Clause 5.10).

The applicant will be notified of Council's decision in writing and any consent may include conditions relating to the tree removal or pruning.

A heritage management document may be required as part of any consent process. The heritage management document will assess the impact of the tree removal on the heritage significance of the item or heritage conservation area. Council will advise an applicant where this is required.

3.4 Where Council approval is required for tree removal or pruning as part of a Complying Development Certificate

The State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 (Codes SEPP) includes provision for the removal of a tree as part of development under a Complying Development Certificate. Please refer to the *SEPP (Exempt and Complying Development Codes) 2008* and LEP 2012 Clauses 3.2 and 3.3 for relevant provisions.

Where the Complying Development Certificate application involves the removal or pruning of a tree or other vegetation that does not meet the provisions outlined in the above legislation, a permit or development consent for the tree removal or pruning will be required.

Part 4 Assessment criteria

A permit or development consent must not be granted unless Council has assessed the following matters:

a) the reasons for the proposed work;
b) the contribution to the local landscape or streetscape;
c) the heritage significance of the vegetation or landscape;
d) the type and rarity of the species;
e) the ecological significance of the tree;
f) the effect on threatened species, populations or ecological communities, or their habitats;
g) the number of trees in the vicinity;
h) the risk to life or property;
i) whether new compensatory plantings are proposed;
j) any impact on solar access to properties;
k) any soil conservation and erosion issues.

In addition to the above criteria, the following assessment criteria will also be considered for the removal of native vegetation in the E3 Environmental Management and E4 Environmental Living zones:

a) the adequacy of vegetation retention and future landscape proposals;
b) the contribution of the vegetation to wildlife corridors or as habitat for native fauna;
c) the contribution of the vegetation to the scenic qualities of the locality;
d) the effect of any vegetation removal on the viability and quality of the bushland and, in particular, the likelihood of the spread of weeds or of undesirable and exotic species in the bushland.

Part 5 Information on the Native Vegetation Act 2003

Native Vegetation Act 2003

For the purposes of the Native Vegetation Act 2003 (NV Act) 'clearing' of native vegetation means any one or more of the following:

a) cutting down, felling, thinning, logging or removing native vegetation,

b) killing, destroying, poisoning, ringbarking, uprooting or burning native vegetation.

The NV Act does not apply to land within the RU3 Forestry zone or a zone designated as 'residential', 'village', 'industrial' or 'business' or, having regard to the purpose of the zone, having the substantial character of a zone so designated. However, the NV Act does apply to this land where a property vegetation plan applies.

In general, therefore, the NV Act will apply to land within the RU1 Primary Production, RU4 Primary Production Small Lots, R5 Large Lot Residential, E3 Environmental Management and E4 Environmental Living zones. Landholders may apply to their local Catchment Management Authority (CMA) either to prepare a property vegetation plan or make an application for development consent for clearing of native vegetation. Property vegetation plans or consents issued under the NV Act are not issued or administered by Councils.

Division 2 or 3 of Part 3 of the NV Act sets out where the clearing of native vegetation is permitted without the need to obtain approval from the relevant CMA (for example, carrying out routine agricultural activities and continuation of existing farming activities) subject to satisfying certain criteria. Landholders are advised to consult with their CMA to determine whether approval is required. However, where approval is not required under Division 2 or 3 of Part 3 of the NV Act for clearing native vegetation in the R5 Large Lot Residential, E3 Environmental Protection and E4 Environmental Management zones, Council approval may still be required under this Tree Preservation chapter.

The Armidale Dumaresq local government area is predominantly within the Northern Rivers CMA, with the north-western part being located in the Border Rivers - Gwydir CMA. For further information, please contact your local CMA and see the Native Vegetation Act 2003 online - http://www.legislation.nsw.gov.au.

Part 6 Penalties

A person found contravening these controls may be issued with a penalty infringement notice and/or an order to undertake works to meet compliance, to rectify damage, and/or to make compensation plantings.

Failure to act on an order may incur additional action in the Local Court or the Land and Environment Court.

Part 7 Definitions

In this chapter:

injury and ***destruction*** includes the administering of a chemical or artificial substance to a tree or part of a tree or, the alteration of ground level or water table which causes damage to the tree or any part of the tree including roots. This includes any physical injury especially by machinery on construction sites.

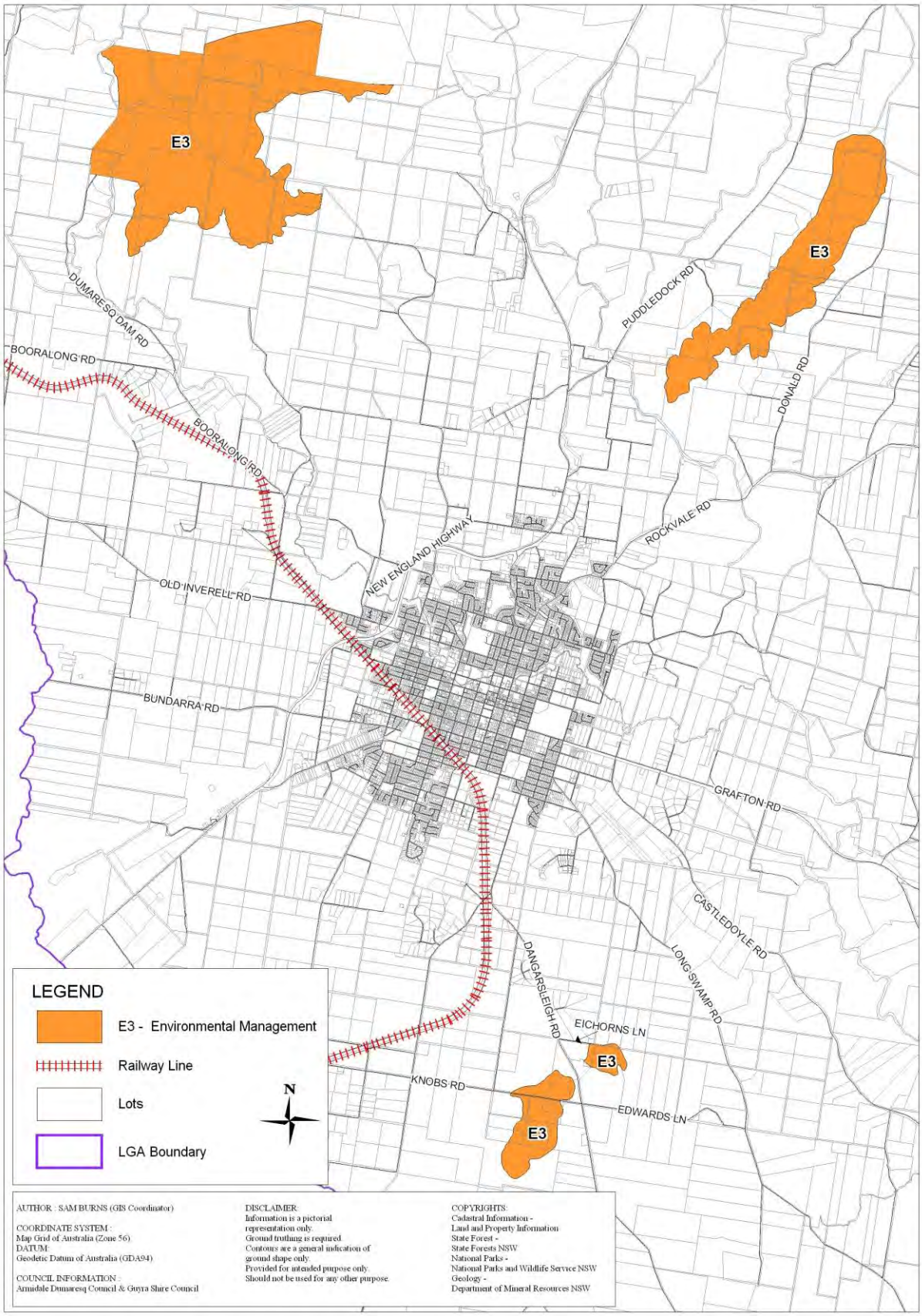
of risk to human life or property means a tree that is likely to inflict imminent liability or harm to a person's life or property.

pruning means the removal of any stem/s back to the intersection of another stem/s to a swollen area of the intersection called the branch collar. This also means any act or acts of severing any part of a tree so as to cause reduction of the air space occupied by the branches and foliage of a tree.

removal means the cutting down or dismantling of a tree so that the tree, including its branches, foliage, trunk, stump and root system will not regrow. This includes the poisoning of the stump and/or roots and/or removal or grinding out of its remains to prevent regrowth.

tree means a long lived woody perennial plant with one or relatively few stems. The tree may be indigenous, endemic, exotic or an introduced species.

Map 1: Land in E3 zone where Chapter 2.2 does not apply



Armidale
Dumaresq Council

Armidale Dumaresq
Development Control Plan 2012

Section 2 Site Analysis and General Controls

Chapter 2.3 European Heritage

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Table of Contents

Part 1 General provisions

1.1 Introduction

Armidale Dumaresq has an outstanding built, natural and cultural heritage including places of historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value. Council's aim is to protect, conserve and enhance places with heritage significance, for the benefit of its citizens, the community generally and for future generations.

This chapter outlines the provisions for the conservation of environmental heritage to which 'Clause 5.10 – 'Heritage Conservation' of the *Armidale Dumaresq Local Environmental Plan 2012 (LEP 2012)* refers, and provides detailed guidance on Council's approach to heritage conservation, including architectural guidelines for both restoration projects and for new work in places of heritage significance.

1.2 Objectives

The objectives of this chapter are:

O.1 To protect and conserve items and places with heritage significance in Armidale Dumaresq;

O.2 To assist in the implementation of relevant Heritage Studies.

O.3 To promote and encourage appropriate and sympathetic design solutions where restoration or new work is proposed for properties or places of heritage significance in the area.

O.4 To improve the appearance of local streetscapes.

O.5 To ensure the setting of places of heritage significance and the streets in which they are located are not compromised by unsympathetic new development.

O.6 To provide potential developers and the general public with clear information on heritage conservation.

1.3 Land to which this chapter applies

This chapter applies to land in the Armidale Dumaresq local government area.

1.4 Addressing the guidelines of this chapter

The guidelines for European heritage are set out in this chapter. The objectives and guidelines need to be addressed for each development proposal. Alternative approaches may be proposed, provided these adequately address the relevant objectives and guidelines and comply with legislation.

1.5 Heritage items and/or Heritage Conservation Areas

If development is to take place on a heritage site or item (including an archaeological site or item), or in a heritage conservation area, the objectives and guidelines outlined in this chapter must be addressed.

For development that is likely to have an impact on a place of Aboriginal heritage significance or an Aboriginal archaeological site, please refer to Chapter 2.4 Aboriginal Heritage of this DCP.

1.6 Armidale Dumaresq Heritage Studies

Heritage studies have been undertaken to identify places of heritage significance in Armidale Dumaresq, including:

- Armidale Heritage Study (Perumal Murphy, 1990)
- Dumaresq Shire Heritage Study (EJE Town Planning, 1997)
- Armidale Archaeological Management Plan (Dr P Watson, 2010).

Each item has a Heritage Inventory Sheet identifying the significant features of the heritage item or the conservation area. The Heritage Inventory Sheets have been updated and converted to the State Heritage Inventory electronic format and are available on line through the NSW Office of Environment

and Heritage website - http://www.environment.nsw.gov.au/heritageapp/heritagesearch.aspx

1.7 Significance

As a general principle, Council seeks to ensure that development affecting heritage buildings and precincts recognises and respects, rather than detracts from, what is significant about them. 'Significance' can usually be determined from a combination of visual inspection and historical research, which is summarised in Heritage Inventory Sheets. 'Significant' aspects would typically include architectural and aesthetic features, historic, scientific or cultural associations, the garden or landscape setting of a property or archaeological value.

If a property is listed as a heritage item in the LEP 2012, there will be a heritage inventory sheet detailing what is significant about it. In some cases it will only be the part of the building visible from the street and in other cases, gardens and fences may be identified as significant as well.

Most buildings will be significant only for the overall form and original external materials, or fabric. For some buildings the smaller detail is also likely to be important. This could include the particular decoration used on a door or window for example.

Generally, the older a building the more important it is to retain the original fabric whether it is visible or not. Fabric means the building materials as they were originally constructed.

Heritage Design Guidelines for residential and commercial areas in Armidale, initially produced by consultants Perumal Murphy as part of the Armidale Heritage Study in 1990, are reproduced in this chapter to assist applicants in preparing plans for alteration and extension of buildings.

1.8 Burra Charter

There are many different approaches to conservation. The preferred approach generally accepted by most practitioners is one based on principles set out in a document known as the 'Burra Charter'.

This document is based on an international convention for conserving outstanding monuments and sites. The principles are of great assistance in deciding what is appropriate. Some of the more relevant articles from the Burra Charter are quoted in these guidelines where appropriate. The Charter also provides us with some useful definitions. When most people talk about 'restoration' they mean putting back lost features using new materials. The term for this is 'reconstruction'. Strictly 'restoration' means putting back original material only.

Most alterations and additions in Armidale Dumaresq involve what is defined as 'adaption', which is a change to the known earlier state of the building.

1.9 Basic Principles

Our objectives lead to two important principles:

1. **All features of heritage significance should be conserved or reinstated. Any unsympathetic alteration should be removed and the original features and elements reconstructed as closely as possible.**

'Restoration and reconstruction should reveal culturally significant aspects of the place.' (Burra Charter, Article 18)

'Reconstruction is appropriate only where a place is incomplete through damage or alteration, and only where there is sufficient evidence to reproduce an earlier state of the fabric. In rare cases, reconstruction may also be appropriate as part of a use or practice that retains the cultural significance of the place.' (Burra Charter, Article 20.1)

'Reconstruction should be identifiable on close inspection or through additional interpretation.' (Burra Charter, Art 20.2)

Heritage buildings display an honesty of structural expression. They were built in a practical manner. The same spirit should be pursued when making an addition. Decorative elements should be constructed with the original technology. Designers should also be mindful of the original functional

purpose of many of these elements.

2. Whenever there is a choice, do whatever will improve the appearance and unity of the street.

In most cases there will always be some choice; a choice of colour scheme for example. Only highly significant buildings should be painted in their original colours. Otherwise select a colour scheme which fits in with the existing streetscape.

For new buildings or alterations to buildings not heritage listed, the degree of flexibility will be greater.

Where there is considerable variety within a street or a row of buildings, features of the immediate neighbours should be taken as the starting point. If these are in very different or contrasting styles, your building should try and create a better link between them. The way to do this is to focus elements of both.

Part 2 Heritage provisions of council's local environmental plan

2.1 Background

The Council's Heritage Studies have identified places of heritage significance in the local government area. These include cottages, substantial houses and homesteads, commercial, educational and industrial buildings of architectural and/or historical importance, as well as places of landscape and archaeological significance.

From this list, places identified as 'Heritage Items' have been included in Schedule 5 of the LEP 2012.

The LEP also identifies four 'heritage conservation areas' within Armidale, being areas where there are a substantial number of places of heritage significance. These areas are shown on the Heritage Map for LEP 2012 along with the location of each Heritage Item. The conservation areas are also shown on the Map in Appendix 1 – Armidale Heritage Conservation Areas.

2.2 What are Council's requirements for proposals affecting buildings or works?

Clause 5.10 of LEP 2012 contains provisions for heritage conservation, including:

a) when development consent is required

b) when development consent is not required

c) the documents that may be required to be submitted with a development application

d) the matters that council must take into consideration before granting development consent

e) specific notification requirements to the heritage council for archaeological sites and nominated state heritage items

f) the circumstances where conservation incentives may apply.

Council may require development applications involving places of heritage significance and places within heritage conservation areas to be accompanied by a heritage management document.

In addition, where Council believes that specific policies and management mechanisms are necessary to ensure that the heritage significance of a place is protected in connection with proposed development and into the future, it may also require that a heritage conservation management plan be prepared. Such documents should be prepared by a competent person in accordance with NSW Office of Environment and Heritage – Heritage Branch requirements.

See http://www.environment.nsw.gov.au/Heritage/publications/localresources.htm for further details and in particular Part 6 of the *Local Government Heritage Guidelines* on how to assess heritage significance.

After appropriate research of documentary evidence (old photographs and other records, etc) and investigation of the physical fabric of a place, significance and appropriate management strategies

should be addressed in a heritage management document, as follows:

a) For development that would affect a heritage item:

i) a statement of the heritage significance of the item as part of the environmental heritage of Armidale Dumaresq;

ii) the impact that the proposed development will have on the heritage significance of the item and its setting, including any landscape or horticultural features;

iii) the measures proposed to conserve the heritage significance of the item and its setting;

iv) whether any archaeological site would be adversely affected by the proposed development; and

v) the extent to which the carrying out of the proposed development would affect the form of any historic subdivision.

b) For development that would be carried out in a heritage conservation area:

i) a statement of the heritage significance of the heritage conservation area and the contribution which any building, work, relic, tree or place affected by the proposed development makes to this heritage significance;

ii) the impact that the proposed development would have on the heritage significance of the heritage conservation area;

iii) the compatibility of any proposed development with nearby original buildings and the character of the heritage conservation area, taking into account the size, form, scale, orientation, setbacks, materials and detailing of the development;

iv) the measures proposed to conserve the significance of the heritage conservation area and its setting;

v) whether any landscape or horticultural features would be affected by the proposed development;

vi) whether any archaeological site would be affected by the proposed development; and

vii) the extent to which the carrying out of the proposed development in accordance with the consent would affect any historic subdivision pattern.

The importance of obtaining appropriate professional (e.g. architectural) assistance for significant works on sites of heritage importance cannot be over-emphasised. The use of professional advisers will be reflected in the quality (and usually in the resale value) of completed projects. Council requires as a matter of policy that heritage impact statements and heritage conservation management plans should be prepared and submitted by a competent professional practitioner, able to demonstrate their expertise and competence appropriate to the proposal**.** The NSW Office of Environment and Heritage - Heritage Branch maintains a list of Heritage Consultants which can be accessed at:

http://www.environment.nsw.gov.au/heritageapp/HeritageConsultantsDirectory.aspx

For archaeological services, advice services can be found through the internet, eg:

http://www.aacai.com.au/register/index.html or http://www.asha.org.au/ or

http://www.australianarchaeologicalassociation.com.au/

2.3 Council's Heritage Advisor and Referral of Matters to other Agencies

Council retains the services of a specialist part-time Heritage Advisor (provided with assistance from the NSW Office of Environment and Heritage - Heritage Branch) and will seek the Advisor's advice on applications involving places of heritage significance. The Advisor is also available for consultation with intending applicants and property owners.

The NSW Office of Environment and Heritage - Heritage Branch/Heritage Council of NSW must be notified of applications affecting places listed on the State Heritage Register or subject to an interim heritage order under the Heritage Act 1977. Such proposals are assessed as 'Integrated Development'

for the purposes of the *Environmental Planning and Assessment Act 1979* and would not normally be approved without the concurrence of the Heritage Council. LEP 2012 also requires that Council notify the Heritage Council where it is proposed to demolish a nominated State heritage item or carry out development on an archaeological site.

Property owners and intending developers should note that any proposed excavation work on an archaeological site requires an 'excavation permit' from the Heritage Council under the provisions of the Heritage Act 1977.

2.4 Notification of applications, including 'advertised development'

Apart from the notification provisions explained in Chapter 1.1 of this DCP, Council treats certain development applications involving places of heritage significance as 'Advertised Development' for the purposes of the *Environmental Planning and Assessment Act 1979* and Regulation.

This requires notice in the local press, advice to owners and occupiers of nearby land, as well as relevant Government agencies such as the NSW Office of Environment and Heritage.

Such applications involve:

a) any proposal for demolition/removal of a heritage item or of a building or work, tree or place in a heritage conservation area; and

b) proposed developments where an applicant seeks to use a building or land which is a heritage item for a purpose not normally permissible under Council's LEP.

Council may also decide to notify neighbours of applications involving places of heritage significance under its general notification policies set out in Chapter 1.1 of this DCP.

2.5 What incentives does council provide for property owners?

Council recognises that in some cases the public benefit of sympathetic maintenance and development of heritage properties can impose an unreasonable cost burden on private landowners. For this reason, the following 'incentives' are available from Council to assist property owners. These are in addition to those available under clause 5.10 of LEP 2012.

a) Council does not apply development application fees which may be required for projects which only require consent because of a heritage listing (e.g. repainting of a heritage item).

b) Council may consider a variation to some planning requirements (e.g. parking) in favour of sympathetic heritage development.

c) Council may elect to 'substitute' the public benefit of proposed works (e.g. restoration of a historic building) in lieu of development charges levied by Council, including charges pursuant to Section 94 of the *Environmental Planning and Assessment Act 1979*.

Such concessions are dependant upon Council being satisfied that:

a) the proposed development would have little or no adverse effect on the amenity of the locality or the heritage significance of the item/area, and the conservation of the building or item is dependent upon the concessions being granted; and

b) the proposal and its implementation are consistent with a heritage conservation management plan (mandatory for proposals which seek to gain approval for non-conforming uses);

c) where reduction of normal council charges is requested, the applicant has demonstrated to council's satisfaction that the proposed work (including related consultancy services) would:

   i) contribute effectively to the conservation of the heritage item or place; and

   ii) result in a loss or a significant cost penalty for the developer in comparison with

other reasonable alternatives for site development - such submissions are to be supported by independent valuation evidence on comparative costs/returns of the project(s).

Note: Relevant charges which would otherwise apply, plus a 20% inflation loading, being secured by an unrestricted bank guarantee. The bank guarantee is to be supported by a signed agreement from the person/company against whom it is drawn, authorising Council's access to the funds in the event that the approved conservation project is not completed to Council's satisfaction within an agreed period (normally three years from the date of development consent). Such bank guarantees to be released by Council once approved conservation projects are completed, or in the event that a development consent lapses or is surrendered.

In such cases, Council assistance would normally not exceed the equivalent of 10% of the cost of the proposed 'conservation' work and would not extend to the granting of a cash subsidy to a particular project. However, all requests for Council assistance will be examined on their merit. Council's decision in such cases will be final.

Financial assistance may also be available through the Commonwealth & State Government grants system; Council can provide further details on request.

Part 3 Heritage conservation guidelines for residential properties in Armidale Dumaresq

3.1 Introduction

This chapter is provided to assist building owners and designers in the process of managing a heritage item, whether it be to demolish, renovate, rebuild or restore a heritage building

Armidale Dumaresq has many buildings of heritage significance dating back to the 1850s. There are several architectural features that are characteristic of Armidale Dumaresq, including the local Armidale 'blue' brick. Heritage in Armidale Dumaresq is represented by a range of periods, styles and building types.

Heritage conservation does not aim to freeze development in time. The need to upgrade older homes to modern standards is recognised, however, changes should take place in the most sympathetic way possible. The elements that lead to an item or area being listed should be retained. These are the characteristics that create the heritage significance. Sometimes these characteristics relate to the external appearance of the building; but in other cases, there may be less visible aspects of historic or social interest, such as a particular event or story attached to the building. Each site must be considered on the significance of its merits, and also taking into account the needs of the owner, the cumulative impact of the changes and the community's interest. In most cases there will be no conflict. A building that relates well to its neighbours will be more attractive to prospective purchasers.

3.2 Local characteristics

Most of Armidale's older houses generally fall into one of two categories.

1. Those that were built by the higher community were usually purposely designed for them. They tended to be very individual in terms of their layout and overall form. In their details and decoration they were more typical of their particular period.
2. The houses built for the general community were much more conventional. The range of

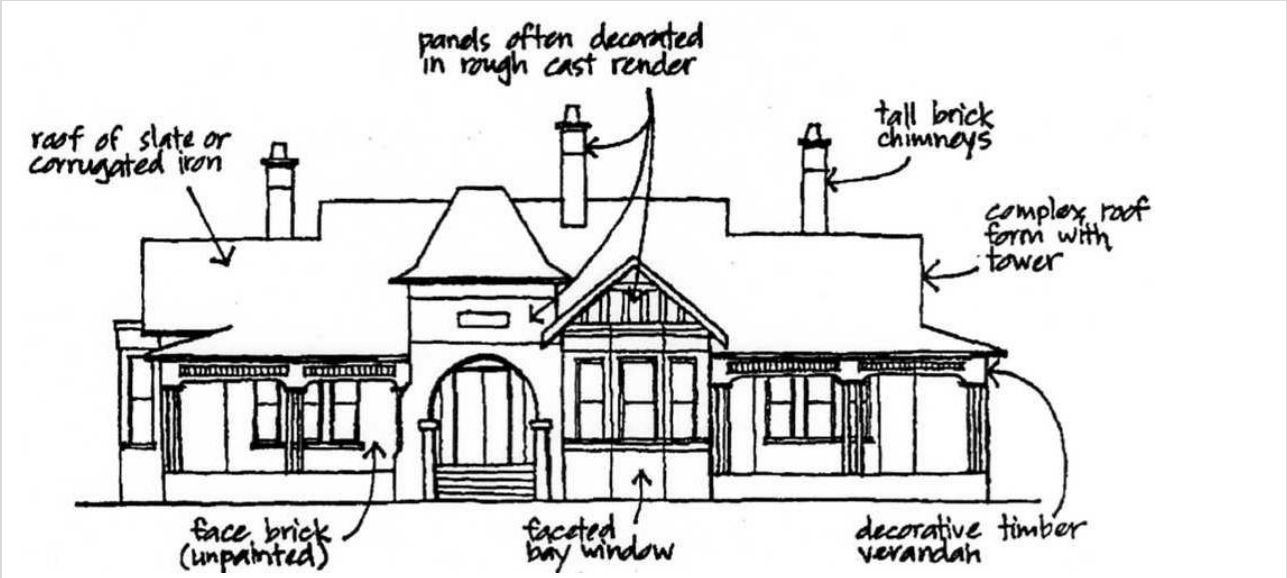
styles is also more limited than in metropolitan areas. Local builders tended to stay with standard forms they knew well.

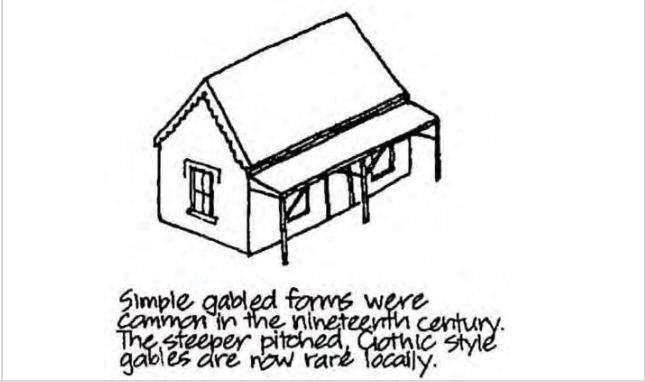
Decoration on most houses was to a degree more restrained than for their counterparts elsewhere. This was so even in the ostentatious late Victorian period. Partly this would have been due to the difficulty of obtaining the materials and craftsmen. Probably more important was a local preference for modesty and restraint.

More than anything, it was the materials used which gave Armidale buildings a character of their own. Although the distinctive local brick was common, timber was even more in evidence. Armidale has a relatively high proportion of weatherboard houses, including some quite grand examples.

The availability of good quality local brick reduced the dependence on stucco and stucco workers in the Victoria period. Decorative detail on Victorian buildings is more likely to be of timber or cast iron.

Many timber houses tended to use brick as well, often for foundations. It was also common for timber Bungalows of the 1920's and 30's to have brick porches.





3.3 Design principles

Some of the common architectural features of the areas older houses are described and illustrated as follows. Most houses however will vary from the typical designs in some respect. For this reason, it is important to have some understanding of the broad design principles which underlie all historical styles. This makes it possible to design new works which will harmonise with older buildings of different styles.

3.3.1 Scale and proportion

Every building has a characteristic scale and proportion in all its parts. 'Scale' refers to size. 'Proportion' refers to the relative size of different parts or dimensions. These principles apply to the larger elements of a building (e.g. roofs), as well as the smallest (e.g. timber mouldings).

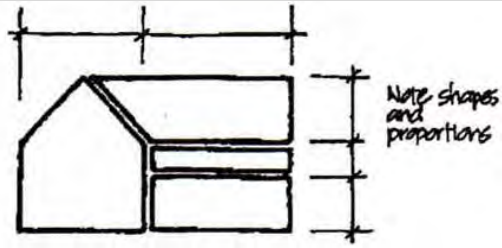
3.3.2 Form

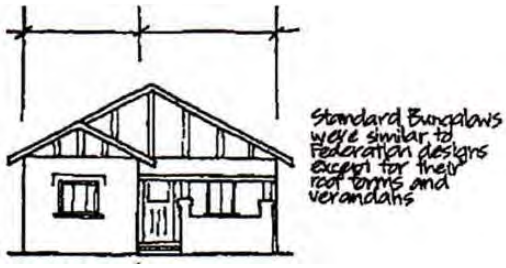
Buildings of a particular historical style have elements of typical shape. A typical 1920's Bungalow for example, has a low pitched gabled roof form. A Federation period house will often have both a complex roof and plan form.

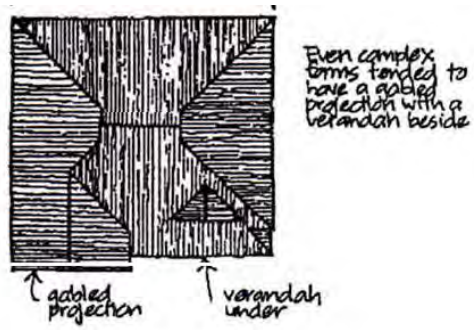
3.3.3 Symmetry/Asymmetry

Much of the distinctive quality of historical houses is dependent on a balance between symmetry and asymmetry. For example, Federation houses normally have windows symmetrically arranged in walls, but the front gable is almost always asymmetrically placed.

These design principles apply to all elements of the building, no matter how big or small. Although the range of possible problems and solutions is large, there are some patterns which appear frequently.



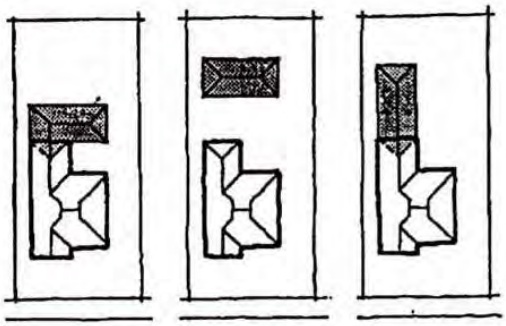




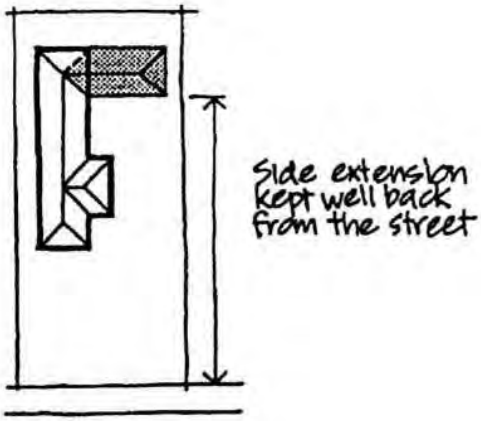
3.4 Site planning priorities

'Conservation requires the retention of an appropriate visual setting and other relationships that contribute to the cultural significance of the place. New construction, demolition, intrusions or other changes which would adversely affect the setting or relationships are not appropriate.' (Burra Charter, Article 8)

If possible, keep additions to the rear. Preferably they should be designed as distinctly separate from the main building. As a rule, the less new work visible from the street, the better.

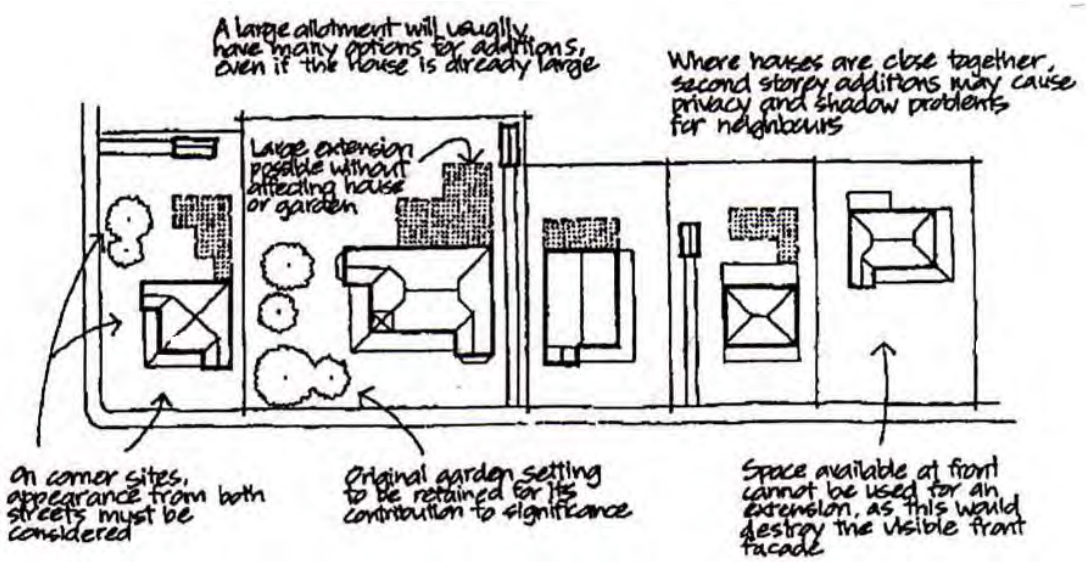


If there is insufficient space for a rear extension, set it back as far as possible from the street.



Where sites are severely constrained, an attic or similar addition may permitted providing it is largely within the existing roof form and not visibly prominent from the streetscape. Preferably, new features should not be introduced on the front facades of significant buildings however sympathetic.

Otherwise very minor additions may be all that are possible. Look for ways of making better use of the existing space available rather than adding on. Some re-building at the rear may achieve this without compromising heritage values.



3.5 Modifying existing houses

Changes to the façade are generally not encouraged, particularly for heritage items and items in conservation areas, other than to reinstate original features.

Minimise changes to materials and the roof form. For large complex roofs there may be more options. Changes may be less noticeable.

'Conservation is based on a respect for the existing fabric, use, associations and meanings. It requires a cautious approach of changing as much as necessary but as little as possible.' (Burra Charter, Article 3.1)

Don't add decorative elements, no matter how sympathetic their styling. In making changes always try to be true to the original building. Simple cottages for example, should keep their simplicity. Decorative detail which has been removed may be put back, but you should not add decoration which was never there.

High walls or fences and front garages can obstruct people's view of older buildings. Traditionally, screening by hedges and planting is part of Armidale's character. Garages and high fences however are structures which can create a less attractive, built-up character. Similarly, unsympathetic garden treatment (e.g. excessive use of concrete or paving, dense informal plantings) can detract from the historic street character.

The principal elevations of a building shall not be altered other than to reinstate known missing elements or to restore the facade to its original detail.

a) The principal or street façade of the building shall not be altered in any way other than to restore original features to the building or remove previous detrimental alterations.

b) Original timber windows and doors shall be retained and conserved.

c) Windows shall not be widened, infilled or consolidated.

d) Externally fixed security bars are not permitted.

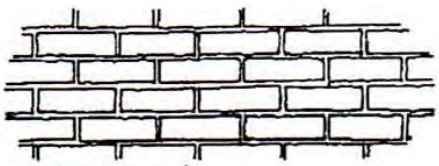
e) Metal or other pre fabricated materials shall not be used to clad timber weatherboard buildings.

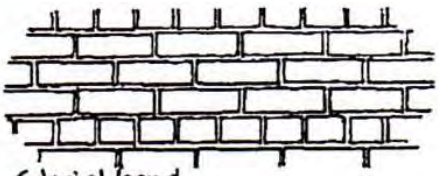
3.6 Materials and details

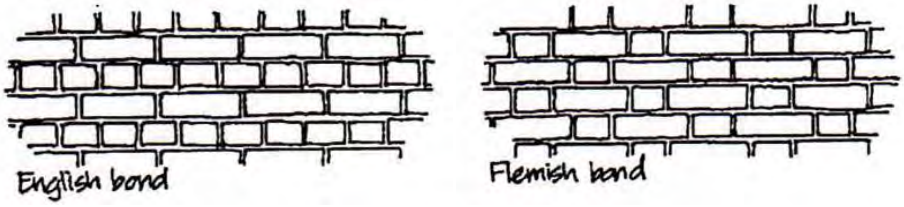
As a rule, if the larger scale elements are designed effectively, the detailed elements will fit in well. Although it is rarely necessary to make exact copies of existing details, attention to materials and details is still important.

3.6.1 Brickwork

Note the brick and mortar colour, the type of joint and the brick laying pattern (called bonding). It may be possible to replace missing or damaged bricks with second hand bricks from the same period. You should also be able to obtain new bricks which closely match the original. Check the ranges available from different manufacturers. Original face brickwork should never be coated, painted or rendered. This destroys the building's original colours and textures and robs it of its period character.







3.6.2 Cement Render

Cement render was rarely used in Armidale prior to 1930, except for decoration. Face brick was sometimes decorated with rendered bands or mouldings. Rough cast render was sometimes used as decoration in the Federation period.

3.6.3 Timber

Many building elements are made of timber, such as window frames, boarding, fascias, brackets, columns, friezes, etc. Many joinery companies have similar profiles in stock. If an exact copy is required the joiner can easily measure a profile to be run off.

Timber buildings generally require more constant maintenance to keep them in pristine condition. Modern paints applied in accordance with manufacturers' instructions, have quite a long life (up to 20 years) and can help keep maintenance costs down.

3.6.4 Metal

Even in the Victorian period the use of cast iron was relatively limited and is generally limited to the grander and more prestigious buildings in Armidale such as the Railway Station, Lands Department and some hotels. Wrought iron was often used on fences in the early to mid twentieth century.

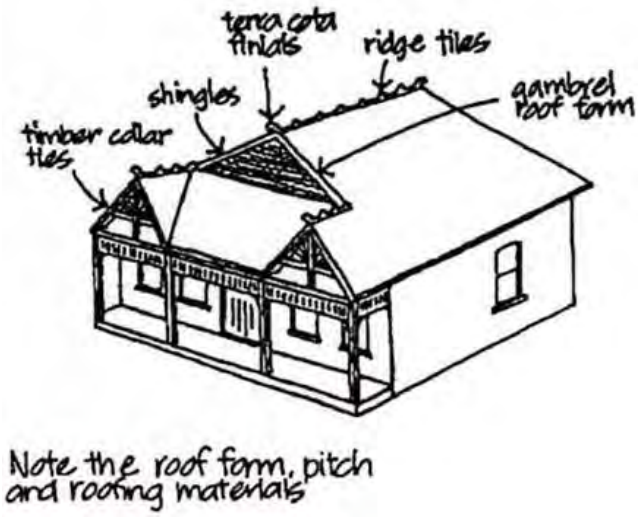
3.6.5 Stone

Stone was sometimes used as decoration on fences, base courses, sills, steps etc, but rarely used as the primary construction material.

3.6.6 Roofing

Both roof pitch and roofing materials are important. Slate was often used on more expensive buildings up until the First World War. Roofs were most commonly of corrugated iron, especially in the twentieth century. Terra cotta tiles are relatively rare for most of Armidale's pre-1920 houses. Terra cotta was sometimes used for decoration on chimneys, ridge capping and rainwater heads.

Modern materials such as 'Colorbond®' are not recommended for heritage items. If iron roofs are painted the work should be in traditional colours, e.g. 'Red Oxide'.



Any development involving the roofing elements of a building shall ensure that the relevant following criteria are satisfied:

a) existing face brick gables or parapets shall not be rendered, painted or coated in any way.

b) original roofing materials shall be retained and conserved.

c) existing chimneys shall be retained and conserved.

d) skylights, solar water heaters, solar panels, ventilators and dormer windows shall not be located on the street elevation of the building or be visible from the primary street frontage (refer to Part 3.9).

e) roofing shall not be replaced with different materials, colours or profiles.

f) roofing to new buildings is to be of pitched form to reinforce the existing character of the Heritage Conservation Area.

g) roofing materials shall be slate, terra cotta tiles or corrugated metal.

h) roofing colours shall be consistent with the materials and character of the building and Heritage Conservation Area.

3.6.7 Verandahs and awnings

Verandahs are a predominant characteristic of most early houses in Armidale.

Any development involving verandahs and/or awnings shall ensure that the relevant following criteria are satisfied:

a) original awnings to windows shall be retained and conserved.

b) verandahs and awnings are encouraged to be reconstructed where evidence of the original structure exists.

c) original open verandahs shall not be enclosed.

3.6.8 Windows and doors

In residential buildings doors are generally timber and windows are predominantly timber framed double hung or casement style with matching sill and head heights. Note whether window heads are straight or curved.

Any development involving windows and/or doors shall ensure that the relevant following criteria are satisfied:

a) original timber framed windows to the principal elevations of a building shall be retained and conserved and not replaced with aluminium framed windows.

b) windows and doors must be in timber to the streetscape elevations of the buildings.

3.6.9 Paint

What are the original paint colours? Scrape back newer layers of paint to see if there was an older, original colour. Scrapings should be taken from areas sheltered from sun and rain. Allow for fading of the original colour, matching can be achieved by a colour specialist.

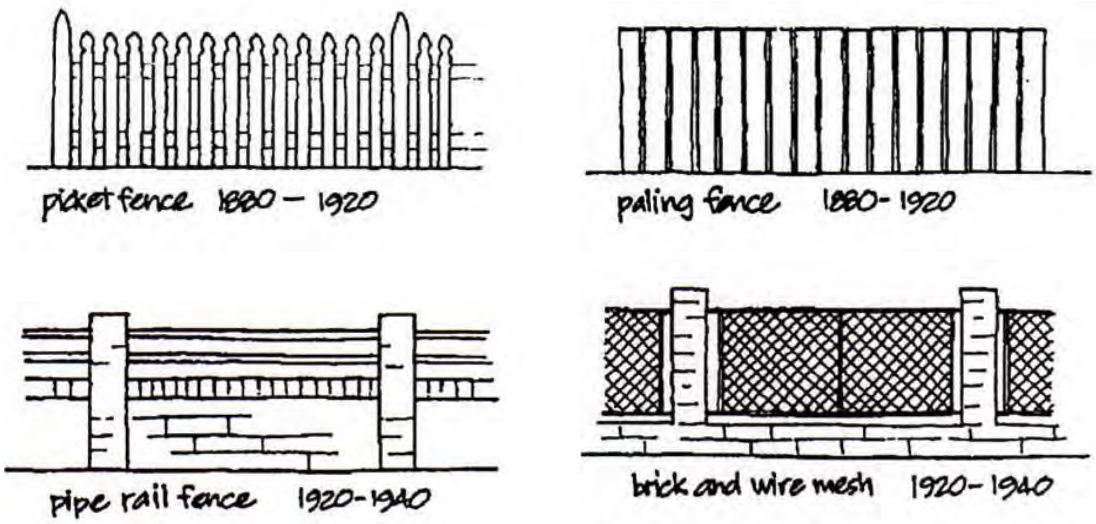
Previously unpainted surfaces should never be painted. This cannot be overemphasised. Painting of original stone or face brick is practically irreversible, as is cement rendering.

Most major paint companies now have a full range of traditional colour tints and can offer technical advice.

The paint scheme to any existing or new building is to be appropriate to the character of the building, streetscape and/or Heritage Conservation Area.

3.6.10 Fencing

Common materials were timber, iron and brick. Fences are particularly important when it comes to maintaining the character of older streets and should complement the style and character of the building and streetscape. Front fences were usually more decorative than side and rear fences. Side boundary fences usually reduce in height between the building line and the street boundary.



Fencing should compliment the style and character of the building and contribute to the streetscape. Any development involving fencing shall ensure that the relevant following criteria are satisfied:

a) original and/or early fencing is to be retained and conserved and should be repaired rather than replaced where possible.

b) new fencing shall be consistent with the existing heights, style and materials of the streetscape.

c) front boundary fencing shall generally be timber picket, timber and wire mesh, brick and wrought iron or brick and wire mesh or a combination of these materials.

d) front fencing shall be a minimum of 50% transparent and not exceed 1.2m in height.

e) metal panel sheet fencing is not permitted on Heritage Items or forward of the building line within Heritage Conservation Areas.

f) tall solid masonry walls shall not be constructed forward of the established building line.

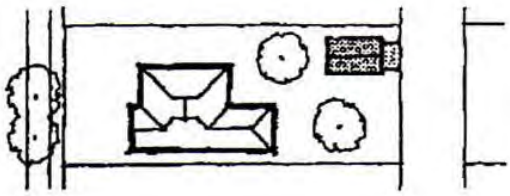
3.6.11 Gardens

Ideally gardens should be in keeping with the period of the house. Some move back towards more traditional gardens would be desirable. For those who are interested, information about typical period gardens is available (Refer to Bibliography).

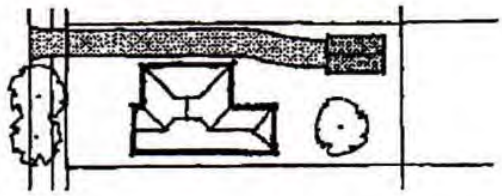
3.7 Car accommodation

If you have choice as to where you put your car, the order of priority is as follows:

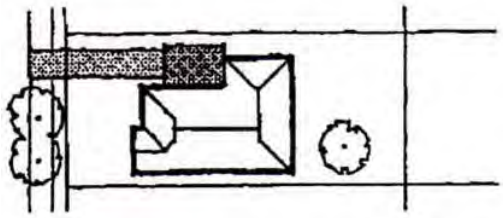
a) Locate at the rear, with access from a rear lane.



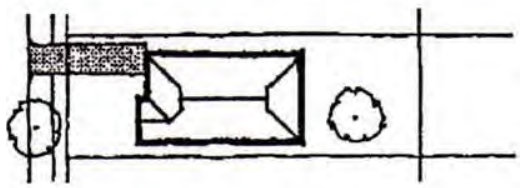
b) Locate at the rear with access from the front.



c) Locate at the side of the house well set back



d) Uncovered paved area at the front.



e) Park on the street.

3.8 Garage setbacks from the front façade of the building

It is traditional for garages, carports and sheds to be subservient buildings located at the rear of the site. Garages in front of the established building line or setback are strongly discouraged no matter how sympathetic. They obscure views of the main building and interrupt the established streetscape.

a) garages should be set back at least 1m from the front façade of the dwelling.

b) where there are reduced setbacks, garages should be set back at least 5.5m from the front boundary.

c) prefabricated and/or aluminium carports and garages are not permitted on heritage items or contributory buildings in heritage conservation areas.

d) garages and carports shall be complimentary in design, style, form and materials to the existing residence.

3.9 Subdivision and curtilage

Where a lot is proposed to be subdivided, the existing building is to remain dominant and the existing garden setting and view corridors are to be retained where viewed from the public domain.

3.10 Solar and wind energy installations

Installation of solar and wind energy systems, including solar hot water systems, photovoltaic panels and small scale wind turbines should be undertaken in a manner that causes minimal visual or other impact on heritage items or heritage conservation areas, with an emphasis on concealing these devices from the streetscape or public views. Solar and wind energy installations shall comply with the relevant following criteria:

a) systems (including metering devices) shall not be located on the elevation or visible from a public road or public place for any property which is a heritage item.

For properties in heritage conservation areas, installations should not occur on the front/street elevation or be visibly obtrusive from a property's primary street frontage.

However, where it can be demonstrated that no other practical option exists, consideration may be given to installations visible from the street, provided that:

i) the colour of the system would not contrast strongly with the colour of the roofing against which it would be viewed; and

ii) the system would be viewed as one integrated element only, with straight edges (vs. multiple components or installations with jagged edges); and

iii) the area/coverage of the system would not exceed 25% of the roof plane(s) of the building facing the primary street frontage; and

b) systems shall be integrated into the building and where roof mounted installed flush or parallel to the roof and not project above the ridge line; and

c) mounting, operation and servicing of equipment (including vibration, air flow and condensation) shall not damage significant fabric; and

d) mounting devices and associated cabling and wiring shall not damage significant fabric; and

e) potential archaeological deposits shall not be affected by trenching for conduits; and

f) hot water tanks shall not be mounted on the roof or adjacent to the building where visible from the street; and

g) work should be undertaken in a way that is reversible.

Options for the placement of solar and wind energy installations on heritage items or in a heritage conservation area that will minimise visual impact include:

a) locating solar units on the roof plane facing away from the street frontage;

b) locating solar units on outbuildings, carports, garages, sheds or similar;

c) locating wind turbines on free standing poles away from and behind the building;

d) installing a free standing solar array away from and behind the building.

3.11 Alterations, additions and new residential development

In addition to the principles and requirements outlined above for development involving residential properties in Armidale Dumaresq, the following requirements also apply to new residential development or alterations and additions to existing residential development.

3.11.1 General

Where new development is proposed within the existing streetscape it is important that the new building responds to the existing rhythm, character and proportions. This is critical on wider than average or consolidated sites.

a) additions and alterations will only be supported where they respect and/or enhance the heritage significance of the existing building and the heritage conservation area or streetscape.

b) new buildings shall reinforce the existing pattern and character of rectangular building forms.

c) it is essential that as much of the original fabric of the building as possible is retained and conserved – particularly to the street elevation.

d) demolition of heritage items or contributory buildings within the heritage conservation area will generally not be supported.

e) the reinstatement of missing or removed details is encouraged.

3.11.2 Scale, form and character

a) additions shall respect the scale of the existing building, be subservient to it and be easily interpreted as new work.

b) the scale, form and character of additions shall compliment the style and character of the existing building.

c) additions shall not obscure, project forward of, or alter the principal façade of the building.

d) additions shall generally step down in scale towards the rear of the building.

e) first floor additions are not permitted except within an existing roof form.

f) dormers are not permitted to principal facades and/or street elevations.

3.11.3 Height and massing

The predominant existing building height within the residential heritage conservation area is generally single storey.

a) the height of any building at the street alignment should be consistent with the adjacent and neighbouring contributory buildings and/or heritage items.

b) vertical additions to contributory buildings and/or heritage items are not encouraged where they will be visible from the street.

c) any new development shall be consistent with the existing building pattern by stepping down in scale towards the rear.

d) where the existing streetscape is predominantly single storey, the height of any new building should be single storey.

e) the wall height of any new building shall match or be below the roof pitching height of the adjacent buildings.

3.11.4 Alignment and orientation

There is a pattern, with most buildings within the heritage conservation areas having consistent setbacks and offsets within landscaped garden settings.

a) any new buildings shall be constructed to match the existing street alignments to the adjacent properties.

b) new buildings shall be orientated with the principal front entrance and at least one habitable room towards the street.

3.11.5 Verandahs

a) new buildings should incorporate front verandahs consistent with the existing character of the heritage conservation area.

3.11.6 Facades

a) any new façade is to be divided vertically into bays with stepped form with recesses.

b) windows and doors shall be vertically proportioned to match the existing character of the area.

Part 4 Heritage Conservation Guidelines for Armidale Commercial Centre

4.1 Introduction

The intention of these guidelines is to help building owners in the commercial centre to make a positive contribution to Armidale's built heritage.

Central Armidale covers an area of several blocks clustered around Beardy Street. This area contains a large variety of buildings. Many make a positive contribution to the streetscape. Some are also individually valuable and are formally listed as heritage items. The best represented architectural periods are Victorian and Federation. Within these periods there is a great variety of styles.

There are also several architectural features which contribute to Armidale's distinct character. One example is the local 'blue' brick. These features should be retained.

What happens to non-heritage buildings also has an impact, on both local character and the streetscape. These guidelines deal with both heritage places and streetscapes.

Heritage buildings in the commercial centre have an impact out of proportion to their numbers. Most of the commercial centre is also identified as a heritage conservation area in LEP 2012. This means all new building work in the area should respect the established historic character.

Heritage protection does not aim to freeze development in time. The need to upgrade older buildings to modern standards is acknowledged.

What is required is that changes to buildings take place in the most sympathetic way possible. Those things which lead to an individual building or area being listed in the first place, should be kept. These are the aspects which are said to be of heritage significance.

Often is it simply the external appearance of a building. There may however be less visible aspects of historic or social interest. It is the part of the building or physical fabric which provides the interest which should be respected. The remainder may change, provided it does not compromise, disguise, exaggerate or interfere with significant elements.

Every site must be considered on its merits taking account of the needs of the owner and respecting the community's interests. A building which relates well to its neighbours will be more attractive to prospective purchasers. Every building in the commercial centre has the potential to enhance the appeal of the immediate surrounds.

The object of these guidelines is to provide some general principles which will assist in conserving the quality of the area. Designers who follow the principles will find there is still considerable room left for creative individual expression.

4.2 Materials and finishes

The insensitive application of new materials or finishes to an old building may very quickly ruin its appearance. Face brickwork should never be painted or rendered. Apart from taking away the traditional character and texture these alterations are, for all practical purposes, irreversible. Other modern materials are usually capable of later removal.

Use of materials should be consistent, e.g. timber framed doors with timber framed windows.

Where brick is used it should be in traditional dark colours, not modern, light or cream brick.

4.3 Colours

A limited range of materials and finishes exists to the heritage buildings of Armidale. They are generally rendered masonry with rendered and/or tiled features and detailing, some face brick and a limited palette of earthy and pastel tones and colours which enhances and unifies the cohesive streetscapes. Any new development shall respect and enhance this.

A well designed paint scheme will enhance the appearance of a building. For every style and period there are many alternative colour schemes to choose from. It is recommended to take paint scrapings to establish the original colours of the particular building. Any colour scheme should also be in keeping with the street as a whole.

4.4 Building elements

If the larger scale elements of a new building or addition are well designed, then the smaller elements will generally fit in. Always start with the 'big picture'. It is never desirable to make exact copies of other buildings. However, you should pay special attention to the overall size, shape and proportion of neighbouring buildings.

Detailing on new buildings should be kept simple rather than ornate.

4.5 Signage

Signs on heritage buildings or in heritage conservation areas shall be in accordance with the development controls in Chapter 2.10 Signage of this DCP.

4.6 Verandahs and awnings

Awnings and verandahs are a predominant characteristic of most Victorian and Federation commercial buildings in Armidale. Verandahs were often at first floor level recessed into the façade or cantilevered over the ground floor awning. Some inter war and post war buildings were specifically designed without awnings at ground level and feature recessed entries instead.

The few surviving verandahs and awnings in the city centre are generally worth conserving. Victorian period examples are no longer typical but should be retained where they occur. Modern suspended steel awnings, the norm for most of this century, now predominate. New infill development should adopt this form of awning.

Most new awnings may be built in a modern but sympathetic style. Attention should be paid to the pitch, height and depth of verandahs and awnings on neighbouring buildings. Sometimes even a slight difference in pitch can be very noticeable.

On new buildings, brackets and fascias should be kept simple, not ornate.

a) original awnings including pressed metal soffit linings shall be retained and conserved.

b) awnings are to be low pitch and of similar height to adjacent buildings.

c) eaves and fascias shall be a maximum of 300mm consistent with the scale and character of the building and adjacent buildings.

d) awning roofing is to be opaque and generally of metal sheeting, corrugated in profile.

e) verandahs and awnings are encouraged to be reconstructed where evidence of the original structure exists.

f) new awnings shall not be attached to buildings specifically designed without awnings.

g) original open verandahs shall not be enclosed.

h) verandah posts shall be set back a minimum of 0.7m from the kerb to avoid vehicular impact damage.

4.7 Roofs, chimneys and parapets

Parapets form the most distinctive part of most heritage buildings in commercial areas. The variation in style is considerable. Victorian examples tend to be rendered and can be very ornate. Federation and early twentieth century examples are more likely to feature the creative use of multi coloured brick.

The majority of town centre buildings have had their parapets, or whole upper levels altered, covered or rendered over. In some instances reinstatement of the original remains a possibility. In others the loss is irreversible. Where reinstatement is possible, it will usually be the preferred option. Old photos or drawings will provide a guide.

For the remainder the addition of new details to existing facades could dramatically lift the local streetscape. Alternatively, the existing building might be replaced altogether. New buildings need to take note of the large scale features of nearby parapets as well as the detail. For all new work, elements such as cornices or mouldings should be as bold as they are on heritage buildings.

Many modern decorative features will be inappropriate, particularly right next to heritage buildings. Such things as glass bricks, glass walling, reflective glass and metal facings will usually be out of place. They should never become dominant elements on any particular building.

Many roofs on heritage buildings have no street impact because they are hidden by parapets. The same design approach may be adopted for new buildings. If the roof is visible the roofing materials and pitch should be compatible with neighbouring buildings.

a) new roofing is to be of parapet or pitched form to reinforce the existing character of the heritage conservation area.

b) parapets are to be constructed of masonry or rendered masonry.

c) preferred roofing material is corrugated metal.

d) roof top signage, antennae, satellite dishes and mobile phone transmitters are not permitted where visible from the street frontage of the building.

e) existing parapets are not to be clad in metal sheeting.

f) existing face brick parapets shall not be rendered, painted or coated in any way.

4.8 Facades and openings

Original and/or early shopfronts demonstrate the changing pattern of commercial trading within Armidale. Some early shopfronts and/or tiling still exist within the town centre and should be retained and conserved. If buildings are being refurbished, it is essential that any new tiling respects the character of the existing building and streetscape. This will ensure that the new tiling will not soon become dated and will contribute to the unification of the character of heritage streetscapes.

Window and door openings are a major part of any building's design. Older style buildings usually fit in well with each other because the proportion of solid walls to openings is consistently well balanced. Their deep window reveals also helped to create a sense of solidity. Window head and sill height, scale, proportion and compositor are all important. Most traditional window compositions were regular and symmetrical.

Modern facades, with long monotonous elevations, usually do more to destroy the traditional streetscape than anything else. Long facades should be broken up by windows or recesses, combined with verandahs, awnings or window hoods.

Modern shopfronts will usually be acceptable, particularly where they are reduced in impact by these shadow elements. The use of timber is encouraged with 'heavier' window mullions and architraves. Very few late nineteenth or early twentieth century shopfronts now survive in the commercial area. Those that do should be retained and conserved.

a) original or early shopfronts and/or tiling shall be retained and conserved.

b) new shopfronts may be aluminium providing they are in the preferred colours of silver, grey, bronze, or black.

c) the walls below awning level, surrounding window and door openings, shall be in glazed ceramic wall tiles in the following sizes or combinations of sizes:

   100 x 100 mm

   150 x 75 mm

   150 x 150 mm

   200 x 100 mm

d) tiling shall generally be plain finished and white, cream, beige, green, burgundy or black. Contrasting detailing using strip tiles, border tiles or skirting tiles in darker colours were often used and may be appropriate subject to Council approval.

e) floor tiling to recess and hamper type entrances shall be unglazed ceramic mosaic type tiles in a colour and style appropriate to the character of the building.

f) shopfront glazing shall not be infilled with brickwork, blockwork, timber panels, glass bricks or blocks that will change that character of the building at ground floor level.

g) significant and/or early shop window signage is to be retained and conserved.

h) externally fixed security bars are not permitted.

4.9 Vehicle access

Direct vehicle access from Dumaresq, Beardy and Rusden Streets is out of character and is not encouraged. All vehicle access should be from rear lanes where available.

4.10 Access for people with disabilities

The Commonwealth Disability (Access to Premises – Buildings) Standard 2010 (the Premises Standard) and the *Building Code of Australia* (BCA) include the requirements for providing non-discriminatory access to, and use of buildings and areas of buildings that it applies to.

Where access for people with disabilities is required it is to be in accordance with the Premises Standard and the BCA but should avoid a negative heritage impact on the building or streetscape.

4.11 Solar and wind energy installations

Please refer to the requirements for solar and wind energy installations in Part 3 of this Chapter.

4.12 New development

In addition to the principles and requirements outlined above for development in the Armidale commercial centre, the following requirements also apply to new development.

4.12.1 Height and massing

a) the predominant existing building height within the Armidale town centre is 2 storeys although there are some one storey and only one three storey building. These buildings generally step down in scale towards the rear, which in most cases, is a lane.

b) the height of any building at the street alignment is to be consistent with the adjacent and neighbouring contributory buildings and/or heritage items.

c) vertical additions to contributory buildings and/or heritage items are not permitted where they will be visible from the street unless they will reinforce the scale of existing adjacent buildings.

d) any new development shall be consistent with the existing building pattern by stepping down in scale towards the rear.

e) the roof is to be screened by a parapet wall or of a pitched form.

4.12.2 Alignment

There is a consistent pattern of most buildings within the Armidale town centre heritage conservation area being built at street alignment with no setbacks. To maintain this pattern, new buildings should be constructed on the street alignment without setbacks. However, a recessed entrance not more that 50% of the street frontage at ground floor level only may be included.

4.12.3 Façades

Where new development is proposed within an existing streetscape, it is important that the building responds to the existing rhythm, character and proportions. This is critical on wider than average or consolidated sites.

a) new buildings shall reinforce the existing pattern and character of rectangular building forms and shall be of predominantly vertical proportions to bays, windows and openings.

b) any new façade is to be divided vertically and horizontally into bays with engaged piers, string courses, cornices and mouldings.

c) windows and doors shall be vertically proportioned to match the existing character of the area.

Part 5 Illustrations

Illustrations are used throughout this chapter. Some have been prepared as part of the Armidale Heritage Study (Perumal Murphy, 1990). The use of this material is acknowledged with thanks.

Part 6 Bibliography and additional information

For an up to date list of reference materials, publications and legislative information on aboriginal heritage issues, please see the Office of Environment and Heritage (OEH) website at www.environment.nsw.gov.au/cultureandheritage.htm.

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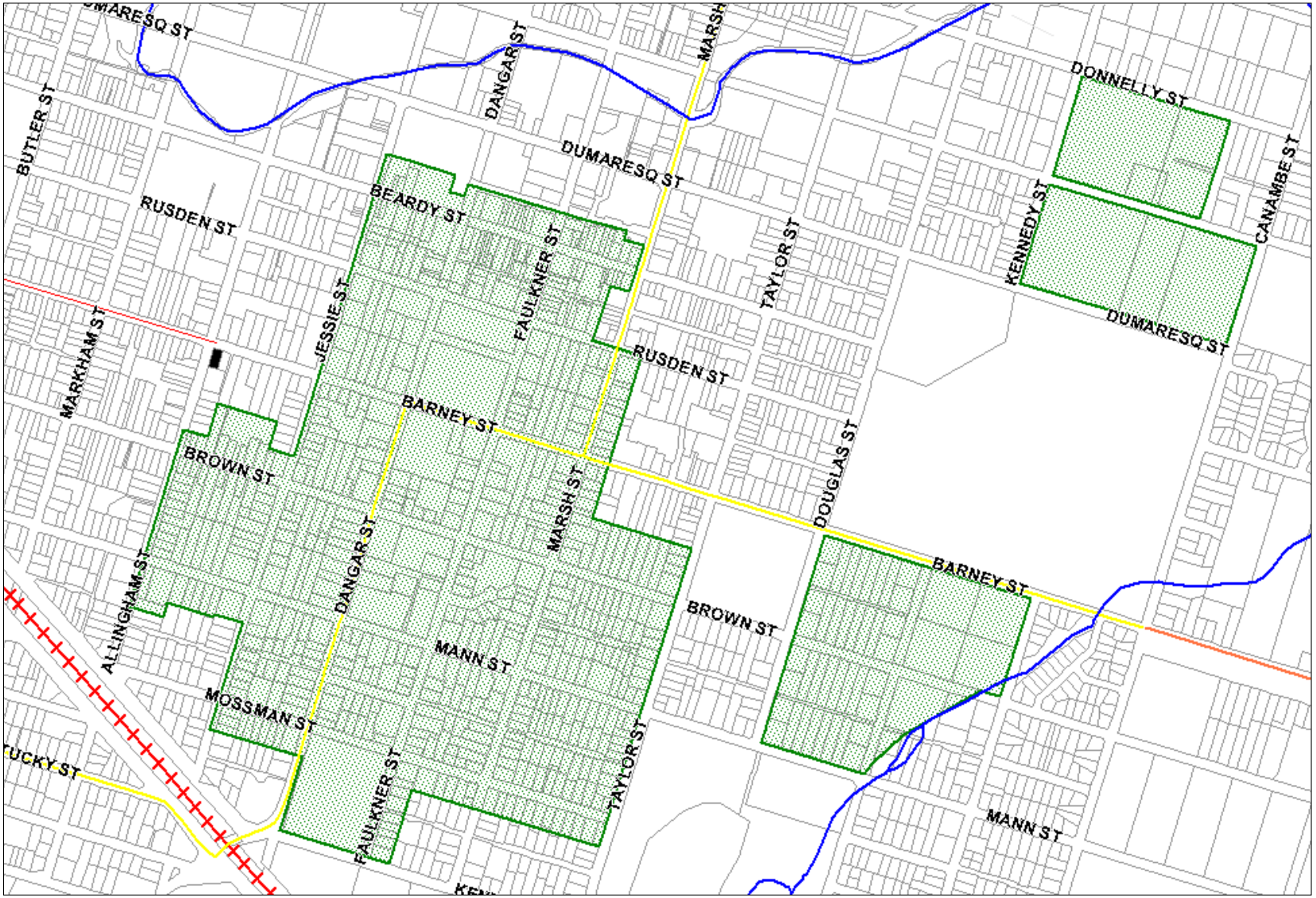
Towards the Dawn – Federation Architecture in Australia, Howells T & Nicholson, M, Hale & Irmonger Sydney 1989.

Armidale Heritage Conservation Areas Map

Appendix 1



Armidale
Dumaresq Council

Armidale Dumaresq
Development Control Plan 2012

Section 2 Site Analysis and General Controls

Chapter 2.4 Aboriginal Heritage

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Table of Contents

Part 1 General provisions

1.1 Introduction

The people of the Anaiwan, Gumbaynggirr and Dhunghutti tribes have lived in the Armidale Dumaresq area for thousands of years prior to European settlement. These traditional custodians of the region engaged in a rich and complex ritual life with language, customs, spirituality and law - the heart of which was connection to country, and have created significant places in the landscape such as bora grounds, open sites, rock shelters, art, scarred and carved trees that have survived to today and warrant appropriate protection from the pressures of development.

While a number of sites of Aboriginal archaeological and heritage significance are known and have been recorded within the local government area (LGA), specific surveys for Aboriginal objects have not been done over much of the area. Therefore, there is potential for Aboriginal objects to exist in many locations even though they have not been formally recorded.

The Aboriginal Heritage Office (North Sydney) prepared the Armidale Dumaresq Aboriginal Site Management Report (2008) and Armidale Dumaresq Aboriginal Potential Areas Report (2008). The information contained in these reports is confidential and subject to a licensing agreement in force between the Culture and Heritage Division of the NSW Department of Environment, Climate Change and Water (DECCW) (now the Office of Environment and Heritage (OEH)) and the Aboriginal Heritage Office. Details of a predictive model that can be used to determine the likelihood of Aboriginal sites occurring and being detectable in our area are outlined below.

This chapter outlines the provisions for the conservation of environmental heritage to which 'Clause 5.10 – Heritage Conservation' of the *Armidale Dumaresq Local Environmental Plan 2012 (LEP 2012)* refers, and provides guidance on conservation of aboriginal heritage.

1.2 Objectives

The objectives of this chapter are:

O.1 To identify, protect and conserve items and places of aboriginal significance in Armidale Dumaresq for the benefit of the community and future generations.

O.2 To assist in the implementation of the Armidale Dumaresq Aboriginal Site Management Report (2008) and the Armidale Dumaresq Aboriginal Potential Areas Report (2008).

O.3 To provide potential developers and the general public with information on Council's requirements for aboriginal heritage conservation.

1.3 Land to which this chapter applies

This chapter applies to land in the Armidale Dumaresq local government area.

1.4 Addressing the guidelines of this chapter

The guidelines for aboriginal heritage are set out in this chapter. The guidelines and objectives of this chapter need to be addressed for each development proposal.

Part 2 Aboriginal heritage

2.1 Assessing the potential for Aboriginal heritage significance

When assessing development applications, Council must consider the likely impact of proposed development on any known or potential Aboriginal object or place of heritage significance. A predictive model is used to determine the potential for sites of Aboriginal significance to occur in a particular location. The three main issues that affect the likelihood of Aboriginal sites occurring and being detectable in an area are:

1. landscapes/land units or the physical setting;
2. the likely range of cultural evidence associated with the landscape; and
3. the landscape history.

The predictive model for Armidale Dumaresq is as follows:

a) Sites associated with rock outcrops will be found wherever rock is outcropping, in particular:

i) engraving sites on ridge tops, on flat rock surfaces above cliffs and scarps and on isolated outcrops and boulders;

ii) rock shelters (with art and/or archaeological deposits) on slopes below ridges, cliffs and scarps, and beneath or part of fallen boulders or isolated boulders;

iii) grinding grooves on fairly level rock surfaces in creeks, swampy areas or isolated areas adjacent to a water source (or former source) or associated with other sites;

iv) stone quarries in areas of exposed bedrock, particularly at silcrete deposits.

b) Archaeological deposits, including artefact scatters, will be found within rock shelters as well as level areas near to rivers or creek lines, and in level areas throughout Armidale Dumaresq. Artefact densities will generally be low, but will increase where well-drained, level areas are situated in proximity to diverse environments, larger waterways, sources of raw materials, known cultural sites such as bora grounds and so on. Site and artefact density will be higher on flats, terraces, lower slopes, ridge tops and crests and will be lower on mid-slopes and upper slopes. Site density will increase in flatter country and decrease in steep country. Localised influences that will affect the location of sites include frost hollows or where cold air flows, land subject to inundation and dampness, protection against seasonal winds and weather, outlook over hunting grounds and so on.

c) Bora grounds and ceremonial grounds will be more common on the tablelands in flatter lands. They are more likely to be found below hills or peaks and above valleys or low lands subject to inundation. They are likely to be associated with carved or scarred trees or other sites. They will be very rare and difficult to detect if in areas subject to clearance and ploughing.

d) Burials will be found in shelter deposits, archaeological deposits and places where the ground is soft, such as sandy banks. They may also be associated with carved or scarred trees or ceremonial sites. It is unlikely that there will be any visible signs of a burial unless there is active and deep erosion to a deposit.

e) Scarred trees will be present where there has been less vegetation clearance and less disturbance, such as bushland and travelling stock reserves. Carved trees will be very rare due to their general rarity and their fragility. Other sites, such as fish traps, will be present in areas of minimal previous disturbance and would be very rare. Misidentification of an early colonial or more recent non-Aboriginal activity as an Aboriginal site is possible.

Generally, sites will be relatively common in bushland areas, with the condition of sites improving with distance from roads, walking tracks and more accessible areas. Sites will decrease in frequency in cleared areas and surviving sites will be more disturbed. In built-up areas, sites will be more common where properties adjoin bushland or undeveloped pasture, and less common where the land has been more heavily modified. Artefact scatters will be difficult to detect without sufficient archaeological visibility, which requires erosion or some disturbance to the soil profile to allow stone artefacts to sit on the ground surface above other sediments. Areas where land disturbance has been most intensive will have the lowest frequency of sites.

Note: The predictive model is effective at a general level. Individual and location specific features allow for the presence of sites in places that would otherwise seem quite unlikely. It is therefore important to consider individual developments in their specific environmental context.

Using this predictive model, an assessment can be made of the following matters to determine the potential for Aboriginal objects or sites to exist at a particular location. The following items are also outlined in a Checklist in Appendix 1.

a) the presence/absence of recorded sites;

b) the site potential of the broader landscape;

c) the presence/absence of specific landscape features;

   i) creek lines/watercourses (even if ephemeral)
   ii) shorelines of water bodies and former water bodies
   iii) cliff lines/boulders (higher than 1m)
   iv) overhangs in any of the cliff lines/boulders
   v) deep sandy deposits
   vi) old growth trees

d) the extent of previous land modification and disturbance; and

e) whether there has been any previous Aboriginal archaeological survey in the area and what the visibility/access conditions were at that time.

Depending on the particular characteristics of a proposed development site and its potential to contain items of Aboriginal archaeological heritage significance, further assessment of Aboriginal heritage may be required.

2.2 How can you find out if there are recorded Aboriginal objects or places on your land?

The NSW OEH keeps a register of all recorded Aboriginal objects and Aboriginal places in NSW. The register is called the Aboriginal Heritage Information Management System (AHIMS).

You can search the AHIMS to discover if an Aboriginal object has been recorded, or an Aboriginal place declared, on a parcel of land. As indicated above, surveys for Aboriginal objects have not been carried out in many parts of NSW, so Aboriginal objects may exist on a parcel of land even though

they have not been recorded in AHIMS. Further details can be obtained about the Aboriginal Heritage Information Management System on the Office's website (www.environment.nsw.gov.au).

2.3 Proposed development that will impact on items of Aboriginal Heritage

The *National Parks and Wildlife Act 1974* protects all Aboriginal objects and Aboriginal places in NSW. Under provisions of the Act it is an offence to:

a) disturb or move an Aboriginal object;

b) excavate land for the purpose of discovering an Aboriginal object;

c) knowingly destroy, damage or deface an Aboriginal object or Aboriginal place; or

d) knowingly cause or permit the destruction, damage or defacement of an Aboriginal object or Aboriginal place.

If you are going to disturb or excavate land to discover an Aboriginal object, or disturb or move an Aboriginal object, you may need to apply for an Aboriginal Heritage Impact Permit (AHIP) from the OEH. Further information is available on the OEH website at www.environment.nsw.gov.au.

2.4 Aboriginal Heritage Assessment – Consultation Requirements

OEH have produced a document titled *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (the Consultation Requirements) which focuses on the requirements for consultation with Aboriginal people as part of the heritage assessment process.

The Consultation Requirements apply to all activities throughout New South Wales that have the potential to harm Aboriginal objects or places and that require an AHIP. It is also recommended that the Consultation Requirements be used where a proponent may be uncertain on whether or not their proposed activity may have the potential to impact on Aboriginal objects or places, and where the proponent is required to undertake a cultural heritage assessment to establish the potential impact that their proposal may have on Aboriginal cultural heritage.

Details of the Consultation Requirements can be obtained from the OEH web site.

Part 3 Bibliography and additional information

For an up to date list of reference materials, publications and legislative information on Aboriginal heritage issues, please see the OEH website at www.environment.nsw.gov.au/cultureandheritage.htm.

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Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010, Department of Environment Climate Change and Water, 2010.

Draft Guidelines for the Protection, Management and Use of Aboriginal and Torres Strait Islander Cultural Heritage Places, Department of Communication and the Arts, Canberra, 1997. Available from the Australian Heritage Commission.

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The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance, Australia ICOMOS, Sydney, 1999. Available at *http://www.icomos.org/australia/charter.html*

Checklist for Aboriginal Heritage Potential

Desktop Assessment

Officer:		**Date:**
Checklist		**Desktop Assessment**
1.	**Check the potential Area and Site Maps if available.**	
1a	**What category of potential is the proposed development in?** Very High High Moderate Low Very Low	
1b	**Are there recorded sites in the area or nearby?** Immediate vicinity Within 100-200m Not recorded nearby	
2	**Check the landscape features.**	
2a	**Are any of the following features in the impact area?** Creek lines/watercourses (even if ephemeral) Shoreline of water body (past or present) Cliff lines/boulders (higher than 1m) Overhangs in any of the cliff lines/boulders Deep sandy deposits Old growth trees	
2b	**What is the landscape history?** Heavily modified Moderately modified Only limited modification No known modification	
3	**Additional information/Comments:**	
Assessment: (Your conclusion on why an assessment is/is not necessary)		

Checklist for Staff – Supporting Information

Use this information when fill out the checklist form.

1. Check the Maps

a) What category of potential is the proposed development in?

If potential area mapping is available, check what category the proposed activity is in. The higher the category, the more likely it is that an Aboriginal heritage assessment is required. If Low or Very Low, then it is less likely that an Aboriginal site will be affected by the proposed development, however, a check must still be made using the questions below to make sure.

b) Are there recorded sites in the area or nearby?

If a site is recorded in the immediate vicinity of the proposed development then an Aboriginal heritage assessment *will be required.*

If a site is recorded within 100-200m of the proposal, the exact location of the recorded Aboriginal site needs to be verified, and an Aboriginal heritage assessment *may be required,* depending on the information below.

If a site is not recorded nearby, this does not mean that there are no sites in the area. Further information needs to be considered (below).

2. Check the Landscape Features

a) Are any of the following features in the impact area?

- creek lines/watercourses (even if ephemeral)?
- shorelines of water bodies and former water bodies?
- cliff lines/boulders (higher than 1m)?
- overhangs in any of the cliff lines/boulders?
- deep sandy deposits?
- old growth trees?

If any of these features are present, then there is an increased potential for Aboriginal sites to be present and an Aboriginal heritage assessment should be sought (dependent on previous levels of disturbance). If no such features exist, then the potential for unrecorded sites is low.

b) What has the landscape history been like?

If the area proposed for development (including areas of indirect impacts, such as increased pedestrian access etc.) has been subject to intensive disturbance like quarrying, excavation and levelling and so on where the original ground has been removed or heavily modified, then the potential for Aboriginal sites to be present is low and no assessment is required. If there has been no or minimal disturbance likely to have destroyed all Aboriginal sites, then the other components of the checklist will be the basis for determining whether an assessment is required or not.

3. Additional Information/Comments

There may be additional information suggesting why an Aboriginal site may be in this location. For example, a local resident may know of a site, or there could be documentary evidence or an historical source linking the location with past Aboriginal activity.

There may also be specific information that will influence whether an Aboriginal heritage assessment is required, ranging from information about the scale of the proposed development (eg. it will be confined to an existing building envelope) to any previous examination of the area (eg. the land may have been referred to indirectly by an archaeologist or Land Council representative when referring to a different/neighbouring allotment. All information that can provide an insight for that particular location to have Aboriginal heritage potential should be considered on its merits.

Desktop Assessment

Once the checklist has been completed, there should be sufficient information gathered for either 1) asking the proponent to commission an Aboriginal heritage assessment or, 2) determining that there is no requirement for an Aboriginal heritage assessment.

If you are not sure

You may be able to get additional advice from the Ngayinyaga Committee, archaeologists or Aboriginal Heritage staff of the Department of environment and Climate Change, or the Sites Officer of the Local Aboriginal Land Council. Only general advice is likely to be given unless there is strong evidence that a site is under threat and will require a formal approval from each organisation. The Aboriginal Heritage Manager can be referred Das, EISs and REFs for advice and comment while the Aboriginal Heritage Office is a partner organisation and this is part of the agreement.

Who to contact for an Aboriginal heritage assessment

If an Aboriginal heritage assessment is required the applicant should be referred to the Ngayinyaga, who will advise on the appropriate Aboriginal community representatives to undertake the cultural and Aboriginal community assessment, and a qualified archaeologist specialising in Aboriginal heritage, who will undertake the archaeological or scientific assessment. Should a site be identified and the proposed development will impact the site, then the development becomes an integrated development and the Department of Environment and Climate Change becomes an approval body of the development (refer *Armidale Dumaresq Site Management Plan* for further information).

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Chapter 2.5 Contaminated Land

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Part 1 General Provisions

1.1 Introduction

This chapter outlines the required approach to identifying and managing land that is identified as contaminated, or which may be potentially contaminated, as a result of existing or previous site conditions and/or land uses.

1.2 Objectives

The objectives of this chapter are:

O.1 To fulfil Council's legal obligations and its duty of care to citizens by ensuring that land use changes will not increase the risk to human health or to the environment.

O.2 To minimise the potential for adverse social and economic consequences which may arise from a failure to identify and respond to issues of potential or actual contamination.

O.3 To provide effective risk management for Council and the community by reference to the law, industry best practice literature and protocols.

1.3 Land to which this chapter applies

This chapter applies to land in the Armidale Dumaresq local government area.

1.4 Addressing the guidelines of this chapter

The guidelines for managing contaminated and potentially contaminated land are set out in this chapter. These are expressed in the form of objectives which need to be addressed for each development proposal. Alternative approaches may be proposed, provided these adequately address the relevant objectives and comply with legislation.

1.5 Relevant legislation and guidelines

Council and the community are subject to relevant State legislation and guidelines in relation to contamination issues, in particular:

a) *Environmental Planning and Assessment (EP&A) Act 1979*;

b) *Contaminated Land Management Act 1997;*

c) *State Environmental Planning Policy (SEPP) No 55 - Remediation of Land*;

d) *Managing Land Contamination Planning Guidelines SEPP 55 – Remediation of Land* administered/issued by the NSW Department of Planning and Infrastructure (DP&I) for the purposes of s.145C of the *EP&A Act 1979* ('the State planning guidelines');

e) *Guidelines for Consultants Reporting on Contaminated Sites* - administered/issued by the NSW Environment Protection Authority (EPA);

f) *Guidelines for the NSW Site Auditor Scheme and other technical guides* - administered by the EPA (see http://www.environment.nsw.gov.au/clm/guidelines.htm).

1.6 State government planning guidelines

The current *Managing Land Contamination Planning Guidelines SEPP 55 – Remediation of Land (the Guidelines)* cover key issues for NSW Councils' involvement in land use planning, development and the provision of technical and property advice to the public, including:

a) identification of contaminated or potentially contaminated land;

b) recording and use of such information;

c) a consistent basis for planning responses in relation to contaminated or potentially contaminated land, including rezoning of land, and decision-making processes for development control and land remediation;

d) preventing future contamination.

This chapter contains additional information in relation to contaminated or potentially contaminated land issues in Armidale Dumaresq that is to be considered together with the State planning guidelines.

Part 2 State Environmental Planning Policy (SEPP) No. 55 - Remediation of Land - Requirements for Category 2 Work

SEPP 55 provides a State-wide approach to the remediation of Contaminated Land, and in particular specifies where Development Consent may be required for remediation work (Category 1 work).

In many instances remediation work may be relatively minor in its extent and undertaken separately from other, related, development activity. In such cases, and provided the site is not environmentally sensitive, no consent will be required under the SEPP (Category 2 work). In such cases the proponent must still give Council at least 30 days' written notice of the intention to carry out remediation. The work must, as a minimum, be undertaken in accordance with the State planning guidelines.

Where this is not the case, Clause 9(f) of SEPP 55 would require Council to treat the matter as a Category 1 Remediation Work and require the submission of a Development Application for the proposed work. Notice of completion of Category 1 work is required under Clause 18 of the SEPP.

Where Category 2 work is completed, Council requires a similar confirmation to be supplied by the responsible Consultant so that, where required, the amendment of the Council Information System of Contaminated or Potentially Contaminated Land may be undertaken.

For further details in relation to Category 1 and 2 works, SEPP 55 should be consulted. A copy of the SEPP is available at www.legislation.nsw.gov.au

Part 3 Rezoning or development on contaminated or potentially contaminated land

3.1 Rezoning requests, development applications and remediation proposals

Council will follow the process outlined in the State planning guidelines and SEPP No 55 – Remediation of Land in relation to the assessment of rezoning requests, Development Applications and remediation proposals (Category 1 work).

A distinction is to be drawn between major, area wide rezonings or forward planning exercises where detailed investigation may be impractical in advance of site specific development proposals, and 'spot' rezonings where land should normally be proven suitable for its intended use.

For further information, see Part 4 of the State planning guidelines and also State Environment Planning Policy No 55 – Remediation of Land.

3.2 Development proposals and changes of use

Council decisions on development control matters are operational decisions where a significant duty of care applies. In each case, staff involved in assessments will consult:

- Council's Information System in relation to the site or adjacent sites where the potential may exist for off-site migration of contaminants;
- Council property file records;
- Information supplied by applicants or property owners;
- The list of 'Potentially Contaminating Activities' in the State planning guidelines.

- and, if there is an identified potential for contamination:
- The list of potential contaminants for different land uses in Appendix A of the State planning guidelines. This can then inform the required investigation and reporting process dealt with in Part 3.5 of those guidelines.

If there is no basis to conclude that contamination may be a concern, the assessment may proceed. If, however, potential for contamination is identified, an investigation will be required before the determination of an Application to establish that the site is suitable, or can readily be made so, for its intended use in terms of the potential risk to human health and/or the environment.

For further information, see Part 4.3 of the State planning guidelines.

3.3 Conditions of Consent

Where potential contamination has been identified, Council will need to be satisfied that the site has been investigated to establish its suitability for a proposed use, either with or without remediation. If any agreed remediation and related validation work has not been undertaken before determination of an Application, Council will require this to be done as a condition of Development Consent before other work commences on the land or before occupation commences, as appropriate.

An outline of conditions dealing with required remediation work is set out in Appendix C of the State planning guidelines and will be considered as necessary in individual cases. Proposed actions to ensure that remediation is carried out without risk or undue disturbance to neighbouring property owners should be contained in remediation action plans submitted by or on behalf of developers.

Part 4 Consultant reports on individual sites – minimum requirements for consultant competency

Council staff do not hold suitable qualifications to carry out scientific investigations of contaminated or potentially contaminated land. Council requires that Category 2 work is undertaken in accordance with a proposal developed by a competent Consultant and the current EPA *Guidelines for Consultants Reporting on Contaminated Sites*.

Consultants undertaking investigations and providing reports to Council in relation to contaminated (or potentially contaminated) land must certify and provide details of qualifications and experience against the following:

a) Demonstrated experience and expertise in the following:
   - i) Contaminated land assessment.
   - ii) Soil sampling, design and methodology.
   - iii) Groundwater sampling, design and methodology.
   - iv) Interpretation of analytical data.
   - v) Quality control/assurance procedures.
   - vi) Assessment of contaminant exposure pathways and risks.

b) Demonstrated understanding of the impact of contaminated land on the environment, public and workplace health and safety.

c) Demonstrated understanding of NSW legislation relating to contaminated sites and environmental protection, and in particular, a good understanding of the current State planning guidelines regarding contaminated land.

d) Demonstrated relevant expertise in the following areas:
   - i) Geotechnology/hydrogeology.
   - ii) Environmental chemistry.
   - iii) Soil science.

iv) Ecotoxicology.

v) Contaminant transport and exposure assessment.

vi) Sampling and analysis.

vii) Risk evaluation, and

viii) Remedial technologies and associated requirements.

e) Provide evidence of full membership in an appropriate professional organisation, such as the Australian Contaminated Land Consultants' Association.

f) Evidence of an ability to conduct contaminated land investigations and validations or associated reviews or audits in a logical fashion and able to critically review information and compile reports of a high scientific/engineering standard for contaminated land assessments.

g) CVs for key project personnel (Project Director, Project Manager) and evidence that the individual approving issue of any report to Council is appropriately experienced and qualified, and has reviewed the report.

h) Evidence in the form of a certificate of currency for professional indemnity and public liability insurance, for $5 and 10 Million coverage respectively, or such amount as may be advised from time to time by Council's Insurance Officer or by reference in the case of professional indemnity insurance to the NSW Government's current Guidelines under its Site Auditor Scheme pursuant to the Contaminated Land Management Act 1997.

The submission of reports by Consultants meeting the above criteria does not remove the requirement for Council staff to consider these submissions and ensure that they address relevant issues for each case. A fundamental requirement is that information provided by Consultants should be in accordance with current EPA guidelines for consultants reporting on contaminated land and / or site auditors.

In some cases, an independent audit or review of consultant work may be required by Council, as outlined in Part 7 below.

Part 5 Council Information System – identification of contaminated or potentially contaminated land

Council's information systems (the Information System) record information for contaminated or potentially contaminated land. The Information System has been prepared to assist Council officers in addressing the issue of land contamination in land use planning and development matters and in providing information to the public, specifically through the provision of certificates under Section 149 of the EP&A Act. Given the sensitive nature of this subject and potential legal liabilities, it is important that any such information is prepared and used in good faith and with due diligence.

5.1 Objective and purpose

The Information System (hosted on Council's 'Pathway' software) has been prepared to assist Council officers in addressing the issue of land contamination in land use planning and development matters and in providing information to the public, specifically through the provision of planning certificates for conveyancing purposes, under Section 149 of the EP&A Act.

5.2 Legislative basis for the information system

The Information System has been prepared having regard to the State planning guidelines but also Council's State of the Environment reporting obligations under Section 428A of the Local Government Act 1993. The production and intended use of the Information System is also consistent with the Council's Charter, set out in Section 8 of that Act, and the objects in Section 5(a) of the EP&A Act.

5.3 Basis for inclusion of properties in the information system

The majority of land recorded in the Information System has not been specifically assessed to determine the actual existence of contamination, but rather included to identify that further investigation is appropriate in connection with development proposals, as a result of information of which Council is aware in relation to current or former land uses. Properties where Council is not (as yet) aware of any history of potentially contaminating land uses are not included in the Information System.

Development of the Information System has involved consideration of the schedule of 'Activities that may cause Contamination' in Table 1 (Part 3.2.1) of the State planning guidelines and consultation with current and former staff of the Council. Council has also consulted with Government Departments, including the Public Health Unit of NSW Health in Tamworth, the NSW Environment Protection Authority, Rural Lands Protection Board (now LHPA) and NSW Department of Primary Industries. Finally, Council has consulted confidentially with the owners of individual properties identified in the Information System about its purpose and intended use.

Historic aerial photographs of Armidale, topographic maps and some of Council's property file records have also been used in the compilation of the Information System.

Because of resource constraints, an exhaustive review of all Council's property records and archives has not been carried out in connection with the development of the Information System. However, files accessed in connection with relevant land use and development activity (including related correspondence and processing of development applications) are routinely reviewed for any relevant file history. Likewise, where such enquiries occur in relation to sites known to be contaminated, or with reasonable potential for contamination having regard to Table 1 of the State planning guidelines, relevant documentary records will be consulted for use in connection with the enquiry.

The list of sites in the Information System has been prepared in good faith in the interests of responsible planning for the area and will be used as a first point of reference by Council staff. However, the Information System is not necessarily comprehensive or definitive and does not claim to deal thoroughly with the issue of contamination of properties adjacent to those listed. It should therefore be viewed as one starting point for more detailed investigations and will necessarily evolve as more information comes to hand from third parties or from detailed investigations of particular sites - for example, in connection with a specific Development Application.

Likewise, inclusion of a property on the list does not necessarily imply the actual existence of contamination on the property. This can only be determined as a result of a sampling and analysis program carried out in accordance with appropriate protocols, depending on the expected nature of contamination (see Bibliography of the State planning guidelines and current internet resources provided by the DP&I and EPA).

The Information System makes provision for notations in relation to investigations and remediation activities carried out for individual properties (see Maintenance and Amendment of the Information System, below). This will enable staff to identify land which has been fully remediated or remediated for specific land uses only.

A limited number of properties listed in the Information System are subject to legal notices under legislation administered by the EPA. Further information on such properties of which Council has been made aware has been provided through Council's State of the Environment reporting. However, the public should always consult with the EPA for up-to-date information on any such land within Armidale Dumaresq.

5.4 Maintenance and amendment of the information system

The Council's Information System is maintained on a computer database. Authorised officers may amend the Information System over time having regard to additional information which may be

received by Council, including consents granted for potentially contaminating uses, and the DP&I Guidelines. Where sites are added to the Information System, the affected landowners are to be notified in writing. The Information System is also linked to a computer-based Geographic Information System.

Council officers may become aware of sites which should be added to or removed from the current list through routine applications assessment, checking site history through file records, or as a result of submissions received. In addition, Council's standard Development Application form includes a question as to whether the applicant is aware of any activities on the subject land which may have led to soil contamination.

5.5 Removal of properties from information system

Any alterations and date(s) thereof will be recorded in the Information System for future reference.

If any person is concerned about the inclusion or omission of a site on Council's Information System they should be advised to discuss the matter in the first instance with Council's environmental planning staff.

5.6 Duty to disclose information on contamination

Section 60 of the Contaminated Land Management Act 1997 places a duty on owners of land or persons who have caused contamination to notify the EPA in writing if they become aware of any contamination of land. If concerns are justified, Council would expect to be notified by the EPA so that the need for amendment to the Council's Information System can be considered.

Part 6 Responses to request for information

Council's Policy in relation to public access to information from the Information System is set out below. This section of the Policy has been prepared having regard to Part 5 of the State planning guidelines and from legal advice provided to Council.

6.1 Information available to all enquirers

Details of sites subject to notices and orders under the Contaminated Land Management Act 1997 and related previous legislation can be provided to any enquirer as a matter of public record (see also http://www.environment.nsw.gov.au/prclmapp/searchregister.aspx). Further, contaminated land reports submitted in connection with development applications are 'open access information' under the Government Information (Public Access) Regulation 2009 and must be made available for perusal on request.

6.2 Information available to property owners or their agents

Property owners, or persons authorised by the owners in writing, may be provided with information from the Information System, if there is any, in relation to their own property. In any case, owners of properties identified in the Information System should be aware of their use from previous correspondence or information provided in planning certificates under Section 149 of the EP&A Act, in relation to subsequent property transactions.

6.3 Other enquiries - certificates under Section 149, EP&A Act

All other enquiries in relation to potentially contaminated land should be dealt with through the property enquiry system under Section 149 of the EP&A Act. Responses in relation to these certificates are set out below:

a) The answer on 149(2) certificates relating to Council's adoption of any policy in relation to 'risk' matters in land development (ref. Schedule 4, Item 7(a) of the Environmental Planning

and Assessment Regulation 2000) is to be as follows, except where the site is identified in the Information System (see below):

> *'Council has adopted by resolution a Policy on Contaminated Land which may restrict the development of the land. The Policy is implemented when zoning, development or land use changes are proposed on lands which have been used for certain purposes. Council records do not have sufficient information about previous uses of this land to determine whether the land is contaminated. Consideration of Council's adopted Policy and the application of provisions under relevant State legislation is warranted.'*

b) Where a site is potentially contaminated because of former land uses and so identified in Council's Information System, the answer to Question 7(a) on 149(2) Certificates relating to Council's adoption of any policy in relation to 'risk' matters in land development (ref. Schedule 4, Item 7 of the Environmental Planning and Assessment Regulation 2000) is to be as follows:

> *'Council has adopted by resolution a Chapter in Development Control Plan 2007 on contaminated land. This may restrict the development of the land. The relevant policy is triggered when zoning, development or land use changes are proposed on lands which have been remediated for a specific use only. Consideration of Council's adopted DCP and the application of provisions under relevant State legislation is warranted.*
>
> *Note: Council can supply additional information from its records for this site in response to a request for a certificate under s.149(5) of the Environmental Planning and Assessment Act 1979. Such advice is provided in good faith and Council does not incur liability for advice so given.'*

c) The answer on 149(2) Certificates relating to the following matters prescribed by the Contaminated Land Management Act 1997 will be dependent on the information for any relevant sites held by Council:

- *that the land to which the certificate relates is significantly contaminated land within the meaning of that Act—if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued;*
- *that the land to which the certificate relates is subject to a management order within the meaning of that Act - if it is subject to such an order at the date when the certificate is issued);*
- *that the land to which the certificate relates is the subject of an approved voluntary management proposal within the meaning of that Act - if it is the subject of such an approved proposal at the date when the certificate is issued);*
- *that the land to which the certificate relates is subject to an ongoing maintenance order within the meaning of that Act—if it is subject to such an order at the date when the certificate is issued;*
- *that the land to which the certificate relates is the subject of a site audit statement within the meaning of that Act - if a copy of such a statement has been provided at any time to the local authority issuing the certificate.*

d) Responses in relation to Applications for Section 149(5) Certificates should include information as follows**:**

i) where a site is listed in Council's Information System as potentially contaminated, include information from the system and related records as follows:

- Relevant site history in relation to potential contamination from Council's property file or other relevant records.
- Investigations undertaken, testing results and remediation works carried out,

together with information on site suitability for future uses.

- Partial remediation where the site is still above threshold levels of suitability for certain uses.

Part 7 Audit and review reports and the NSW Site Auditor Scheme

The issue of independent review of consultant investigations and remediation programs is discussed in the State planning guidelines.

With the introduction of the Contaminated Land Management Act 1997, provision was made by the Government for an independent review of site investigation processes by 'site auditors'. These are consultant specialists accredited under the NSW Site Auditor Scheme administered by the EPA. The EPA maintains a list of consultants who are currently accredited for the purposes of independent audits of consultant investigation of contaminated sites, and relevant information, including guidelines for auditors, is available from that Authority.

While a rigorous system of State or national consultant accreditation and appropriate protocols on this issue could limit the need for independent validation by another consultant, under the current system in NSW Council will require independent reviews or formal audits by EPA accredited consultants of local investigations, remediation and validation, where:

a) Council has reasonable grounds to believe that information provided by an owner's or developer's consultant is incomplete or incorrect, or

b) Contamination is extensive or complex in its nature, or

c) Council does not have the internal resources to conduct its own internal review of the material supplied by an owner's or developer's consultant, or

d) Council wishes to verify that information or conclusions as to suitability of sites for future uses provided by an owner's or developer's consultant adhere to appropriate standards, procedures and guidelines.

In some cases, a site audit by an accredited person is required under the Contaminated Land Management Act 1997.

In cases where a formal site audit is required by Council, that site auditor is to be selected by the developer or landowner from the current EPA list and engaged by Council. The consultant shall report directly to Council although costs will be borne by the applicant/developer.

In addition, the auditor shall, prior to engagement, submit to Council:

a) Written acknowledgment that the reviewer / auditor will provide a service for Council (as opposed to the site owner, applicant or developer) and is to report direct to Council Staff as part of the undertaking; and

A written undertaking to the effect that the reviewer / auditor, or his/her firm has no commercial or other connection to the applicant/developer or site owner.

Armidale
Dumaresq Council

Armidale Dumaresq
Development Control Plan 2012

Section 2 Site Analysis and General Controls

Chapter 2.6 Earthworks and Geotechnical Investigations

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Part 1 General provisions

1.1 Introduction

The former Armidale City Council commissioned DJ Douglas & Partners Pty Ltd to carry out a study of geotechnical hazards within the Armidale city area (*Report on Geotechnical Hazards Study Prepared for the Council of the City of Armidale -November 1992)* to provide development guidelines and to assist Council staff in assessing development proposals under the *Environmental Planning and Assessment Act 1979*. This study included a review of the local geology and groundwater conditions and gathered data pertaining to various potential hazards from various authorities and companies.

The study developed risk categories to assist in the assessment of potential hazards within Armidale (this study does not include areas in the former Dumaresq Shire) and identified risks associated with earthworks when inappropriately performed or monitored. The risk assessment techniques used are discussed in the following sections of the report:

a) Slope Instability

b) Shrink-Swell Movements in Soil

c) Spring Activity

In addition, the provisions for undertaking earthworks, including cut and fill and the construction of retaining walls and batters are addressed in this chapter.

1.2 Objectives

The objectives of this chapter are:

O.1 To ensure that geotechnical risks are recognised.

O.2 To ensure earthworks do not impact on local amenity.

O.3 To ensure earthworks do not impact negatively on site safety and stability.

O.4 To ensure that information in this report is used to undertake precautionary works and develop appropriate engineering solutions for development where these hazards exist.

1.3 Land to which this chapter applies

This chapter applies to land in the Armidale Dumaresq local government area.

1.4 Addressing the guidelines of this chapter

The guidelines for earthworks and geotechnical matters are set out in this chapter. These are expressed in the form of objectives which need to be addressed for each development proposal. For each objective (O), 'acceptable solutions' (S) are provided which, if met, will ensure compliance. Alternative approaches may be proposed, provided these adequately address the relevant objectives and comply with legislation.

Part 2 Earthworks and retaining walls

Where development consent for earthworks (or for development involving ancillary earthworks) is required, the impact of the earthworks on the site must be considered. Please address the relevant matters for consideration in *LEP 2012* Clause 6.1 Earthworks and the following controls.

Objectives

O.1 To limit the extent and visual impact of earthworks within a site, particularly along adjoining boundaries.

O.2 To minimise the visual impact and amenity of earthworks on both the site, and the adjoining

	properties.
O.3	To ensure that where excavation and/or filling are carried out, appropriate measures are in place to ensure site stability and prevent erosion and sedimentation.
O.4	To ensure that excavation, filling and/or retaining walls do not create a stormwater nuisance or adverse environmental impacts on surrounding land or waterways.
2.1	**General earthworks matters**
S.1	Buildings on sloping sites shall be sited and designed to minimise the extent of earthworks and associated retaining walls.
S.2	Excavation, filling, batters and/or retaining walls must not redirect the flow of surface water onto an adjoining property.
2.2	**Excavation of sloping sites**
S.3	All excavation greater than 600mm shall be structurally supported by a retaining system that is designed by a qualified engineer. The design must include a drainage system that does not redirect the overland flow of stormwater onto adjoining property.
S.4	Excavation must not reduce the cover of underground utility services.
S.5	Excavated sites shall be battered to an appropriate grade where possible, and landscaped in accordance with an approved Landscaping Plan.
S.6	Excavation associated with the erection of, or alterations or additions to, a building or ancillary development (other than a swimming pool) must: a) in the R1, R2 and RU5 zones, not be more than 1.5m below existing ground level; or b) in the RU1, RU4, E3, E4 and R5 zones, not be more than 2m below existing ground level; or c) in the IN1 and IN2 zones, not be more than 3m below existing ground level;
S.7	An unprotected embankment must not extend more than: a) in the R1, R2, RU5 and business zones, 2m horizontally beyond the external wall of the building or ancillary development; or b) in the RU1, RU4, E3, E4 and R5 zones, 4m horizontally beyond the external wall of the building or ancillary development; or c) in the industrial zones, 4m horizontally beyond the external wall of the building or ancillary development.
S.8	Excavation associated with the erection of, or alterations or additions to, a swimming pool must be not more than the depth required for the pool structure.
2.3	**Fill of sloping sites**
S.9	Fill associated with the construction of, or an alteration or addition to, a building or ancillary development, must be contained wholly within the footprint of the building or ancillary development.
S.10	Exposed fill may be constructed using an unprotected embankment if the building or ancillary development has a setback of more than 2m from a side or rear boundary, if: a) the fill is not more than 600mm above ground level (existing), and b) the fill (but not the embankment) does not extend more than 1m beyond an external wall of the dwelling house or ancillary development, and c) the toe of the unprotected embankment has a setback of at least 400mm from a side or

rear boundary.

S.11 Where fill requires the construction of a retaining wall, the fill must be adequately contained by a retaining wall that is not higher than 600mm (including the height of any batters) above existing ground level.

2.4 Retaining walls

S.12 Where excavation requires the construction of a retaining wall, the wall:

a) where forward of the front façade of the building, must not be more than 1m above existing ground level.

b) where located behind the front façade of the building, must not be more than 3m above existing ground level.

S.13 Where fill requires the construction of a retaining wall, the fill must be adequately contained by a retaining wall that is not higher than 600mm (including the height of any batters) above existing ground level.

S.14 All retaining walls greater than 600mm must be designed by a qualified engineer. The design must include a drainage system that does not redirect the overland flow of stormwater onto adjoining property.

S.15 Retaining systems are to be separated from any other structural retaining system on the site by at least 2m measured horizontally.

S.16 Retaining walls are to be constructed using materials that blend with the natural landscape.

2.5 Batters

S.17 Excavated sites shall be battered at a maximum grade of 1 in 2 for landscaping and 1 in 4 for grassed areas.

S.18 Batters must be landscaped in accordance with an approved Landscaping Plan.

S.19 Retaining systems are to be separated from any other structural retaining system on the site by at least 2m measured horizontally.

Part 3 Geotechnical assessment

The DJ Douglas & Partners report (Appendix 1) describes the natural and site development induced geotechnical hazards within Armidale.

Suggested procedures for identification and inclusion of geotechnical hazards and risk assessment in development applications submitted are discussed in Section 8. A full summary of these procedures is presented in Table 8.1, addressing slope, soil, springs and earthworks categories, including design considerations to be undertaken.

A series of four drawings were prepared as part of the study, delineating approximate boundaries of geotechnical units, soil shrink-swell zones, slope instability risk zones and potential spring hazard zones.

The slope instability drawing (No. 13837/3) and the spring drawing (13837/4) are used to assess risk categories and these drawings are cross-referred in Table 8.1.

The provisions of Table 8.1 will apply to all new building and subdivision development requiring Development Consent or Complying Development Certification in areas of potential spring activity or medium or above risk of slope activity as shown on the slope instability drawing (No. 13837/3) and the spring drawing (13837/4), with the term 'Requirements for Engineering or Building Approval' in Table 8.1 to be read as 'Requirements for Construction Certification'.

For sites which are potentially spring affected or subject to medium or above risk of slope activity, an engineer's certification is required in connection with applications for new subdivision or building

work involving any new footing systems or earthworks, except where the work is only for new ancillary domestic/commercial structures such as carports and decks, provided these are small (<50m^2), single storey, and of flexible construction (e.g. timber or steel framed vs. masonry), and will not impose any significant structural loading on any other building.

The following is a summary of relevant recommendations and suggestions presented in the D J Douglas report for development control purposes:

a) the risk of slope instability is to be assessed based on work by Walker et al published in Australia Geomechanics News;

b) sites in 'medium' or above risk categories with respect to slope instability are to be subjected to specific engineering and geotechnical review;

c) Australian Standard AS2870 'Residential Slabs and Footings' is to be adopted for shrink-swell assessment of all soils;

d) sites classified as 'low' or greater risk of slope instability and underlain by likely basalt flows or tertiary sediments are subject to engineering assessment;

e) the guidelines presented in Australian Standard AS3798 'Guidelines on Earthworks for Commercial and Residential Developments' are to be adopted for use in all earthworks developments except where more stringent guidelines are presented in Section 6.4 of this chapter as being more appropriate to local conditions;

f) design and construction of footing systems for residential buildings are to be carried out in accordance with Australian Standard AS 2870 'Residential Slabs and Footings';

g) for commercial and industrial buildings, recommended footing depths are presented in Table 7.2;

h) risk categories are to be defined for slope and spring hazard categories and for soils at building application stage.

REPORT ON
GEOTECHNICAL HAZARD STUDY
CITY OF ARMIDALE

PREPARED FOR
THE COUNCIL OF THE CITY OF ARMIDALE

13837
NOVEMBER 1992

Geotechnical Consultants

D.J. Douglas & Partners Pty Ltd

D.J. Douglas and Partners Pty Ltd

9 November 1992
Project N°: 13837
KAB/jm

REPORT ON GEOTECHNICAL HAZARD STUDY CITY OF ARMIDALE

1. INTRODUCTION

This report presents the results of a study of selected geotechnical potential hazards associated with development within the City of Armidale. The work was performed at the request of the Council of the City of Armidale. A draft was previously submitted on 12 October 1992. The contents of this draft were discussed at a seminar given by DJ Douglas & Partners on 20 October 1992. This present report was prepared after reviewing comments received during and soon after the seminar.

The object of the study was to provide Council with guidelines on initial assessment of development risk as related to sloping terrain, reactive soils and spring activity. This was to take the form of a list of identified prerequisites for developers to address under various hazard categories. In addition, sound guidelines were to be developed to assist Council with monitoring of local earthworks and to form the basis of a sound earthworks policy for local developers to follow during construction.

In particular, the study was to assist Council in being able to assess development proposals under S.90(1)(g) of the Environmental Planning and Assessment Act 1979, which requires Council to consider "whether ..... land ..... is unsuitable for ..... development by reason of its being, or being likely to be, subject to ..... subsidence, slip or ..... to any other risk".

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The scope of work of the study comprised a series of meetings and liaisons with Council staff, local engineers, government departments and staff from the University of New England, coupled with a review of previous geotechnical reports undertaken by D J Douglas & Partners and brief tours of inspection of various identified hazard localities within the Armidale City area for mapping purposes.

Full details of the work undertaken, the information obtained, the conclusions drawn and recommendations made are presented in the following sections.

2. TECHNICAL APPROACH

In order to gather as much background data as possible within the initial stages of this study the following steps were undertaken:

(i) review of all previous geotechnical investigation reports performed by DJ Douglas & Partners within the City of Armidale;

(ii) consultation with officers of Armidale City Council;

(iii) consultation with various authorities and consultants, both government and private sectors.

A site visit was made to Armidale on 11 to 13 August 1992 by a senior geotechnical engineer and senior engineering geologist from DJ Douglas & Partners. During this visit, an information transfer meeting was held with Council staff and access gained to all relevant council maps, records and aerial photographs. In addition, valuable discussion was had with Council technical staff.

Prior to visiting Armidale, discussions were held with the following authorities in order to obtain general geotechnical information relating to the vicinity:

(i) State Rail Authority, Geotechnical Sector, Sydenham;

(ii) Road & Traffic Authority, Operations, (Roads & Bridges), Tamworth.

While in Armidale, meetings were held with the following bodies for the same purpose:

(i) Tierney & Partners Pty Ltd, Consulting Engineers;

(ii) RF Wright & Associates, Consulting Engineers;

(iii) Department of Mineral Resources, Armidale;

(iv) Department of Agronomy and Soil Science, University of New England;

(v) Department of Geography, University of New England;

(vi) Department of Conservation and Land Management, incorporating Soil Conservation Service of NSW.

Additional consultation was held with some of the above bodies during preparation of the following sections of this study for clarification of terminology.

Based on selected mapping performed during the site visit to Armidale and on information provided by the Department of Mineral Resources, Soil Conservation Service and Armidale City Council, detailed slope, geology and soils information was plotted and used to categorise various hazards in terms of risk.

Additional risk analysis was performed based on in-house experience gained with the Standards Association of Australia codes for foundations and earthworks.

3. SITE DESCRIPTION

The City of Armidale comprises an irregular shaped area (refer Drawings 13837/1 to 3) of approximately 33 km² with maximum north-south and east-west plan dimensions of 6.5 km and 5.5 km respectively. The area is bounded on all sides by the Dumaresq Shire.

The land use within the City of Armidale includes extensive commercial and residential development on both consolidated urban and semi-rural lots, which comprise about 50% of the total area. Significant areas are dedicated to educational use (particularly the campus of the University of New England), sporting activities and farming (primarily on the northern and eastern margins of the city area).

The principal topographic features of the city area are as follows:

* Flood Plains
  The flood plain of the meandering Dumaresq Creek, generally 100 m to 400 m wide, lies between RL 960 and RL 980, and trends east to southeast. Lesser flood plains are associated with north-south trending tributary creeks (principally Martins Gully). A distinct constriction (some 40 m wide) of the Dumaresq Creek flood plain occurs at the intersection with the eastern city boundary. The stream gradient of Dumaresq Creek averages 0.2% within the city area while the associated flood plains have gradients typically less than 3% and include low lying sections subject to seasonal high water tables (particularly noted by the Soil Conservation Service of NSW in Martins Gully, adjacent to the Main Northern Railway near the southern city boundary, and adjacent to Dumaresq Creek near Grafton Road).

* Remnant Ridge Features
  Remnant basal ridges and branches form the higher elevations within the city area, principally at the southern margin on the slopes of Translator Hill (RL 1118) and at the northern margin (RL 1080). Ridge crests are typically gently sloping with gradients in the range <3% to 7% steepening to 15% to 25% (with isolated areas with gradients to 40%) on upper hillslopes at the boundaries of basalt flows and either side of incised natural drainage lines.

* Gentle Middle Slopes
  Gently sloping middle and footslopes, with gradients generally in the range of 3% to 7%, occur between the flood plains of Dumaresq Creek and its tributaries and the remnant basalt ridges.

The topography has been significantly modified by human activity in only isolated locations within the city area. These are specifically sited as follows:

* at the Armidale Brickworks (refer Drawing 13837/1) where an area of approximately 240 m x 180 m was previously quarried for clays, and is now understood to be undergoing backfilling operations;

* along the route of the Main Northern Railway, comprising 6.3 km of cuttings and fillings embankments .

Elsewhere within the city, only minor modification of the natural surface can be observed, where excavation or filling has taken place during road construction, residential and commercial development.

Areas of filled ground reported by Council officers are shown on Drawing 13837/1.

4. GEOLOGY

4.1 Stratigraphy

Reference to the Armidale and Dumaresq 1:25000 Geological Compilation Sheets (Department of Mineral Resources) indicates that the City of Armidale is underlain by a complex stratigraphic succession of rocks and unconsolidated soils ranging from Carboniferous to Recent age. The distribution of lithological units after Department of Mineral Resources is reproduced in Drawing 13837/1. It is noted that the distribution of lithological units, as geologically mapped (unpublished) by the University of New England (UNE), varies from that shown on Drawing 13837/1, particularly in respect to the distribution of Tertiary sediments and volcanic rocks. Discussions with staff of the Department of Mineral Resources indicated that their published data is approximate only. It is not known which of the two data bases (UNE or Department of Mineral Resources) is more accurate. However, preference was given to published data and hence the Department of Mineral Resources data was used as reference.

The boundaries indicated on Drawing 13837/1 may require review with time as further data is collected.

A summary of lithologies, geological structure and weathering profiles is presented below in order of decreasing age.

4.1.1 Sandon Beds (Carboniferous Age)

The Sandon Beds (denoted C_S in Drawing 13837/1) comprise a variable sedimentary sequence of cherts, argillites and greywacke which have undergone low grade metamorphism associated with regional folding of the strata.

Weathering profiles developed on the Sandon Beds are highly variable in depth, with the depth to fresh materials generally ranging from 3 m to in excess of 22 m, as indicated by past site investigations within the study area.

During the early Tertiary Period, extensive erosion of the surface of the Sandon Beds resulted in stream entrenchment, with local relief of up to 400 m in the Armidale region.

4.1.2 Armidale Beds (Tertiary Age)

The Armidale Beds (denoted Ts in Drawing 13837/1) comprise lake and stream sedimentary deposits of early Tertiary (Eocene) age, deposited unconformably over the eroded Carboniferous surface. The beds comprise conglomerate, sandstone, grit, ferruginous cherty shale and "greybilly".

Voisey (ref 1) attributes the extensive outcrops of greybilly to contact metamorphism at the base of the overlying basalt. However, the greybilly is interpreted by Francis and Walker (ref 2) as a silcrete duricrust of Palaeocene to Eocene age.

Plate 1 (Appendix B) shows tertiary sediments exposed in a road cutting in Madgwick Drive, North Armidale. Here, colluvial and residual soils are seen to overlie interbedded, partially cemented sands and gravels, underlain by fine grained sediments seen as fretting in exposure.

Within the City of Armidale, geological mapping (Drawing 13837/1) indicates the Tertiary sediments at elevations ranging from approximate RL 975 to RL 1080. It is considered probable that a more extensive development of Tertiary sediments is present below the remnant basalt capping. Francis and Walker (ref 2) indicate the following:

* Lateritic weathering profiles have formed on Armidale Beds fluvial sediments, with nodular manganiferous laterite up to 1 m thick at the top of the profiles, being underlain by some 4 m of mottled deeply weathered material with traces of sedimentary stratification.

* The lateritic surface slopes from approximate RL 1030 to RL 975, with average gradients of 5° to 10°, and extends down

to 6 m above the Dumaresq Creek flood plain in some locations.

4.1.3 Benvenue Basalts (Tertiary Age)

The Benvenue Basalts (denoted Tv in Drawing 13837/1) disconformably overlie the Armidale Beds and predominantly comprise multiple alkali olivine basalt and related nepheline or analcime basanite flows, tuffaceous sediments (up to 70 m thick) and intrusives of lower Oligocene to lower Miocene age. Basalt flow directions are reported as toward the northeast at 10° to 15°. Volcanic breccia is described at the base of the sequence in several locations.

Francis and Walker (ref 2) suggest the following:

* the flows were extruded from numerous local sources and may not have formed a complete basalt cover;

* lateritic weathering accompanied the basaltic eruptions, producing deep weathering (to the order of 7 m thick) in at least three general locations at elevations between RL 1110 and RL 975;

* the stratigraphy of relict laterite profiles is complex, being characterised by localised development and erosional truncation prior to burial by subsequent flows.

Within the City of Armidale, geological mapping (refer Drawing 13837/1) indicates the Tertiary basalts to occur at elevations ranging from approximately RL 994 to RL 1118.

4.1.4 Recent Alluvium (Quaternary Age)

Stream activity during the Quaternary period has resulted in the formation of flood plain deposits of dark coloured clays up to 600 m wide, in and

adjacent to the flood plain of the current Dumaresq Creek, Martins Gully and tributary gullies adjacent to the Main Northern Railway at the southern boundary of the City of Armidale. Geological mapping (Drawing 13837/1) indicates that the alluvial deposits (denoted Qa) principally lie between RL 1066 and RL 960 approximately.

4.2 Soils

4.2.1 Soil Types and Properties from Soil Conservation Service of NSW

The Armidale office of the Soil Conservation Service of New South Wales has previously carried out urban capability and land use studies in a range of study areas around the periphery of the City of Armidale. These comprise North Armidale, South Armidale, Armidale City North East Sector and Dumaresq Shire (refer 3, 4, 5 & 6). This data indicates an extensive range of soil types and respective physical and chemical properties. Estimates of shrink-swell potential made by the Soil Conservation Service for the various soil types described are reproduced in Drawing 13837/2. The distribution of soil types and physical properties are described as being related to the local terrain and the associated geological/geomorphic interactions.

Within the urbanised sections of the City of Armidale, information regarding soil distribution and properties, including manmade (filling) soils has also been included in Drawing 13837/2. This is generally based on records and observations by officers of the Armidale City Council.

A summary of the major soil types defined within the Soil Conservation Service of NSW study areas is presented in Table 4.1 below. Only the shrink-swell characteristics, however, have been reproduced in attached Drawing 13837/2, as being of most significant hazard potential. The definition of the various shrink-swell categories used by the Soil Conservation Service is produced in Table 4.2 below from information presented in the North Armidale study (ref 3).

TABLE 4.1 - SUMMARY OF MAJOR SOIL TYPES
SOIL CONSERVATION SERVICE OF NEW SOUTH WALES STUDY AREAS

SOIL TYPE	PHYSIOGRAPHY	PARENT LITHOLOGY	DESCRIPTION	TYPICAL DEPTH	USCS	SHRINK-SWELL	EROSION HAZARD	SOIL DRAINAGE
BLACK CRACKING CLAYS	Terraces, sideslopes footslopes and drainage plains	Basalt or alluvium derived from basalt	Dark grey and black clay loam to clay surface soils 0.25 m deep overlying paler coloured clay subsoil. Variants include mottled grey subsoil and high stone content.	Variable to >2 m	CH, MH	High to very high	High	Poor to impeded
STONEY BASALT SOILS	Edge of basalt flows, crests and steeper side slopes	Basalt	Dark red-brown clays dispersed between basalt fragments and joint blocks. coloured clay subsoil. Variants include mottled grey subsoil and high stone content.	Variable <0.5 m	CH, HH	High	Moderate	Poor
HIGHLY WEATHERED STONEY BASALT SOILS	Sideslopes	Basalt	Brown light sandy loam to 0.3 m deep over orange brown to yellow clay loam or clay subsoils. Highly weathered basalt fragments throughout.	<1.5 m		Moderate	High	Moderate
CHOCOLATE SOILS	Crests and midslope benches	Basalt	Dark brown to reddish brown clay loam surface soil 0.15 to 0.3 m deep overlying brown/red-brown clay subsoil. Underlain by highly weathered basalt. In some locations the basalt is overlain by a yellow clay subsoil.	Variable 1.0 m to 1.5 m	CH, MH, ML	High to very low	Moderate	Poor
BROWN CRACKING CLAYS	Sideslopes	Basaltic tuff and fossil lateritic materials	Reddish to dark brown clay loam 0.25 m deep over reddish brown, medium clay subsoils.	<1 m	CH, MH	High to very high	Moderate	Poor to impeded
BROWN GRAVELLY SOILS	Upper sideslopes, variable gradient <10% to >25% adjacent to drainage lines.	Colluvium derived from basalts and from insitu Armidale Beds sedimentary rocks.	Grey brown or dark brown sandy loam to fine sandy clay loam soil to 0.45 m deep overlying brown to yellow brown light grey subsoils. Gravel content high, rock outcrops may occur within the soil group	0.5 m to 1.1 m	CL, ML	Low to moderate	Moderate to high	Impeded
DUPLEX GRAVELLY SOILS	Lower sideslopes and footslopes	Armidale Beds sedimentary rocks	Brown to reddish-brown sandy loam to clay loam to 0.4 m deep over variable loam or clay subsoil.	1 m	SC, SM, CL	Low to moderate	High	Good to moderate
YELLOW DUPLEX SOILS	Crests, sideslopes, footslopes and drainage plains	Sandon Beds	Brown sandy loam to light sandy clay loam surface soil 0.2 m to 0.6 m deep over yellow brown sandy to light clay subsoil.	≥1 m	CH	High	Moderate to high	Impeded

NOTE: USCS - Unified Soil Classification System

TABLE 4.2 - SHRINK-SWELL CATEGORIES

SHRINK-SWELL POTENTIAL	LINEAR SHRINKAGE %
Low	0-12
Moderate	12-17
High	17-21
Very High	>21

The above categories are based solely on the results of linear shrinkage tests. This is the linear decrease, in one dimension only, of a soil sample when oven dried from the moisture content at the liquid limit, expressed as a percentage of the original dimension. The linear shrinkage test is more fully described in Test C4.1 of AS 1289 (ref 7).

4.2.2 Gilgai

The presence of 'gilgai' is noted within the City of Armidale, following discussion with staff of the Department of Agronomy and Soil Science, UNE.

This phenomenon, as reported by Hubble et al (ref 8), comprises the formation of small hummocks and hollows by upward displacement of material during repeated shrink-swell movements of clay subsoils. Gilgai features are typically formed where conditions are as follows:

* level or very gently sloping plains with soil depths of at least 1 m and a high variation in seasonal moisture content;

* black-earth swelling and texture-contrasted soils with thick subsoil clay horizons.

Attached Plate 2 (refer Appendix B) shows a typical gilgai formation near the University of New England. The more brown soil in the central portion of the photograph is ascending with respect to the darker black soil either side.

4.2.3 Trap Soil

The term 'trap soil' is used locally to describe a slightly clayey silty fine sand or sandy silt found on low lying ground up to a depth of approximately 0.3 m to 0.5 m below ground level. This is often directly underlain by clay soils of much lower permeability than the overlying trap soils. Accordingly, when prolonged wet conditions occur, the overlying trap soils, which may often be weakly cemented in dry weather, cannot drain downwards and quickly reduce in strength to a soft condition, thus becoming difficult to traffic and rendering excavation difficult due to side wall slumping.

Plate 3 (refer Appendix B) shows a typical trap soil layer overlying a plastic clay near the University of New England.

4.2.4 Extent of Gilgai and Trap Soil Formations

Insufficient information was available on the extent of gilgai and trap soils formations within the study area to allow inclusion in the attached mapping. It is considered possible, however, that trap soils may relate to the duplex soils described by SCS (refer Table 4.1) and that gilgai formations may be occurring over much of the black cracking clays, as also described by SCS, where the topography is reasonably flat.

5. GROUNDWATER

Published data with respect to groundwater within the City of Armidale appears limited. The South Armidale survey of the Soil Conservation Service of New South Wales (ref 4) indicates the presence of a permanent spring located near the eastern boundary of the study area, but does not define the location.

A study of groundwater characteristics of sections of the Dumaresq Shire adjacent to the City of Armidale was carried out by Patterson (ref 9). General findings of the study included the following:

* Producing aquifers include both sands of the Armidale Beds (Ts) and weathered basalt intervals (Tv) in the Translator Hill Area.

* Groundwater sources adjacent to the Old Inverell Road (Bundarra Road) 1 to 2 km west of the city boundary are derived from a single sand aquifer located under the youngest basalt flow. Springs associated with the outcrop of the aquifer were characterised by flows ranging from 5000 to 90,000 litres/day.

The locations of spring or seepage activities either noted previously by Council staff or observed during the current study are shown on Drawing 13837/1. Also included are the locations of small farm dams interpreted as probably spring fed. The distribution of these features indicates a concentration of spring or seepage features at or close to the base of basalt flows, with a lesser number within basalt units.

It is considered that lateritic bands within the basalt sequences are likely to control drainage paths, either directly or as local aquicludes, where significant clay formation has occurred during the lateritic weathering process.

A typical spring location is indicated on Plate 4 in Appendix B. This is located in the Arboretum, adjacent to Kentucky Street (New England Highway).

6. GEOTECHNICAL HAZARD ASSESSMENT

The following sections describe the assessment of natural and site development induced geotechnical hazards within the City of Armidale.

6.1 Assessment of the Hazard of Slope Instability

Since the development of steep sites involves acceptance by the owner of a certain level of risk following development, it is recommended that all

land proposed for development in the City of Armidale be classified in accordance with the risk methods of slope instability presented in Walker et al (Ref 10). The general categories adopted therein are reproduced below in Table 6.1. Prior to application of these risk categories to local conditions, an assessment was first made which included consideration of the following items:

* Published geological mapping and probable inaccuracies indicated by comparison of varying information sources.

* Information regarding reported areas of instability supplied by Council, local engineering consultants and staff of the University of New England.

* Information regarding intermittent and permanent spring or seepage activity.

* Observations of slope gradients from topographic plans.

* Field observations during the current study.

* Interpolation of field observations in undeveloped areas to developed areas with similar topographic and geological features.

* Review of selected stereo pair air photographs held by Council.

On the basis of the above items, the study area has been subdivided into provisional risk zones (of instability) as indicated in Table 6.2. The approximate zone boundaries are shown on Drawing 13837/3. It is anticipated that these zone boundaries will eventually either be modified or confirmed by more extensive site investigation during subdivision planning or site redevelopment. For this reason it is recommended that sites in 'medium' or greater risk categories (as identified by Drawing 13837/3) be subjected to specific geotechnical review as further discussed in Section 8 below.

TABLE 6.1 - CLASSIFICATION OF RISK OF SLOPE INSTABILITY

RISK OF INSTABILITY	EXPLANATION	IMPLICATIONS FOR DEVELOPMENT
VERY HIGH	Evidence of active or past landslips or rockface failure; extensive instability may occur.	Unsuitable for development unless major geotechnical work can satisfactorily improve the stability. Extensive geotechnical investigation necessary. Risk after development may be higher than usually accepted.
HIGH	Evidence of active soil creep or minor slips or rockface instability; significant instability may occur during and after extreme climatic conditions.	Development restrictions and/or geotechnical works required. Geotechnical investigation necessary. Risk after development may be higher than usually accepted.
MEDIUM	Evidence of possible soil creep or a steep soil covered slope; significant instability can be expected if the development does not have due regard for the site conditions.	Development restrictions may be required. Engineering practices suitable to hillside construction necessary. Geotechnical investigation may be needed. Risk after development generally no higher than usually accepted.
LOW	No evidence of instability observed; instability not expected unless major site changes occur.	Good engineering practices suitable for hillside construction required. Risk after development normally acceptable.
VERY LOW	Typically shallow soil cover with flat to gently sloping topography.	Good engineering practices should be followed.

This table is an extract from GEOTECHNICAL RISKS ASSOCIATED WITH HILLSIDE DEVELOPMENT as presented in Australian Geomechanics News, Number 10, December, 1985, which discusses the matter more fully.

TABLE 6.2 - DEFINITION OF INSTABILITY RISK ZONES
(as indicated on Drawing 13837/3)

RISK OF INSTABILITY	EXPLANATION
Very Low	Flat to gently sloping topography (gradient generally < 3% but with some areas in the range 3% to 5%) on flood plains, ridges and terraces. Typical shallow soil cover in ridge and terrace locations.
Low	No evidence of instability observed, instability not expected unless major site changes occur. Gently sloping topography (gradient typically in the range 3% to 12%) on footslopes, crests and side slopes.
Medium	Evidence of possible soil creep (Plate 2) or a steep soil covered slope. Significant instability can be expected if works do not have regard for site conditions. Typical gradients in the range 12% to 40% but may be reduced to approximately 8% where the stratigraphy indicates potential for groundwater discharge onto soil covered slopes. Downslope creep may be enhanced in areas underlain by soils with high shrink-swell potential.
Medium to High	Similar to medium risk zone, but including areas indicated by Council as having potential for slip, particularly when water-charged.
High	Evidence of active soil creep or minor slips. Significant instability may occur during and after extreme climatic conditions. A single area adjacent to Gordon and Chestnut Streets, North Armidale, with slope gradients in the range 20% to 35%, has been included within this risk zone. It is interpreted as including the toe of an old landslip (Plate 3).

Specific examples of 'medium' and 'high' risk zone categories are indicated on Plates 5 and 6 in Appendix B.

In Table 6.1 above, reference is made to "good engineering practices". A summary of such considered good practices for sites in risk categories of 'medium' or greater is presented in Table 6.3 below along with illustrations of both good and poor construction practice in Figure 6.1 (both reproduced from Walker et al (ref 10)).

The main points of greatest significance to the steeper portions of sloping sites are as follows:

(i) Minimise cuts and fillings and provide adequately designed walls or batter slopes to ensure stability of all cuts and fillings; this applies to house platforms and to access roads/driveways and footpaths.

(ii) Proposed cuts deeper than 1 m and fillings higher than 1 m should be subject to geotechnical review prior to construction. It is expected that cuts and fills greater than 1 m would need to be supported by engineer designed retaining structures. Cuts and fills less than 1 m should be battered down to a slope of 2H:1V and 2.5H:1V (respectively) and protected from erosion. Note here that the above batters are for stability consideration only. If maintenance of vegetation is required, then soil slopes may require to be no steeper than 5H:1V (to enable lawn mower equipment to operate) in accordance with Council's existing standards.

(iii) Provide good surface and subsurface drainage with no discharge on slopes.

(iv) Support house loads on footings founded on rock where practicable.

(v) Revegetate all earthworks speedily to minimise surface erosion.

TABLE 6.3 - SOME GUIDELINES FOR HILLSIDE CONSTRUCTION

	GOOD ENGINEERING PRACTICE	POOR ENGINEERING PRACTICE
ADVICE		
GEOTECHNICAL ASSESSMENT	Obtain advice from a qualified, experienced geotechnical consultant at early stage of planning and before site works.	Prepare detailed plan and start site works before geotechnical advice.
PLANNING		
SITE PLANNING	Having obtained geotechnical advice, plan the development with the Risk of Instability and Implications for Development in mind.	Plan development without regard for the Risk of Instability.
DESIGN AND CONSTRUCTION		
HOUSE DESIGN	Use flexible structures which incorporate properly designed brickwork, timber or steel frames, timber or panel cladding. Consider use of split levels. Use decks for recreational areas where appropriate.	Floor plans which require extensive cutting and filling. Movement intolerant structures.
SITE CLEARING	Retain natural vegetation wherever practicable.	Indiscriminately clear the site.
ACCESS & DRIVEWAYS	Satisfy requirements below for cuts, fills, retaining walls and drainage. Council specifications for grades may need to be modified. Driveways and parking areas may need to be fully supported on piers.	Excavate and fill for site access before geotechnical advice.
EARTHWORKS	Retain natural contours wherever possible.	
CUTS	Minimise depth. Support with engineered retaining walls or batter to appropriate slope. Provide drainage measures and erosion control.	Large scale cuts and benching. Unsupported cuts. Ignore drainage requirements.
FILLS	Minimise height. Strip vegetation and topsoil and key into natural slopes prior to filling. Use and compact clean fill materials. Batter to appropriate slope or support with engineered retaining wall. Provide surface drainage and appropriate subsurface drainage.	Loose or poorly compacted fill. Block natural drainage lines. Fill over existing vegetation and topsoil. Include stumps, trees, vegetation, topsoil, boulders, building rubble etc in fill.
ROCK OUTCROPS & BOULDERS	Remove or stabilise boulders which may become unstable. Support rock faces where necessary.	Disturb or undercut detached blocks or boulders.
RETAINING WALLS	Engineer design to resist applied soil and water forces. Found on rock where practicable. Provide subsurface drainage within wall backfill and surface drainage on slope above. Construct wall as soon as possible after cut/fill operation.	Construct a structurally inadequate wall such as sandstone flagging, brick or unreinforced blockwork. Lack of subsurface drains and weepholes.
FOUNDATIONS	Support on or within rock where practicable. Use rows of piers or strip foundations oriented up and down slope. Design for lateral creep pressures. Backfill foundation excavations to exclude ingress of surface water.	Found on topsoil, loose fill, detached boulders or undercut cliffs.
SWIMMING POOLS	Engineer designed. Support on piers to rock where practicable. Provide with under-drainage and gravity drain outlet where practicable. Design for high soil pressures which may develop on uphill side whilst there may be little or no lateral support on downhill side.	
DRAINAGE		
SURFACE	Provide at tops of cut and fill slopes. Discharge to street drainage or natural water courses. Provide generous falls to prevent blockage by siltation and incorporate silt traps. Line to minimise infiltration and make flexible where possible. Special structures to dissipate energy at changes of slope and/or direction.	Discharge at top of fills and cuts. Allow water to pond on bench areas.
SUBSURFACE	Provide filter around subsurface drain. Provide drain behind retaining walls. Use flexible pipelines with access for maintenance. Prevent inflow of surface water.	
SEPTIC & SULLAGE	Usually requires pump-out or mains sewer systems; absorption trenches may be possible in some low risk areas. Storage tanks should be water-tight and adequately founded.	Discharge sullage directly onto and into slopes.
EROSION CONTROL & LANDSCAPING	Control erosion as this may lead to instability. Revegetate cleared area.	Failure to observe earthworks and drainage recommendations when landscaping.
DRAWINGS AND SITE VISITS DURING CONSTRUCTION		
DRAWINGS	Building Application drawings should be viewed by geotechnical consultant.	
SITE VISITS	Site Visits by consultant may be appropriate during construction.	
INSPECTION AND MAINTENANCE BY OWNER		
OWNER'S RESPONSIBILITY	Clean drainage systems; repair broken joints in drains and leaks in supply pipes. Where structural distress is evident seek advice. If seepage observed, determine cause or seek advice on consequences.	

This table is an extract from GEOTECHNICAL RISKS ASSOCIATED WITH HILLSIDE DEVELOPMENT as presented in Australian Geomechanics News, Number 10, December, 1985, which discusses the matter more fully.

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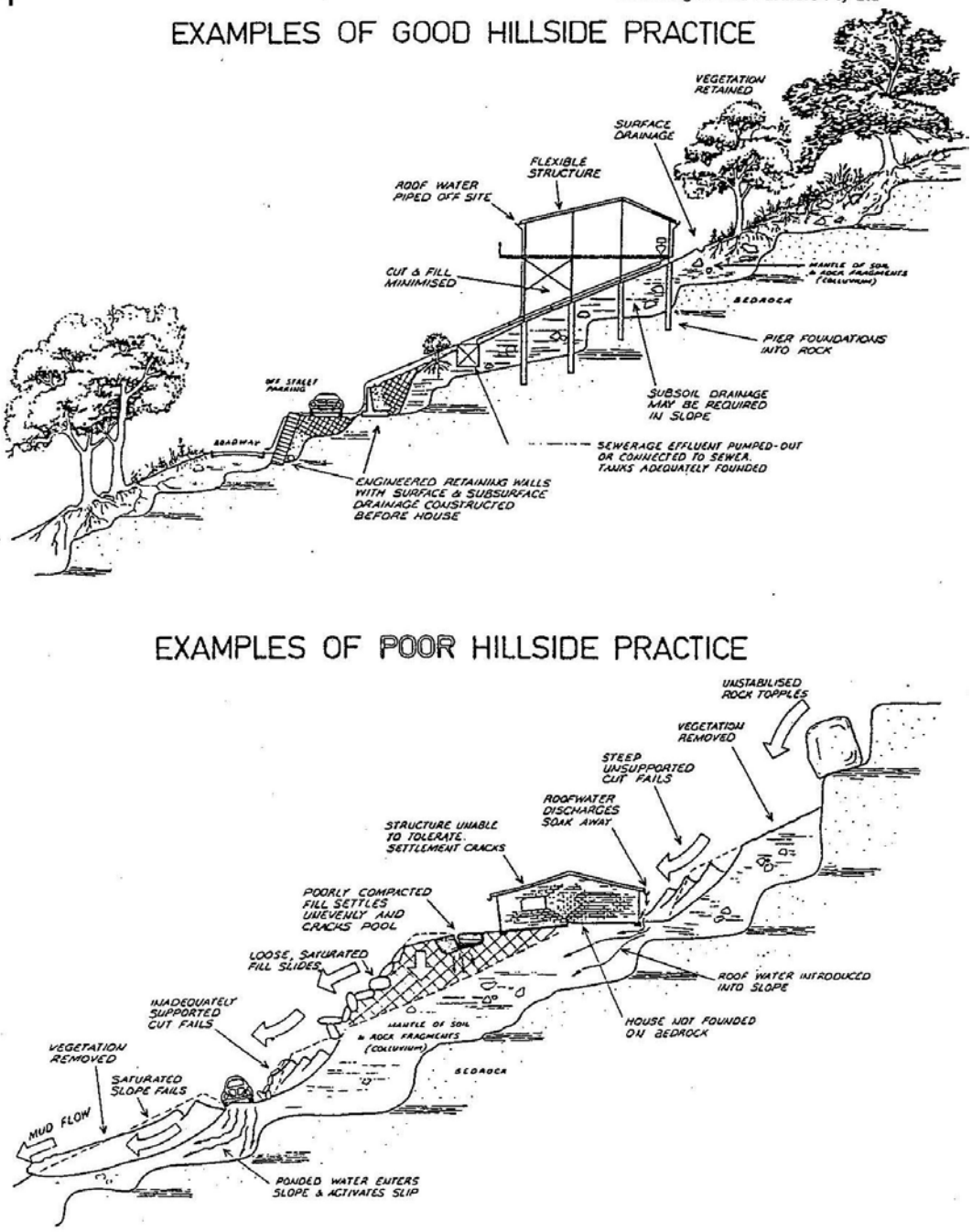


FIGURE 6.1 Illustrations of Good and Poor Hillside Practice

This figure is an extract from GEOTECHNICAL RISKS ASSOCIATED WITH HILLSIDE DEVELOPMENT as presented in Australian Geomechanics News, Number 10, December, 1985, which discusses the matter more fully.

(vi) All swimming pools should be engineered and well supported, with underdrainage installed to guard against leakage into the subgrade.

(vii) Filling placed on the lots for roadworks and driveways should be placed on a benched subgrade and compacted in horizontal lifts of 300 mm maximum loose thickness to a minimum dry density ratio of 100% Standard (Test E1.1 of AS 1289 (ref 7)). All such filling should be placed in accordance with AS 3798 (ref 14) and the guidelines presented in Section 6.4 below.

6.2 Assessment of the Hazard of Shrink-Swell Movements in Soil

The assessment of potential for shrink-swell movements of soils has been limited to the study areas of the Soil Conservation Service of NSW and restricted areas for which records are held by the Armidale City Council. The distribution of the potential for shrink-swell movements with seasonal moisture change in the above areas is shown on Drawing 13837/2.

As previously discussed in Section 4.2 above, the shrink-swell assessment has been based solely on linear shrinkage testing. The soil mapping which forms the basis of Drawing 13837/2 was carried out some considerable time ago (1979 to 1980), prior to extensive additional studies on the mechanism and measurement of shrink-swell, first by the NSW Builders Licensing Board (ref 11) and latterly as presented in AS 2870.1 (ref 12) and AS 2870.2 (ref 13). It is based on a crude assessment of plasticity and appears to take no account of soil suction and its variation with depth, depth of the cracked zone, climate, soil permeability, and presence of either bedrock or water table within the depth of suction influence. Since these latter parameters are all now considered of importance in assessing predicted surface movement due to seasonal shrink and swell, it follows that the classification indicated in Drawing 13837/2 is now somewhat dated. In addition, it is considered possible that in some instances such a classification based solely on plasticity may be misleading. However, in the absence of other more recent data it has been included in this study

with the suggestion that it be used for comparative purposes only and as a preamble to more detailed additional classification.

Since AS 2870 (ref 12 and 13) allows consideration of all the above influencing factors in shrink-swell assessment it is recommended that this code be adopted for shrink-swell assessment relating to all proposed development within the City of Armidale. This code provides not only a means of classification but also guidance on suitable footing types for each soil class in order to reduce distress to generally acceptable levels (refer Section 7).

Classification of a clay site under AS 2870 is undertaken utilising one or more of the following methods:

"(a) Visual assessment of the site and interpretation of performance of existing masonry building walls on light strip footings which have existed for no less than 15 years in a similar soil assessed in accordance with Table [6.4].

(b) Identification of the soil profile and a classification from established data on the performance of the soil profile.

(c) Computation of the predicted surface movement (y_s) in accordance with engineering principles."

With respect to (c) above, the predicted surface movement (y_s) is calculated as laid out in Appendix D of AS 2870.2 (ref 13). The relationship between y_s, foundation material and designated site class is presented in Table 6.4 below. In addition, the relationship between site class and typical shrink-swell induced damage categories, which may be incurred by residential masonry, is also presented.

A full explanation of these damage categories is presented in Appendix A of AS 2870.1 (ref 10) and also reproduced in CSIRO Sheet No 10-91 (contained in Appendix C of this report). This latter sheet has been

FIGURE 6.2 - ROCK STRENGTH AND FRACTURING DEFINITION

ROCK STRENGTH

Rock strength is defined by the Point Load Strength Index (Is 50) and refers to the strength of the rock substance in the direction normal to the bedding. The test procedure is described by the International Society of Rock Mechanics (Reference).

Strength Term	Is(50) MPa	Field Guide	Approx. qu MPa*
Extremely Low:		Easily remoulded by hand to a material with soil properties.	
	0.03		0.7
Very Low:		May be crumbled in the hand. Sandstone is "sugary" and friable.	
	0.1		2.4
Low:		A piece of core 150 mm long x 50 mm dia. may be broken by hand and easily scored with a knife. Sharp edges of core may be friable and break during handling.	
	0.3		7
Medium:		A piece of core 150 mm long x 50 mm dia. can be broken by hand with considerable difficulty. Readily scored with knife.	
	1		24
High:		A piece of core 150 mm long x 50 mm dia. core cannot be broken by unaided hands, can be slightly scratched or scored with knife.	
	3		70
Very High:		A piece of core 150 mm long x 50 mm dia. may be broken readily with hand held hammer. Cannot be scratched with pen knife.	
	10		240
Extremely High:		A piece of core 150 mm long x 50 mm dia. is difficult to break with hand held hammer. Rings when struck with a hammer.	

*The approximate unconfined compressive strength (qu) shown in the table is based on an assumed ratio to the point load index of 24:1. This ratio may vary widely.

DEGREE OF FRACTURING

This classification applies to diamond drill cores and refers to the spacing of all types of natural fractures along which the core is discontinuous. These include bedding plane partings, joints and other rock defects, but exclude known artificial fractures such as drilling breaks.

Term	Description
Fragmented:	The core is comprised primarily of fragments of length less than 20 mm, and mostly of width less than the core diameter.
Highly Fractured:	Core lengths are generally less than 20 mm – 40 mm with occasional fragments.
Fractured:	Core lengths are mainly 30 mm – 100 mm with occasional shorter and longer section.
Slightly Fractured:	Core lengths are generally 300 mm –1000 mm with occasional longer sections and occasional sections of 100 mm – 300 mm.
Unbroken:	The core does not contain any fracture.

REFERENCE

– International Society of Rock Mechanics, Commission on Standardisation of Laboratory and Field Tests, Suggested Methods for Determining the Uniaxial Compressive Strength of Rock Materials and the Point Load Strength Index, Committee on Laboratory Tests Document No. 1. Final Draft October 1972.

Prepared by the Sydney Group of the Australian Geomechanics Society, January, 1975.

TABLE 6.4 - SITE CLASSES & PREDICTED SURFACE MOVEMENT AFTER AS 2870 (ref 10 & 11)

FOUNDATION MATERIAL	CLASS	PREDICTED SURFACE MOVEMENT (y_s)	CHARACTERISTIC PERFORMANCE OF MASONRY (VENEER OR FULL) BUILDINGS ON LIGHT STRIP FOOTINGS
Most silt and some clay sites	S	$\leq$20 mm	Rare Category 0 to 1 damage
Moderately reactive clay sites	M	20 mm $< y_s \leq$ 40 mm	Often Category 1 damage but rarely Category 2 damage (The site may show cracking in dry periods).
Highly reactive clay sites	H	40 mm $< y_s \leq$ 70 mm	Often Category 1 or 2 damage with occasional Category 3 damages or more severe (Ground cracking is common in dry periods).
Extremely reactive clay sites	E	$y_s >$ 70 mm	Often Category 3 or more severe damage and area is usually well known for damage to houses and structures (Deep ground surface cracking occurs in dry spells).

NOTE: For damage categories see Appendix C (Table A2 and A2).

enclosed as a guide to developers and home owners in order to minimise risk related to shrink-swell movement and provide appropriate precautions relating to layout of trees and gardens and maintenance of gardens and plumbing leaks.

The predicted surface movement and hence shrink-swell class is used for footing selection and design in accordance with AS 2870. However, the predicted surface movement is influenced by cutting or filling. Hence, it is important that each block in a clay site development be independently assessed for shrink-swell potential when full details of the proposed layout are available, in order to allow selection of the appropriate footing system.

For purposes of the operation of AS 2870, additional classes of site are presented therein as follows:

FOUNDATION	CLASS
Most sand and rock sites	A
Sites which include: soft soils, such as soft clays or silts or loose sands; landslip; mine subsidence; collapsing soils; or soils subject to erosion.	P

The formation of 'gilgai' within the City of Armidale is discussed in Section 4.2 above. Site development to minimise the risk of structural damage from this concentrated form of shrink-swell movement would generally require detection of the feature prior to site clearing, probably by an experienced soil scientist or geotechnical engineer.

The development of a better understanding of the distribution of gilgai soils would suitably be included with the strategy for improvement of local site knowledge detailed in Section 9.

6.3 Assessment of Geotechnical Hazard Associated with Spring Activity

The presence of permanent and intermittent spring activity associated with Tertiary basalt and sedimentary sequences is described in Section 5. The approximate (and possibly inaccurate) definition of lithological boundaries is also noted.

It is considered that principal hazards associated with spring activity are related to:

* the risk of destabilisation of cut soil slopes by erosion and saturation of principally Tertiary sands;

* the risk of creep movement or slippage in cut rock slopes along water softened planes of weakness principally in claystones and relict lateritic layers of high clay content;

* the softening of road subgrade or building foundations within or downslope of the spring line resulting in bearing capacity failure or unacceptably high settlements.

As permanent springs are generally obvious during site selection and development, it is considered that intermittent springs, which may not be easily identified during dry periods, pose the greatest hazard to development. Accordingly, proposed subdivisions or developments on areas of likely basalt flows or Tertiary sediments should be subject to engineering assessment, in particular where these areas are associated with a slope instability risk category of 'low' or greater.

As part of all site investigation works and preliminary studies it is recommended that assessment of the presence of springs be carried out following the guidelines presented in Table 6.5 below.

TABLE 6.5 - CLASSIFICATION OF SPRING ACTIVITY

RISK CATEGORY	INFORMATION BASE	IMPLICATION FOR DEVELOPMENT
Absent	Where there is no previous history of spring activity and location is not underlain by basalt flows (Tv) or Tertiary alluvium (Ts)	Little or no apparent risk from spring activity. However, geological boundaries are approximate only. Therefore careful observation required during development to confirm absence of alluvial material. Good drainage practices should be employed.
Possibly Present	Where no information exists on whether or not springs are present but site is directly underlain by known basalt flows (Tv) or Tertiary alluvium (Ts).	Initially a moderate risk due to lack of information. Engineering assessment should be employed to confirm or deny presence of springs prior to development and recategorise as absent or present.
Present	Where springs are historically known to exist in locations or are presently evident.	High risk of instability or damage due to spring activity. Development should not proceed unless carefully engineered drainage is employed to reduce risk.

LEGEND: Tv denotes Tertiary basalt flows as denoted on Drawing 13837/1
Ts denotes Tertiary alluvium flows as denoted on Drawing 13837/1

In order to assist in assessment of the presence of springs, Drawing 13837/4 has been produced. Potential spring hazard zones are approximately delineated on this drawing where the approximate boundaries of the basalt flows and the Tertiary alluvium (from Drawing 13837/1) overlap with the approximate slope instability risk categories of 'low' or greater (from Drawing 13837/3).

6.4 Development Induced Risk and Earthworks

6.4.1 General

Some of the risks associated with site development have already been discussed in Section 6.1 as particularly pertinent to sloping sites. In general terms, however, there are risks associated with all forms of earthworks, particularly due to inappropriately battered and/or retained cutting and filling, inadequate compaction of filling, inadequate treatment of subgrade or foundation soils prior to placing of filling or construction of footings, and insufficient if any quality control testing of compaction.

It is recommended that the guidelines presented in AS 3798 (ref 14) be adopted for use in all earthworks development within the City of Armidale. A summary of some of the more critical points is presented in Section 6.4.2 to 6.4.4 below. Some of the guidelines presented below are more stringent and/or more extensive than presented in AS 3798 and should be adopted as being more appropriate to local conditions. Reference is made, where appropriate, to specific clauses of AS 3798 (ref 14).

6.4.2 Site Preparation

(a) Topsoil Stripping - The area on which any filling is to be placed should be stripped of all vegetation and any highly organic or soft wet topsoil (refer Clause 6.1.5 of AS 3798).

(b) Slope Preparation - Where proposed filling is to abut against sloping ground steeper than 8 horizontal to 1 vertical, benches should be cut in excess of 100 mm deep to prevent the development of continuous low shear strength surfaces (refer Clause 6.1.6 of AS 3798). All cut benches should also conform either to cut batter requirements of Table 6.6 below for level ground, or the information presented in Section 6.1 above for sloping terrain.

(c) Foundation Preparation - Where springs or seepages are present in the foundation area they should be allowed for in the design and appropriate drainage measures taken (refer Clause 6.1.7 of AS 3798).

(d) Test Rolling - All foundation soils which are to have filling placed over them should be test rolled after stripping and slope or foundation preparation and any soft spots detected removed to an appropriate depth as determined by a suitably qualified engineer. It may be advantageous in some cases to consider use of a geofabric or a bridging layer of coarse granular material under engineering advice. Test rolling should be carried out using either a smooth steel wheeled roller, pneumatic tyred roller or ballasted highway truck (refer Clause 5.4 of AS 3798).

(e) Groundwater - Rolling to achieve compaction is likely to be difficult if there is a shallow groundwater table. Problems can occur if excavation is undertaken too close to the water table which may rise in wet weather conditions. Excavation should not be carried out closer than generally 1 m to the water table unless special arrangements are made to control groundwater during excavation and any subsequent construction and backfilling.

6.4.3 Stability of Excavations

Guidelines are presented in Table 6.6 below (for initial planning purposes only) for suitable batters in level ground (very low slope instability risk as defined in Table 6.1 and 6.2 and Drawing 13837/3) at which

excavations may be cut for longterm stability against shearing failure. They are subject to inspection by an appropriately qualified engineer.

TABLE 6.6 - SAFE BATTER CUTS FOR LONGTERM STABILITY

STRATUM TYPE	MAXIMUM SLOPE HEIGHT (m)	BATTER CUT (H:V)
Sand	less than 3	2:1
Clay (at least stiff or better	less than 2	1.5:1
Very low strength or low strength fractured rock	Less than 4	1:1 (subject to jointing and bedding dip)
Medium strength, slightly fractured rock	less than 4	0.25:1 (subject to jointing and bedding dip)

The values in Table 6.6 apply to situations where there is horizontal ground above and below the cut and **do not** apply to cuts in long slopes. Similarly they **do not** apply to situations where groundwater is apparent on the cut face.

If maintenance of vegetation is required, then soil slopes may require to be no steeper than 5H to 1V (to enable lawn mower equipment to operate) in accordance with Council's existing standards.

Stiff clay in Table 6.6 is defined as having an undrained shear strength of greater than 50 kPa when measured by a suitably qualified person.

Rock strength terms and fracture spacings are defined in Figure 6.2 below.

The batter slopes presented for rock may not be appropriate where bedding is dipping downslope or where extensive joints or discontinuities are present.

6.4.4 Filling

(a) Compaction of Filling - Minimum relative compaction values are recommended for earthworks filling in Table 6.7 below.

TABLE 6.7 - MINIMUM COMPACTION VALUES

	COHESIVE SOILS	GRANULAR SOILS
Form filling	Light rolling	Light rolling
Light floor load support Residential construction	95% standard	97% standard or 65% density index
Heavy floor load support Commercial construction	98% standard	100% standard or 75% density index
Footing Support	100% standard	97% modified or 80% density index
Road embankments >500 mm below subgrade	95% standard	97% standard or 65% density index
Top 500 mm	100% standard	100% standard or 80% density index
Concrete Floor Subbase		95% modified
Road base - subbase		95% modified
- basecourse		98% modified

In the above, light floor loadings are considered as not in excess of 20 kPa on average for slabs, 100 kPa for strip or pad footings, and applicable to free standing single storey and some double storey houses. For commercial developments, engineering assessment should be made of the bearing capacity and deformation of filling prior to adoption of the above and whether or not the minimum relative compaction requires to be increased.

The minimum relative compaction values stated above refer to AS 1289 (ref 7) as follows:

Standard Compaction - test method E1.1 or E1.2
Modified Compaction - test method E2.1 or E2.2
Density Index - test method E6.1

The values presented in Table 6.7 above are the same as, but in a few cases slightly higher than, those presented in AS 3798 (ref 14). It is considered that they are more appropriate for local conditions (refer also Clauses 5.1 to 5.6, 6.2.2 and 6.2.4 of AS 3798).

(b) Filling Moisture Content - It is recommended that all structural cohesive soil filling (ie. filling, other than form filling, beneath buildings and roads as presented in Table 6.6 above) be placed and compacted at a moisture content within the range of OMC - 2% to OMC + 2%, where OMC is the optimum moisture content for standard compaction as determined by test E1.1 or E1.2 of AS 1289 (ref 7). In addition, such filling should not be allowed to become drier than OMC -2% or wetter than OMC + 2%, in between lifts or prior to placing of concrete or pavement materials. This is in order to minimise any possible post-construction shrinkage or swelling (refer also Clause 6.2.3 of AS 3798).

(c) Compaction Adjacent to Retaining Walls - Heavy earthmoving plant and self propelled rollers should not be allowed to operate on cohesive soils close to retaining walls, within the zone of selected compaction indicated in Figure 6.3 below, unless special allowance has been made for such additional loadings by a suitably qualified engineer in the retaining wall design. This is due to the high horizontal forces that can be generated by compaction of clay soils. Within this zone of influence, either lighter equipment should be used (such as 600 mm wide hand controlled rollers, or hand controlled power rammers) or else cohesionless, more readily compactable materials. For all retaining walls greater than 1 m high, guidance on compaction and material types to be used within this zone and on use of drains behind retaining walls should be presented by the developer's engineer at Building Approval submission stage (refer also Clause 6.2.6 of AS 3798).

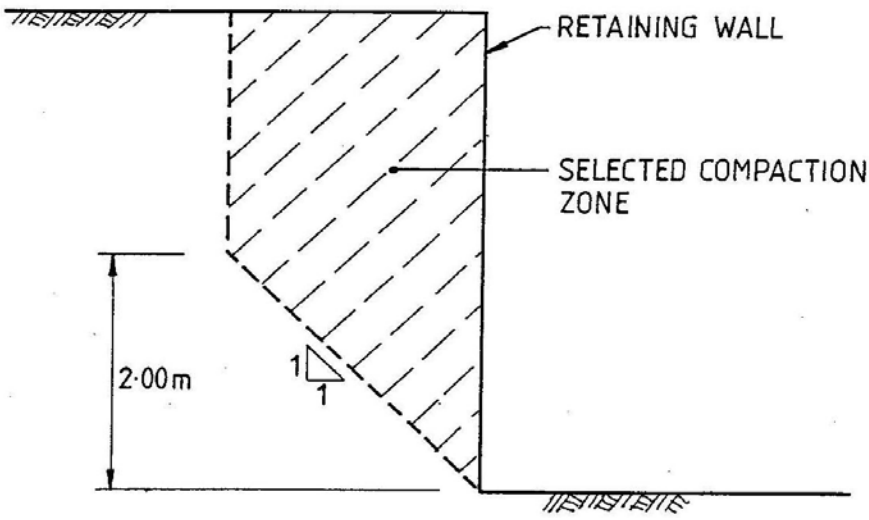


FIGURE 6.3 ZONE REQUIRING SELECTED COMPACTION BEHIND A RETAINING WALL.

7. FOOTING DESIGN

7.1 Residential Footings

After the site is classified in accordance with AS 2870 (ref 11 and 12) it is recommended that the design and construction of footing systems for residential buildings be carried out in accordance with AS 2870.

Part 1 of the code (AS 2870.1) provides design rules for various types of footings in the various soil classes. These are summarised in Table 7.1 below.

Part 2 of the code (AS 2870.2) includes reference to Class P sites (refer Section 6.2 above) and the use of pier and beam, comments on mine subsidence and design for collapsing soil.

TABLE 7.1 - FOOTING TYPES AS APPROPRIATE FOR REACTIVE SOILS (from AS 2870)

CLASSIFICATION	APPLICABLE FOOTINGS FOR VARIOUS CONSTRUCTIONS
A	SOG, FS, PF & ST footing designs given for all building types.
S	As above.
M	SR, WR, SSD, PFR, STR, PBS, & PS suitable for clad frame and articulated masonry veneer and masonry veneer; SR, PBS, PS & STR only for articulated masonry; SR, PBS & PS for full masonry.
H	SR, PBS, PS, STR & WR suitable for clad frame and articulated masonry veneer; SR, PBS, PS & WR for masonry veneer; VR, PBS & PS for articulated masonry; no system prescribed for full masonry.
E	Refer Section 5 of Code.
P	Design by engineering principles.

LEGEND:
SOG - slab on ground
FS - footing slab
PF(R) - pad footing (reactive soil)
SR(R) - strip footing (reactive soil)
ST - stiffened raft
WR - waffle raft
SSD - slab with deep edge beam
PBS - pier & beam/pier & slab
PS - piled system

7.2 Commercial and Industrial Buildings

Where reactive soils are encountered on commercial and industrial building sites, AS 2870 is not applicable for design and construction of footing systems.

For most industrial sites and many commercial sites (e.g. shopping centres), the whole site is paved. Thus, there may be some initial adjustment if the soils at the time of construction are not close to their equilibrium value, but seasonal movements should otherwise be negligible. However, if there is extensive landscaping without other protection, significant problems could occur with shallow footings.

For most situations, the use of 'shallow' footings will be feasible, with depth dependent upon the circumstances. Minimum recommended footing depths are given in Table 7.2 below with distinction between

UPEF - unprotected external footings - generally supporting the external walls, without adjacent paving or possibly with low shrub landscaping adjacent;

PEF - protected external footings - where there is surface paving extending for at least 1.5 m (S or M soils) or 2.5 m (H or E) beyond the building;

IF - internal footings - more than 2 m from the external wall.

TABLE 7.2 - MINIMUM FOOTING DEPTHS

SOIL CLASS	FOOTING TYPE		
	UPEF (m)	PEF (m)	IF (m)
E	1.5	1.0	0.6
H	1.2	0.8	0.5
M	1.0	0.6	0.4
S	0.6	0.4	0.3

As an alternative to strip footings a raft foundation may be preferred, with a 'rat wall' around the perimeter. The depth of the turned down wall (which may or may not be incorporated into the raft) should be the same as for UPEF or PEF footings as appropriate. No wall would be needed with Class S.

8. INFORMATION AND PROCEDURES SUGGESTED FOR COUNCIL APPROVAL

In order to minimise geotechnical related risk associated with development within the City of Armidale, a list of requirements is presented in Table 8.1 below relating to hazard assessment and procedures developed in Section 6 above. It is suggested that these potential hazards be considered by all developers and identified in their submission to Council at the appropriate stage noted.

In general, it is recommended that risk categories be defined by the appropriate persons indicated for slope and springs hazard categories at development approval stage. At building approval stage it is recommended that confirmation be undertaken by the developer that the risk category is still appropriate for slope and springs and that the proposal is in compliance with all requirements for that category. Risk categories for soils (Class based on AS 2870, ref 12 and 13) should be defined at building application stage.

All categorisation of risk, verification of bearing capacity, design of retaining walls and spring stabilising/drainage measures as indicated in Table 8.1 and cross referenced therein, should be provided by a suitably qualified person fully conversant with local conditions.

During earthworks construction and prior to structural erection, additional verification inspection should be performed to confirm that risk categories for soils and springs hazard categories are as assessed at development approval stage.

TABLE 8.1 - GUIDELINES FOR RISK ASSESSMENT AND DEVELOPMENT

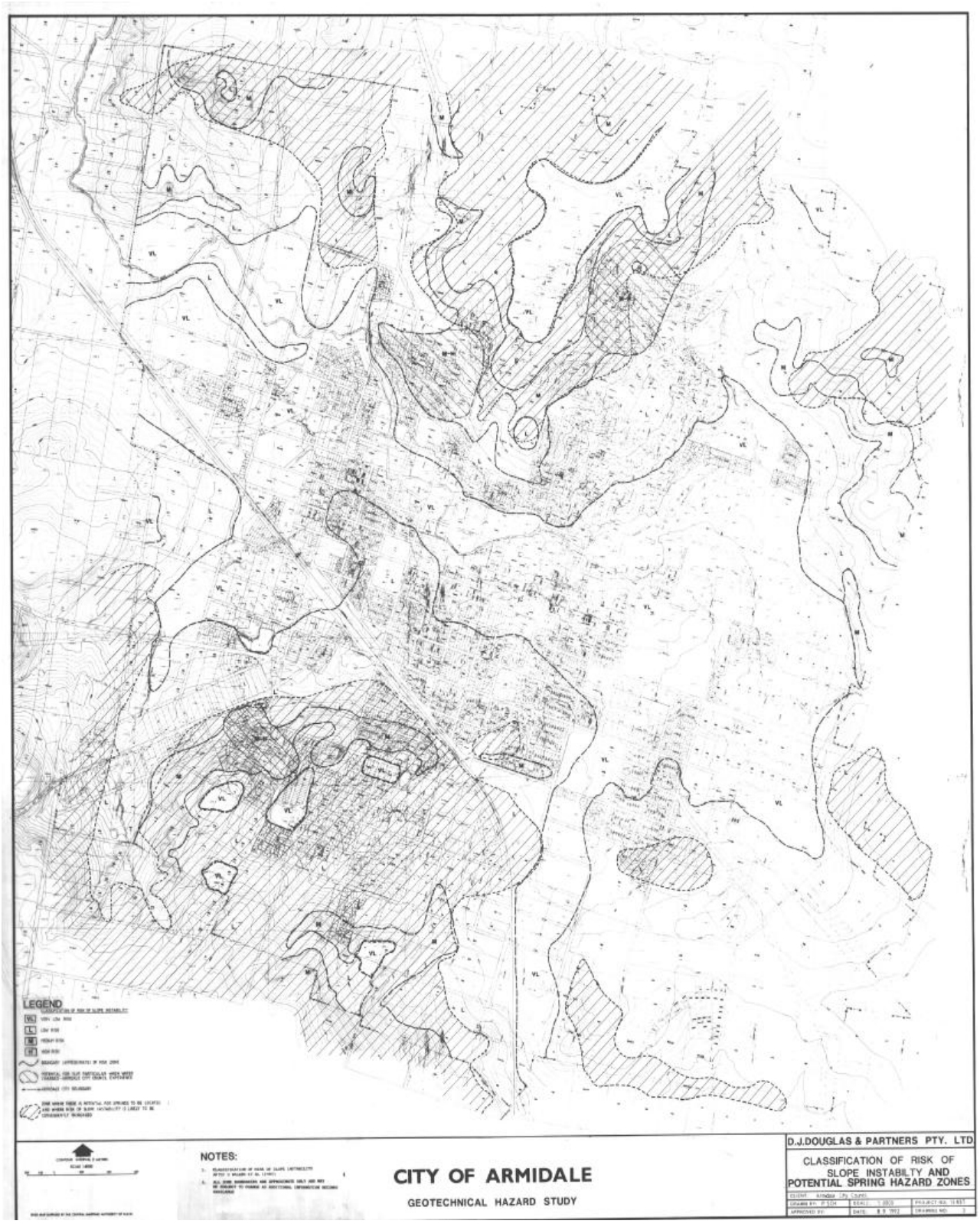
HAZARD CATEGORY	RISK CATEGORIES DEFINED	REQUIREMENTS FOR DEVELOPMENT APPROVAL	REQUIREMENTS FOR ENGINEERING OR BUILDING APPROVAL
SLOPE	Very low, low, medium, high	1. Risk category to be assessed by either of the following: (i) competent person using Drawing 13837/3 (refer also Table 6.1 and 6.2); (ii) competent geotechnical engineer based on the results of field investigation. 2. No development approval to be granted in 'high' risk category or greater unless stability works are to be included as part of proposed development to effectively reduce risk to that of 'low' category or less. Such stability works shall be designed by a competent engineer and based on the results of investigation by a competent geotechnical engineer.	1. Detailed design to conform to good engineering practice as defined in Section 6.1 for all risk categories. 2. For 'medium' risk categories and above (i) all retaining walls greater than 1 m high to be designed by a competent engineer; (ii) all formed slopes greater than 2 m high to have a stability check by a competent engineer, except that for 'high' risk and above the stability check will be performed by a competent geotechnical engineer; (iii) all footings, retention systems and drainage shall be in accordance with Table 6.3 and Figure 6.1 to effectively reduce risk to that of 'low' category or less.
SOILS	Class A, S, M, H, E, P	1. Risk category assessment not required for development approval.	1. Assess risk category (Class) based on AS 2870 (refer Section 6.2 and Table 6.4) for each lot in proposed subdivision. Assessment to be carried out by a competent engineer for all clay soil sites. 2. In all risk categories (Classes) the following applies: (i) detailed design of footings to conform to AS 2870 (refer Section 7.1) for residential development and Section 7.2 for commercial development; (ii) substrata bearing capacity requirements for design to be verified by a competent engineer.
SPRINGS	Absent, Present	1. Competent person to assess whether or not each lot in proposed subdivision is in potential spring hazard zone as indicated in Drawing 13837/4. 2. For lots within the potential spring hazard	1. Where springs are denoted as 'present', by a competent person, engineer or geotechnical engineer, detailed design is to include: (i) suitable engineered measures to stabilise all springs;

TABLE 8.1 - GUIDELINES FOR RISK ASSESSMENT AND DEVELOPMENT (Continued)

HAZARD CATEGORY	RISK CATEGORIES DEFINED	REQUIREMENTS FOR DEVELOPMENT APPROVAL	REQUIREMENTS FOR ENGINEERING OR BUILDING APPROVAL
SPRINGS Continued		zone as indicated in Drawing 13837/4, development approval will only be granted provided either: (i) a report is submitted by a competent engineer or competent geotechnical engineer stating that springs are `absent' or (ii) where springs are denoted as `present', by a competent person, engineer or geotechnical engineer, subdivision design is to include suitable engineered measures to stabilise all springs and protect all existing structures likely to be affected by changes in spring activity brought about by subdivision earthworks.	(ii) suitable engineered measures to protect proposed structures and all existing structures likely to be affected by changes in spring activity brought about by engineering or building.
EARTHWORKS	-	1. Identify all proposed areas of cutting and filling on plan. 2. Where filling is to be undertaken, development approval shall only be granted where full time inspection and testing is to be performed by a NATA registered laboratory (refer AS 3798 Appendix B) to ensure suitability of each lot for footings). 3. All earthworks are to be undertaken in accordance with AS 3798 except where more stringent requirements are presented in Section 6.4 of this study, when the latter will apply.	1. An earthworks specification is to be presented in accordance with Section 6.4 of the text. 2. Ensure all formed slopes are designed in accordance with: (i) Table 6.6 for `very low' slope risk cuts; (ii) Section 6.1, Table 6.3, and Figure 6.1 for `low' slope risk and greater areas of cutting and filling. 3. All earthworks are to be undertaken in accordance with AS 3798 except where more stringent requirements are presented Section 6.4 of this study, when the latter will apply.

NOTE: Drawings 13837/3 and 13837/4 are presented in good faith based on limited information available at time of their preparation.
Where Drawings 13737/3 and 13837/4 are used during assessment of slope and spring risk categories, no liability can be accepted by the Council of the City of Armidale or by DJ Douglas & Partners Pty Ltd for the presence of any higher risk categories than shown on these drawings as may be subsequently proved by engineering investigation.

DRAWING 13837/3




LEGEND
NOTES
CITY OF ARMIDALE
GEOTECHNICAL HAZARD STUDY
S.J.DOUGLAS & PARTNERS PTY. LTD.
POTENTIAL SPRING HAZARD ZONES

APPENDIX A

LIST OF REFERENCES

1. Voisey, AH, Jl Royal Society NSW, 90, 128, 1957.

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11. NSW Builders Licensing Board, "Classification of NSW Soils for Housing", 1985.

12. AS 2870.1 "Residential Slabs and Footings - Part 1: Construction", Standards Association of Australia, 1988.

13. AS 2870.2 "Residential Slabs and Footings - Part 2: Guide to Design by Engineering Principles", Standards Association of Australia, 1988.

14. AS 3798 "Guidelines on Earthworks for Commercial and Residential Developments", Standards Association of Australia, 1990.

APPENDIX B

LIST OF PHOTOGRAPHIC PLATES

PLATE 1 - Tertiary sediments exposed in a road cutting in Madgwick Drive, North Armidale, at the proposed intersection with the proposed arterial by-pass.

PLATE 2 - 'Gilgai' formation in black soil near the University of New England.

PLATE 3 - 'Trap Soil' overlying plastic clay near the University of New England.

PLATE 4 - Typical spring formation, Arboretum, adjacent to Kentucky Street (New England Highway).

PLATE 5 - Possible soil creep suggested by minor terracing of steeper slope sections, adjacent to the western end of Ash Tree Drive, North Armidale area. Medium risk (refer Table 6.2 in text).

PLATE 6 - Stream base and adjacent hillslopes north of Gordon Street and west of Chestnut Avenue. Lobate nature of hillslope and deflection of trees suggest the presence of ancient landslip movement. High risk (refer Table 6.2 in text).

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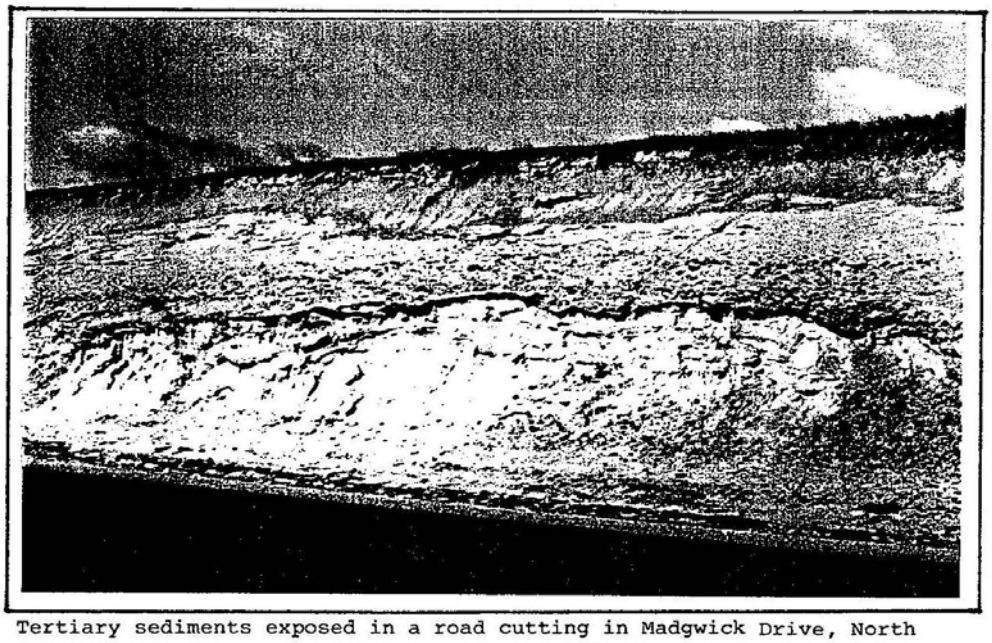
PLATE 1



Tertiary sediments exposed in a road cutting in Madgwick Drive, North Armidale, at the proposed intersection with the proposed arterial by-pass.

PLATE 2

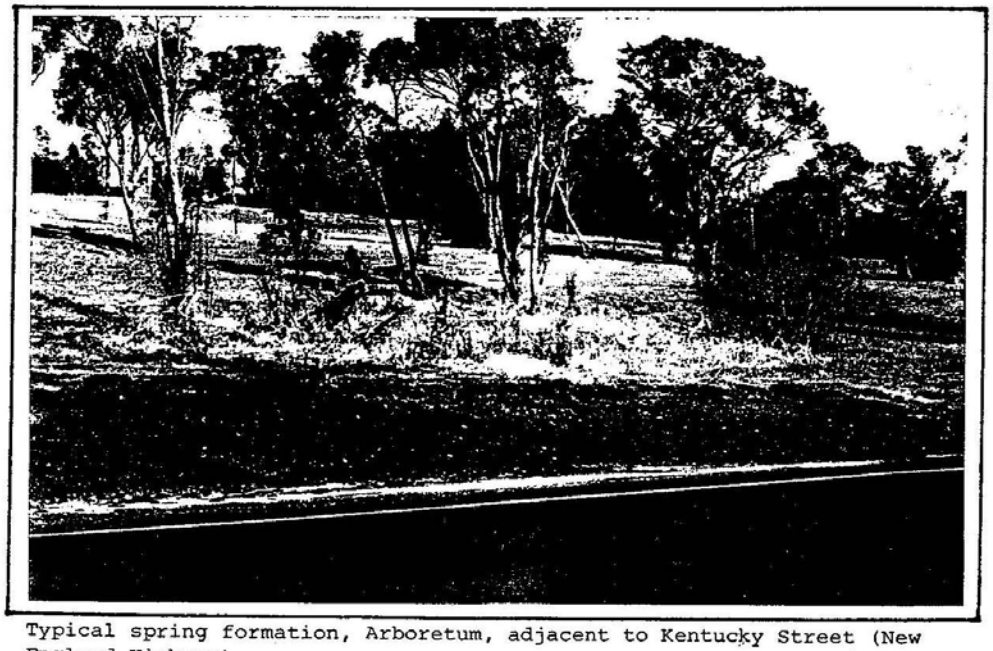
'Gilgai' formation in black soil near the University of New England.

13837

PLATE 3

'Trap Soil' overlying plastic clay near the University of New England.

PLATE 4



Typical spring formation, Arboretum, adjacent to Kentucky Street (New England Highway).

PLATE 5

Possible soil creep suggested by minor terracing of steeper slope sections, adjacent to the western end of Ash Tree Drive, North Armidale area. Medium risk (refer Table 6.2 in text).

PLATE 6

Stream base and adjacent hillslopes north of Gordon Street and west of Chestnut Avenue, Lobate nature of hillslope and deflection of trees suggest the presence of ancient landslip movement. High risk (refer Table 6.2 in text).

APPENDIX C

GUIDE TO HOME OWNERS ON FOUNDATION MAINTENANCE AND FOOTING PERFORMANCE

CSIRO AUSTRALIA
DIVISION OF BUILDING, CONSTRUCTION AND ENGINEERING
information service
Sheet No. 10-91
Revised November 1988

Note: This is a revision of CSIRO Division of Building Research Information Sheet No. 10-91. (The Division of Building Research is now incorporated as part of the Division of Building, Construction and Engineering.)

GUIDE TO HOME OWNERS ON FOUNDATION MAINTENANCE AND FOOTING PERFORMANCE (updated for AS 2870-1988)

1. INTRODUCTION

This guide was prepared by Dr P.F. Walsh of CSIRO, with advice from the Standards Australia Committee on Residential Slabs and Footings, to provide guidance to home owners on their responsibilities for the care of a clay foundation, and to discuss the performance that can be expected from a footing system. (The ground that supports a house is called a foundation, and the concrete structure that transfers the load to this foundation is the footing system).

The best information about the design and construction of footing systems is contained in the Australian Standard 'AS 2870 – Residential Slabs and Footings'. That Standard gives a system of site classification, prescribed footing and slab designs and construction methods that provides an excellent footing system for Australian houses. However, a warning is given that the chance of a footing failure is higher if extreme site conditions, such as the following, are permitted to occur.

(a) planting of trees too close to a footing;
(b) excessive watering of gardens adjacent to the house;
(c) lack of maintenance of site drainage; and
(d) failure to repair plumbing leaks.

The Standard further states that compliance with this guide is a way to avoid extreme site conditions.

Clay foundations are the cause of major problems for houses. Clays are very fine-grained soils that are plastic and sticky when wet, and hard and strong when dry. All clays swell or shrink to some degree as they become wet or dry out. 'Reactive' clays swell or shrink to such an extent that foundation movements can damage houses.

All house sites are classified. Reactive-clay sites are classified as M, H, or E, in order of increasing reactivity. Proper maintenance of such clay sites requires that the moisture content of the clay should be kept reasonably constant.

Some minor cracking of masonry walls is almost inevitable despite proper design, construction and maintenance. Very slight cracks up to 1 mm wide could be expected in most houses. Larger cracks, up to 5 mm, may occur in some houses with properly designed and constructed footings, if reactive clay sites have been subject to large changes of moisture. Cracks larger than 5 mm are regarded as significant damage.

Further information on these topics is given in the following sections. The guide has been updated to be consistent with the revised edition of AS 2870 which was published in 1989.

2. SITE CLASSIFICATION

AS 2870 requires all sites to be classified by an engineer or the builder. The emphasis has been placed on reactive clays that swell and shrink with changes of moisture content because these are the most common cause of problems. The classification system is fairly complicated but, as a general guide, the following may be helpful in understanding the system for clay sites.

S Clays that have not given trouble in the past.

M Moderately reactive clays that may cause minor damage to brick houses on old-style light strip footings. Moderately reactive clays are common and occur, for example, in eastern Melbourne and western Sydney.

H Highly reactive clays that often damage houses, paths and fences. Examples occur in northern and western Melbourne and in parts of Adelaide.

E Extremely reactive clays that frequently damage houses even with strong footings. No examples occur in major cities except Adelaide. Other occurrences include outback NSW, Darling Downs and Horsham.

Since the precautions necessary depend on the reactivity of the site, the owner should check the classification that is shown on the house plans.

The maintenance of the building and the site is the responsibility of the owner, and so the owner should be familiar with the requirements of this guide.

3. CARE OF CLAY FOUNDATIONS

All clays move with changes of moisture content, so the aim is to minimise such changes in the clay by

- draining the site;
- keeping gardens and trees away from the house;
- adequate but moderate garden watering; and
- repairing plumbing leaks.

On a reactive-clay site there are some restrictions on the way the owner can develop the garden around the house. These restrictions apply mainly to brick houses. In most cases, only minimal precautions are justified for framed houses clad with timber or sheeting.

The site must be well drained. Under no circumstances should water be allowed to lie against the house or even near the house. The ground immediately next to the

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 ISSN 0314-5955.

house should be graded away with a slope of about 50 mm over the first metre. Suitable surface drains should be provided to take the surface water away from the house. Where topsoil is brought in, it should not interfere with the site drainage, nor should it raise the ground level enough to block the weepholes in the brick walls or any subfloor vents.

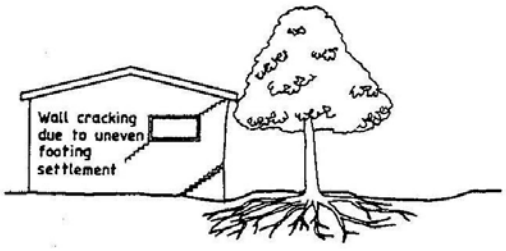
Large garden beds are best not located near the house. This will avoid the possibility of introducing too much moisture to the foundation clay by over watering. The zone near the house should be planned for paths or covered with gravel and plastic sheeting. Small shrubs may be planted at reasonable spacings.

Gardens and lawns should be watered adequately but not excessively. Uniform, consistent watering can be important to prevent damage to the foundation during dry spells such as droughts or dry summers.

Trees and large shrubs require substantial amounts of water, and if the soil near the tree dries out, the roots will extend in search of soil moisture. Tree watering is important in late summer and in drought. The use of slow drip watering systems may be appropriate. It has also been found useful to drill holes near trees and fill them with gravel to allow water better access to the tree roots. Otherwise, clays will shrink as they dry, and a house may settle as shown below.

Removal of large trees creates the opposite problem. As soil moisture is gradually restored, clays swell and may lift shallow footings.

Many factors determine the extent of clay drying by trees, and the more important include the soil type, the size and number of trees, and their species. Trees obtain moisture from roots that spread sideways and the drying zone is influenced by the extent of these roots. For single trees, the drying zone is usually one-half to twice the tree height, but the zone may be larger for groups or rows of trees. Although it is known that the species can influence the extent and severity of the drying zone, little definite information is available. Some Australian trees are particularly efficient in extracting water from very dry soils and can be more dangerous than non-Australian species that use large amounts of water in normal conditions. The effect of tree drying on the amount of movement is also related to the reactivity of the clay. To minimise the risk of damage, trees (especially groups of trees) should not be planted near the house on a reactive clay site, and the following limits are recommended.



TREES CAUSE SHRINKAGE AND DAMAGE

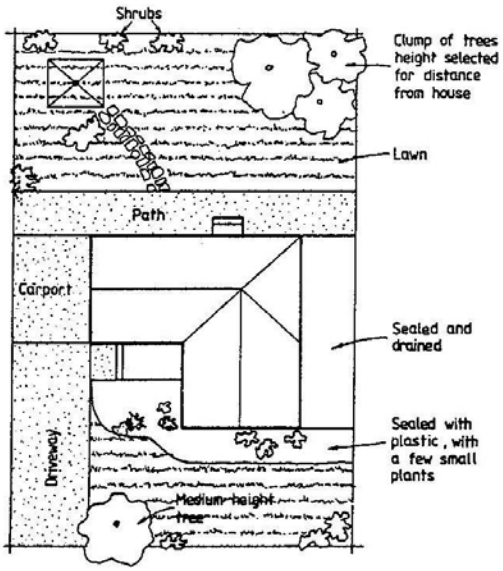
d = 1 1/2 h for Class E sites
d = 1 h for Class H sites
d = 3/4 h for Class M sites

where d is the distance of the tree from the house, and h is the eventual mature height of the tree. These values should be increased by 50% if the trees are in a dense group. These rules mean that on the average suburban block, trees that grow higher than 8 to 9 m are often impractical unless the owner accepts the risk of some damage to the house. If large trees are desired, it may be practical to adopt a specially designed footing system, e.g., a piled footing system.

A leak in the plumbing can cause the footings of a house on a reactive clay to move. The water seeps into the clay causing it to swell and push the footing system upwards. Any obvious leaks in stormwater, drainage, or sewerage pipes should be investigated. Leaking water pipes can be detected by turning off all the taps and checking if the water meter records any flow.

The above restrictions may seem onerous for new home owners, but lack of site maintenance on a reactive clay can cause damage to the house. Still, the whole issue should be kept in some perspective. The damage to houses caused by reactive clays is mostly unsightly cracks in the brickwork. In the typical Australian brick-veneer house, the brickwork does not support the structure. It is the timber frame that carries the walls and roof loads, so brick cracks do not affect the structural safety of the house.

If owners choose to disregard some of the above restrictions and, say, plant large trees all around the house, they should not blame the builder, the engineer, or the Council if the house suffers some cracking.



GARDENS FOR REACTIVE SITES

4. PERFORMANCE OF FOOTING SYSTEMS

All building materials move. Concrete and timber shrink, bricks grow, and so on. Many building practices have been evolved to reduce the damage that such movements cause, and the minor difficulties that arise are usually repaired without significant problems.

The footing of a house is more likely to move on reactive clays. Some house walls may be more sensitive than usual, and may crack even though the footing system has performed its design task. Such cracking must be expected occasionally and this is expressed in the performance requirements of AS 2870 (see Appendix A).

The performance requirement of AS 2870 suggests that Category 0 to 1 damage may be expected for houses on a reactive-clay site, but that the damage is of little consequence. Category 2 is clearly not satisfactory (isolated cracks up to 5 mm wide), but it still does not constitute significant failure and could be expected to occur under adverse conditions for the occasional house.

For these categories of damage, it is the intention of AS 2870 that consequent repairs are part of the normal house maintenance and are therefore the responsibility of the owner.

Nonetheless, to ensure that the damage does not proceed to a more serious state, the owner should take some action.

(a) Check that the recommendations on site treatment, drainage, garden arrangement, trees etc., have been observed.

(b) Keep a record of the crack width against the time of the year. If the damage is as high as Category 2 and seems to be increasing, the owner should consult the builder who may be able to offer more specific advice. If this does not prove satisfactory, the owner should engage a consulting engineer who specialises in house footings.

(c) Engage a plumber to check for leaks if this is suspected to be the cause.

(d) Replace soil mositure in dry spells by watering. Such watering can be more effective if holes or trenches are dug into the clay. The holes or trenches should be filled with compacted crushed rock or gravel and moderately watered. Some trees may need to be removed or kept pruned.

Complete stability is difficult to achieve, so repairs to damaged walls should include methods that will disguise further movements. Extra joints should be included in external masonry walls and further cracking in internal walls can be concealed by flexible paints, wall paper, or panelling. Repairing of cracks with brittle fillers should be avoided unless the cracks have stabilised.

For the more serious categories of damage, the steps to be taken are similar, except that there should be little delay in seeking advice. Remedial action for significant failure may still only include attention to stabilising moisture conditions as described above, but could also involve constructing a concrete wall in the ground to stop drying of the foundation clay. Underpinning is usually not satisfactory in reactive clays.

Experience indicates that lack of maintenance is responsible for many failures. Even with proper design and site maintenance the occasional failure may still occur because footing behaviour is so complex.

5. SHRINKAGE OF CONCRETE FLOORS

Concrete needs water. Firstly to allow the fresh concrete to flow and, secondly, to develop strength during its first few weeks. As a slab starts to dry, it shrinks and tries to contract. Some of this movement is restrained or resisted by friction on the bottom of the slab and by the beams in the ground. This restraint causes tension or stretching forces in the slab and these forces are often large enough to crack the slab.

Shrinkage cracking is almost inevitable and does not represent failure. Most owners never notice the cracks because they often do not occur until after the carpets are laid. Cracks under brittle or sensitive floor coverings are of concern but the risk of damage can be reduced by using flexible mortars and glues for fixing slate and tiles, etc. Also it helps to delay installing the floor covering until after the shrinkage has occurred. The length of delay should be at least three months after the slab has started to dry (i.e. from the time the slab is last wet from rain or during construction.

6. ADHESIVE-FIXED FLOOR COVERINGS

A concrete slab takes a long time to dry. For example, under temperate conditions a slab will take about three months to dry. Moisture in the concrete can interfere with the bond or break down the adhesive used to attach floor coverings. However, a range of adhesives is available for various floor coverings and these should perform quite well on slabs that have been allowed to dry sufficiently.

7. CONCLUSION

This guide has been prepared to advise owners on how to care for the foundation of their houses and what to expect from a well-designed footing system. The main concern with foundation maintenance is to prevent the foundation soil becoming too wet or too dry, and a variety of recommendations are given to achieve this.

Additional information may be found in the following reports which are available from their publishers.

CSIRO (1985). 'House Cracking in Drought Periods', CSIRO Australia Information Sheet No. 10-88. Division of Building Research.

Cameron, D.A. and Earl, I. (1982). Trees and Houses: A Question of Function. Cement and Concrete Association, Melbourne.

Martin, K.G., Lewis, R.K., Palmer, R.E. and Walsh, P.F. (1983). Floor Coverings on Concrete Slab-on-ground. CSIRO Australia Division of Building Research Report.

Cameron, D.A. and Walsh, P.F. (1984). Damage to Buildings on Clay Soils. National Trust Technical Bulletin 5.1.

APPENDIX A

(This Appendix forms an integral part of AS 2870-1988)

TABLE A1
CLASSIFICATION OF DAMAGE WITH REFERENCE TO WALLS

Description of typical damage and required repair	Approximate crack width limit (see Note 1)	Category and damage degree (see Note 2)
Hairline cracks.	< 0.1 mm	0 Negligible
Fine cracks which do not need repair.	< 1 mm	1 Very slight
Cracks noticeable but easily filled. Doors and windows stick slightly.	< 5 mm	2 Slight
Cracks can be repaired and possibly a small amount of wall will need to be replaced. Doors and windows stick. Service pipes can fracture. Weathertightness often impaired.	5 to 15 mm (or a number number of cracks 3 to 5 mm in one group)	3 Moderate
Extensive repair work involving breaking-out and replacing sections of walls, especially over doors and windows. Window and door frames distort. Walls lean or bulge noticeably (see Note 3), some loss of bearing in beams. Service pipes disrupted.	15 to 25 mm but also depends on number of cracks	4 Severe

TABLE A2
CLASSIFICATION OF DAMAGE WITH REFERENCE TO CONCRETE FLOORS

Description of typical damage	Approximate crack width limit in floor	Change in offset from a 3 m straight edge centred over defect (see Note 5)	Category and degree of damage
Hairline cracks, insignificant movement of slab from level.	< 0.3 mm	< 8 mm	0 Negligible
Fine but noticeable cracks. Slab reasonably level.	< 1.0 mm	< 10 mm	1 Very slight
Distinct cracks. Slab noticeably curved or changed in level.	< 2.0 mm	< 15 mm	2 Slight
Wide cracks. Obvious curvature or change in level.	2 to 4 mm	15 to 25 mm	3 Moderate
Gaps in slab. Disturbing curvature or change in level.	4 to 10 mm	> 25 mm	4 Severe

NOTES:

1. Crack width is only one factor in assessing category of damage and should not be used on its own as a direct measure of that damage.
2. In assessing the degree of damage, account shall be taken of the location in the building or structure where it occurs, and also of the function of the building or structure.
3. Local deviation of slope, from the horizontal or vertical, of more than 1/100 will normally be clearly visible. Overall deviations in excess of 1/150 are undesirable.
4. Account should be taken of the past history of damage in order to assess whether it is stable or likely to increase.
5. The straight edge is centred over the defect, usually a crack, and supported at its ends by equal height spacers. The change in offset is then measured relative to this straight edge.

Armidale
Dumaresq Council

Armidale Dumaresq
Development Control Plan 2012

Section 2 Site Analysis and General Controls

Chapter 2.7 Floodplain Protection and Stormwater Drainage

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Table of Contents

Part 1 General Provisions

1.1 Introduction

This chapter supplements information provided in Council's Engineering Code, and should be read in conjunction with that document.

The purpose of this chapter is to guide good design that makes provision for the effects of inundation (flooding) from natural watercourses and local stormwater runoff on development; and considers changes over time that have resulted in concentration, increase or redirection of pre-existing or natural flows.

1.2 Objectives

The objectives of this chapter are:

O.1 To provide design solutions that consider the future impacts of flooding and stormwater runoff.

O.2 To provide safety for the public and protection of property in major storm and flood events.

O.3 To provide for the safe passage of minor floods and minimise the inconvenience they cause the public.

O.4 To improve urban amenity through maintenance of natural drainage lines.

O.5 To optimise the land available for urban purposes including community facilities.

1.3 Land to which this chapter applies

This chapter applies to land in the Armidale Dumaresq local government area.

1.4 Addressing the guidelines in this chapter

The guidelines for managing flooding and stormwater runoff are set out in this chapter. These are expressed in the form of objectives which need to be addressed for each development proposal. For each objective (O), 'acceptable solutions' (S) are provided which, if met, will ensure compliance. Alternative approaches may be proposed, provided these adequately address the relevant objectives and comply with legislation. The chapter also provides guidelines which must be addressed where they are relevant to a development proposal.

Part 2 Flood Protection

2.1 Natural Watercourses

Detailed information and advice in relation to flooding from natural watercourses such as Dumaresq Creek, Martin's Gully , Black Gully and Yoogoonda Gully is available in Council's Policy 038 – Armidale Floodplain Management Policy.

Generally, planning restrictions will apply to development on land below the 'flood planning level' of such watercourses. The 'flood planning level' refers to the flood level established by the 1% Annual Exceedance Probability (AEP) flood (commonly referred to as the '1 in 100 year flood') plus 0.5 metres freeboard. The term AEP is commonly used with respect to flooding. The term Average Recurrence Interval (ARI) is commonly used in relation to urban drainage design – e.g 5 year, 10 year, 20 year or 100 year storms.

Urban areas affected are shown on the flood planning maps for Armidale, extending from approximately Lake Zot in the west to Castledoyle Road in the east. Flood planning maps can be viewed at Council.

2.2 Local Flooding

O.1 To ensure new buildings are designed to take into account the potential effects of 'local' stormwater run-off from upstream catchments, both natural and impervious, for rainfall events up to and including the 1% Annual Exceedance Probability (AEP) event.

Designs must demonstrate that:

S.1 Floor levels are elevated above surrounding finished ground levels; where practical, by a minimum of 450mm above the ground level surrounding the sewer gully riser or by 300mm in other cases, with the adjacent ground surface graded to allow effective drainage of surface water away from the building.

S.2 An effective permanent and fail-safe overland drainage system (irrespective of any piped system) allowing unimpeded flow of surface water away from all possible points of stormwater entry to the building (to be identified by design levels and bold arrowed stormwater flowpaths).

S.3 Discharge is to be to an appropriate drainage system and, if above ground, not across the public footpath in a concentrated flow.

S.4 Drainage systems must not cause nuisance to neighbouring properties.

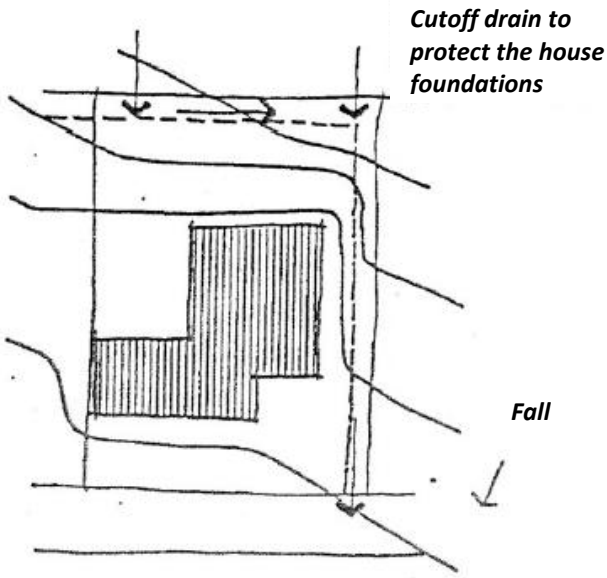


Figure 1: An effective overland flowpath within a development site.

Part 3 Stormwater Drainage Systems for Urban Subdivisions

3.1 Drainage Systems

O.1 To ensure stormwater drainage systems are designed to cater for *minor systems* (nuisance flows generated by rainfall events with an Average Recurrence Interval (ARI) of 5 years) and *major systems* (larger flood flows generated by rainfall events with an ARI of 100 years).

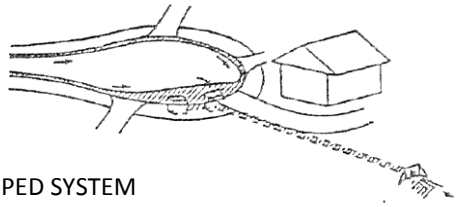
O.2 To ensure stormwater is disposed of in a hazard-free and nuisance-free manner within the capacity of the receiving drainage system.

O.3 To minimise hard surface areas to allow for greater absorption of stormwater; and reduce impact on stormwater systems.

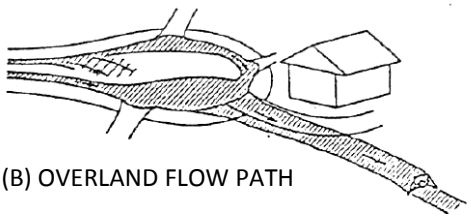
O.4 To retain and enhance the natural conditions of natural watercourses.

O.5	To create stormwater easements of adequate dimensions.
S.1	All stormwater drainage collecting as a result of the erection of, or alterations or additions to, a development must be conveyed by a gravity fed or charged system to: a) a public drainage system, or b) an inter-allotment drainage system.
S.2	Major and minor systems must be provided.
S.3	Minor systems should take the form of a piped system with appropriate stormwater inlet facilities for both road drainage and inter-allotment drainage where sites do not drain directly to the street.
S.4	The major system should take the form of permanently unobstructed failsafe, above ground floodways for both drainage involving roads etc, and inter-allotment drainage. Inter-allotment drainage systems do not always require a defined aboveground floodway, however, a flowpath should be identified.
S.5	Both major and minor systems should discharge to a suitable Council approved (natural or engineered) receiving drainage system. The suitability and practicality of connection to such a receiving drainage system must be thoroughly checked by the developer's Chartered Professional (Civil) Engineer (CPE) for the project.
S.6	If the receiving drainage system does not have adequate spare capacity, then some form of retarding system must be provided to limit discharge flow rates to pre-development flow rates. This will be determined by the CPE in consultation with Council's Development Engineering staff.

The following drawings show a minor road piped drainage system (A) and associated major; 'failsafe' aboveground system (B) designed to protect adjacent properties (*Australian Rainfall and Runoff*', Institute of Engineers Australia, 1998).



(A) PIPED SYSTEM



(B) OVERLAND FLOW PATH

3.2 Stormwater Drainage Easements

S.7	Where the creation stormwater drainage easement through the property of another party is required, the applicant is required to supply details of proposed arrangements when submitting applications.
S.8	The consent of the landholder(s) to be affected must be provided.
S.9	Easements must be of adequate width for the design and maintenance of the drainage system proposed, including any aboveground floodway(s).

3.3 Receiving Drainage Systems

Receiving drainage systems usually occur in the lower part of catchments or downstream of the outflow point of storm water collected from developed areas. Receiving drainage systems can consist of large diameter piped drains, constructed channels or natural watercourses (such as gullies, creeks or streams).

This section outlines Council's requirements for the capacity, treatment, and if necessary, rehabilitation, of natural watercourses that will act as receiving drainage systems for storm water run-

off from developed areas. The relevant requirements also apply to natural watercourses that are situated within a development area, but are located upstream of the stormwater discharge point for the proposed development.

Specific storm water drainage provisions may apply to certain areas. Applicants are advised to check any site specific Strategy Plans in the Locality Specific Precincts section of this DCP that may apply to the land.

3.3.1 Principles

Natural watercourses that act as receiving drainage systems for storm water run-off from developed areas should reflect, or improve, the pre-existing or natural situation in terms of location, quantity, quality and velocity of flows.

Receiving drainage systems shall be designed in accordance with the following general principles:

P.1 the catchment context must be considered in all management decisions and planning processes affecting urban streams;

P.2 in planning and development decisions, all remaining natural features of stream corridors should be protected as far as possible;

P.3 stream management practices should attempt to emulate nature because the ecological functions of natural streams cannot be replaced by engineered solutions;

P.4 no watercourse is so degraded that its ecological functions cannot be improved;

P.5 for Greenfield sites, the values and functions of streams must be evaluated at the earliest planning stage and considered at all decision points.

3.3.2 Provision for Peak Discharge Stormwater Flows

Developers must demonstrate to Council's satisfaction, that either:

S.1 peak discharge from the proposed development site and all land upstream of the proposed development site within the drainage catchment (having regard to likely future development given the existing land use zoning at the date of application) will be disposed of in a hazard-free and nuisance-free manner within the capacity of the receiving drainage system; or

S.2 the proposed development will be designed to attenuate peak discharge flows from the drainage catchment so that, at all points along the receiving drainage system downstream of the development site, stormwater discharge from the proposed development will be disposed of in a hazard-free and nuisance-free manner within the capacity of the receiving drainage system.

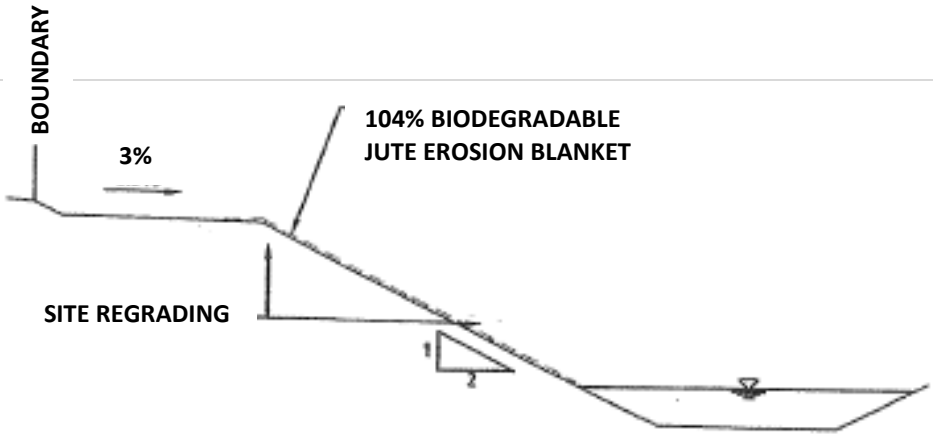
S.3 Council may require, where relevant, an easement or riparian area reserve to be established by the developer over all or part of the receiving drainage system, and for the feasibility of such (including the consent of any affected downstream owners) to be demonstrated in the development application for the proposed development.

3.3.3 Formation/Rehabilitation of Natural Watercourses

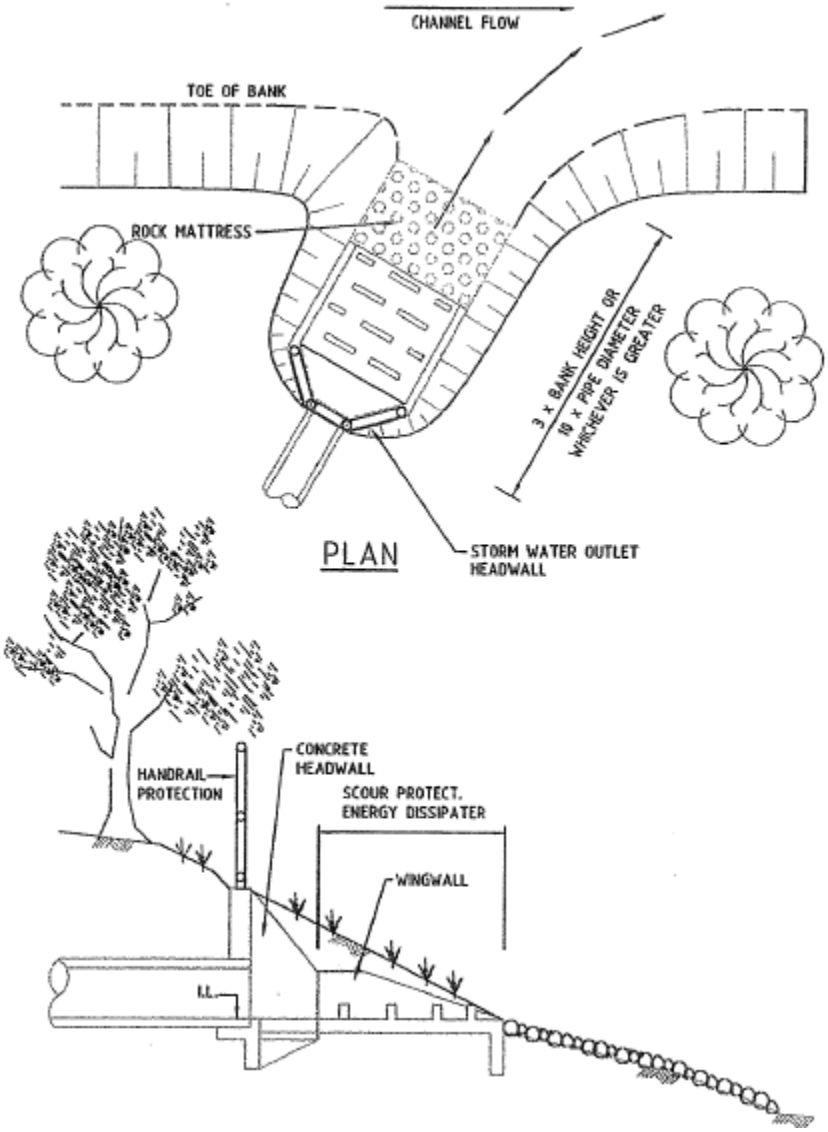
The retention and rehabilitation/enhancement of natural conditions is the underlying theme for the treatment of natural watercourses. Receiving drainage systems that act as 'living streams' can be developed to provide native flora and fauna with areas for feeding, reproduction and migration, and can act as 'stepping stones' or corridors through the urban landscape. Storm water drainage systems that mimic or replicate nature are also more aesthetically pleasing than traditional systems such as straight drains and large, deep detention ponds or sumps.

S.1 Council will generally require natural watercourses within development areas, and receiving drainage systems downstream of development sites that cater for run-off from development,

to be formed and/or rehabilitated in accordance with the following diagrams. Site specific variations may be required having regard to the nature of the watercourse.

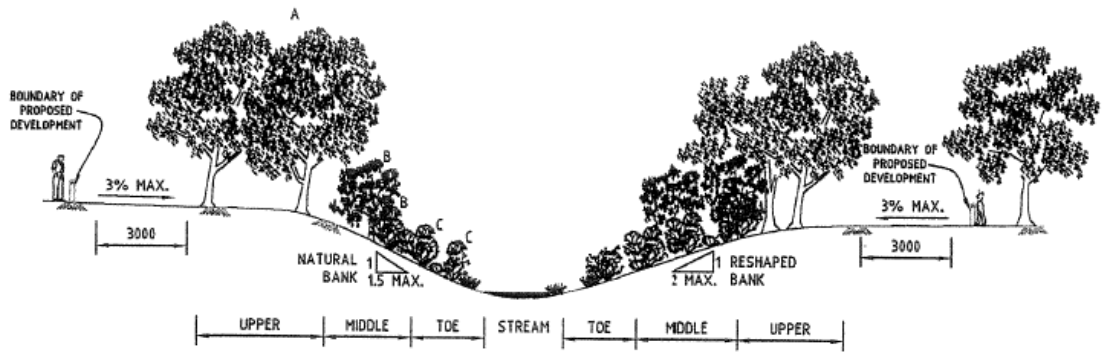


Erosion control and soil stabilisation on regraded channel banks



Typical storm water outlet protection detail

Source: Tierney & Partners, 2004



Typical re-planted cross section (not to scale)

Source: Tierney & Partners, 2004

A planting schedule and species list can be found at Appendix 1.

Part 4 Stormwater drainage systems for urban lots

4.1 System design

S.1 The most effective, and therefore preferred, means of minor stormwater drainage from 'improved' areas is by a gravity system directing stormwater to an approved receiving system (eg natural watercourse, Council drain, or property inter-allotment drain, etc).

S.2 On site dispersal trenches will only be accepted where no other practical alternatives are available. Each system will be considered on its merits.

S.3 On site disposal arrangements will not be approved for commercial or industrial development and 'pump out' systems will not be allowed in any urban location.

S.4 Where alternative systems are proposed, the developer's CPE shall demonstrate to Council that run off from rainfall events up to and including the 100 year ARI event shall be adequately retained and run off controlled in a fail safe manner.

S.5 In cases where the receiving drainage system does not have adequate spare capacity to accept the development discharge, a retarding system must be provided to limit discharge flow rates to pre-development flow rates. This will need to be determined by the CPE in consultation with Council's Development Engineering staff.

S.6 The CPE must demonstrate that post-development flows arising from any new work will not be concentrated or exceed the level of pre-development flows at any time. Moreover, the design must not allow any appreciable nuisance to other property owners in the circumstances of each case, including by reason of any excessively extended duration of stormwater flow.

4.2 Charged Line Systems

A Charged-Line System (sometimes referred to as an Inverted Syphon system) is a sealed pipe system which conveys stormwater from roof guttering under gravity pressure, but where the outlet to an approved drainage system is actually above the level of the subject site.

S.1 A charged-line system will only be considered for a single residential dwelling and associated Class 10a buildings under the Building Code of Australia (BCA), or alterations and additions to existing small commercial/industrial buildings where a property falls away from the drainage system (eg road gutter), and where it can be clearly demonstrated that to permit access to a legal point of discharge for stormwater:

a) an inter-allotment drainage easement cannot be obtained, or

b) where inter-allotment drainage is not practical.

S.2 Each such site-specific system must be designed in accordance with *AS 3500 – National Plumbing and Drainage Code* and the BCA.

S.3 Charged-line system designs and specifications must be supported by clear information which fully demonstrates the proposed drainage system will function effectively in a nuisance free manner.

S.4 The charged-line system must be completely watertight from the roof gutter level to the proposed outlet at street level, with an appropriate (capped) inspection/cleaning facility at the lowest point of the stormwater system.

S.5 Any such system which has an outlet to a road drainage system shall have a suitable kerb adaptor that is to be installed to minimise the potential for impact on the designed gutter flow within the road.

S.6 Building roof gutter(s) should be installed with an effective leaf guard arrangement to reduce the potential for blocking the gutters.

S.7 As a charged-line system is designed to convey roof stormwater only, provision must also be made in the drainage design to effectively manage surface stormwater from any impervious areas such as driveways and paved areas within the subject site without nuisance to other properties.

Part 5 Stormwater drainage systems for rural lots and large lot residential lots

5.1 On-site stormwater disposal systems

S.1 On-site stormwater disposal systems for new development activity on rural (RU1, RU3 and RU4), Environment Protection (E1, E3 or E4) or large lot residential (R5) zoned land may be permitted where:

a) the lot size is not less than 1 hectare (10,000 m^2);

b) no suitable Council approved drain or suitable natural watercourse exists in the vicinity of the site; and

c) Council is satisfied that on-site dispersal is not likely to adversely affect the environment, including neighbouring properties, roads etc. (eg by concentration of flow); and

d) the Applicant has submitted a report prepared by a CPE to address:

i) suitability of soil and site conditions for on-site disposal (eg absorption capacity of site); and

ii) any necessary measures to be taken to prevent soil erosion or sedimentation or soil instability and water nuisance of any type; and

iii) scenarios of water-related nuisance and/or possible complaint of any type, with a view to protect Council against avoidable claims or loss.

S.2 In some circumstances, particularly in the E3 and E4 zones, drainage easements over downstream properties may be required. Consent from the owner(s) of the downstream properties is to be submitted with the development application.

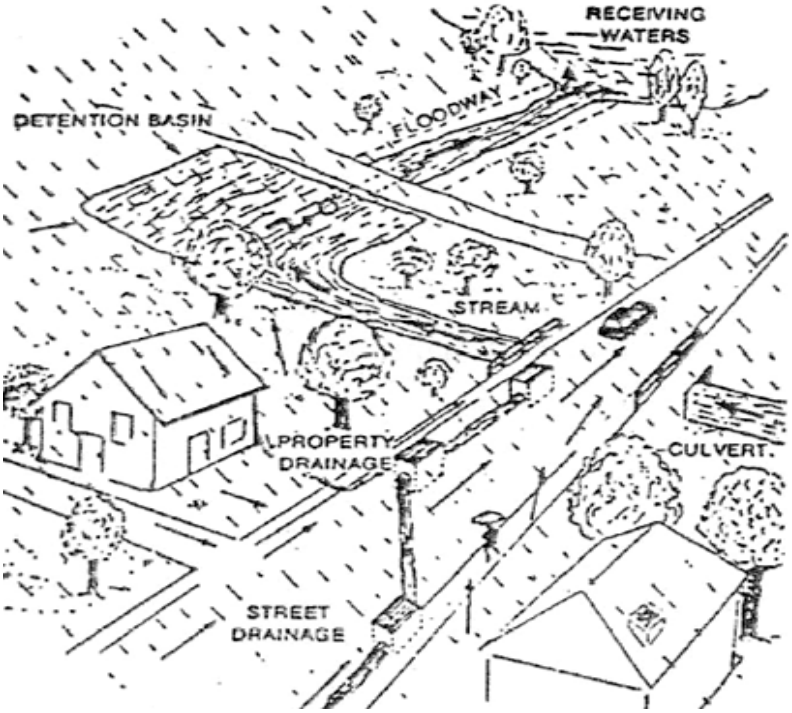
Part 6 Stormwater Drainage Design Considerations

6.1 Basis of Design

The basis of design for all stormwater drainage systems is '*Australian Rainfall and Runoff*' (Institute of Engineers Australia). More detailed information is available from Council's Engineering Code and from our Development Engineering Staff.

6.2 Minor/Major Stormwater Flows

Stormwater drainage systems typically consist of two distinct, but inter-related networks. Some typical components of the systems, which are described in the following text, are illustrated in the diagram below reproduced from '*Australian Rainfall and Runoff*' (Inst of Engineers Australia, 1998, Book 8 Urban Stormwater Management):



6.2.1 Minor Flow Systems

A minor flow system is designed for the collection of stormwater flows from properties (including roofs, paved/impervious surfaces and gardens), roads and any other land that produces stormwater discharge. This is typically achieved by directing stormwater via road gutters, inlet pits and pipes to an approved receiving system.

In general, Council requires new development to incorporate minor systems with capacity for a 5 year ARI rainfall event in residential areas and 10 year or 20 year ARI in more densely developed areas such as the Central Business District. Minor systems should direct flows to a Council approved drainage system (eg the Council's underground stormwater mains). Flows which are above the specified minor ARI level or which arise from the failure or blockage of minor drainage systems are to be directed to a major system.

In addition, as indicated above, if the receiving drainage system does not have adequate spare capacity, then some form of retarding system (see 5.3 below) must be provided to limit discharge flow rates to pre-development flow rates, or existing Council infrastructure augmented. This will need to be determined by the CPE in consultation with Council's Development Engineering staff.

6.2.2 Major Flow Systems

The purpose of the major system is to protect the health and safety of the community and to prevent property damage arising from major rainfall events or failure of the minor system (e.g. by pipe blockage).

Major systems are to be designed to accommodate at least a 100 year ARI event, and provide for fail-safe operation. These systems would typically take the form of above ground flowpaths, including retarding systems/basins where necessary to augment the capacity of the receiving system. Again, if the receiving drainage system does not have adequate spare capacity, then some form of retarding system must be provided to limit discharge flow rates to pre-development flow rates.

The major flow function of natural depressions on sites must also be recognised. Deviation of flows away from such natural flowpaths by intersecting roads should not be automatically assumed.

6.3 On-site Stormwater Detention (OSD)

On sites where adjoining public drainage infrastructure has little or no excess capacity, developments which would generate stormwater run-off beyond that equivalent to 35% impervious area 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.

This may be achieved by:

a) constructing on-site stormwater detention with delayed release into the stormwater system; or

b) designing the site to minimise impervious areas so increased run-off does not reach the stormwater system; or

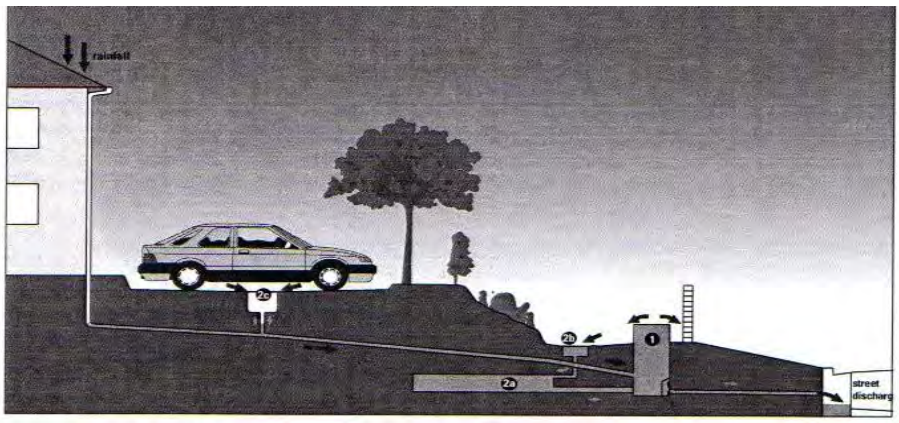
c) payment of a set drainage levy to Council in accordance with any adopted *Drainage Contributions Plan* or

d) incorporating an onsite water recycling system.

The objective of providing on-site stormwater detention is to capture and temporarily store (detain) water arising from up to and including 100 year ARI rainfall events, and then slowly release this water to an approved point of discharge to replicate pre-development flows from the subject site. This artificially forced storage and restricted release of stormwater flow significantly minimises the potential for flooding in local stormwater drainage systems.

An on-site detention facility can be in the form of a depression in a paved/landscaped area, an underground tank, above ground basin or a combination of these, integrated into the overall stormwater drainage system for the site.

The illustration overleaf shows a cross sectional view of a typical OSD System with (1) being a Discharge Control Pit at the street frontage and a 3-stage storage that fills progressively – (2a) small underground tank, (2b) storage in front setback, and (2c) car-park storage.



Cross section of typical OSD System *(Source - Upper Parramatta River Catchment Trust publication 'What is On-site Stormwater Detention?')*

The design of an OSD System shall be undertaken by the developer's CPE. The methods and principles of the proposed OSD System design shall be in accordance with the guidelines and procedures contained in the current versions of both Australian Rainfall and Runoff and the Upper Parramatta River Catchment Trust publication titled 'On-site Stormwater Detention Handbook'.

A copy of the latest Upper Parramatta River Catchment Trust Handbook, as well as further information on OSD, can be downloaded in PDF format from the following website –

www.uprct.nsw.gov.au

For relevant Development Applications submitted, a Stormwater Concept Plan is required to identify the drainage constraints/opportunities and demonstrate that any OSD System can be integrated into the proposed layout for the site. Detailed design should follow at the Construction Certification stage.

The ongoing maintenance and operation of a site OSD System is the responsibility of the land owner, and shall be subject to Positive Covenants and restrictions on Land Title(s) to ensure that this occurs.

Part 7 Water Sensitive Urban Design (WSUD)

WSUD provides an approach to urban water management that is sensitive to natural hydrologic and ecological processes. WSUD emphasizes on site collection, treatment and utilisation of water flows as part of an integrated treatment train. WSUD can reduce infrastructure costs and reduce environmental degradation

Development that is sensitive to its impact on the water cycle is an alternative approach to drainage design, which enables a more 'sustainable' solution aimed at improving and protecting the local environment.

Water Sensitive Urban Design (WSUD) contributes to urban sustainability by helping to provide the desirable conditions for environments that are pleasant to live in. This is achieved through the integration of urban planning and design with management, protection and conservation of the whole water cycle, from rainfall, initial treatment/capture in developed areas, and ultimate discharge back to natural watercourses.

7.1.1 Principles and applications of WSUD

As outlined in the publication *Urban Stormwater: Best Practice Environmental Guidelines (CSIRO 1999)*, the key principles of WSUD from a stormwater management and land use planning perspective are:

a) Protect natural systems – protect and enhance natural water systems such as creeks, rivers and wetlands, within urban environments.

b) Protect water quality - improve the quality of water draining from urban developments into natural watercourses.

c) Integrate stormwater treatment into the landscape – use stormwater treatment systems in the landscape by incorporating multiple uses that will provide multiple benefits, such as water quality treatment, wildlife habitat, public open space, recreational and visual amenity for the community.

d) Reduce runoff and peak flows – reduce peak flows from urban development by on site temporary measures (with potential for reuse) and minimise impervious areas.

e) Add value while minimising development costs – minimise the drainage infrastructure cost of development.

f) Reduce potable water demand - use stormwater as resource through capture and reuse for non-potable purposes, for example - toilet flushing, garden irrigation and laundry use.

WSUD relies on sensitive responses by designers, subdividers, home owners and builders to maximize and enhance the use of rainwater/stormwater to reduce potable supply requirements.

Careful consideration must be given to site characteristics such as soil type, slope, water table, rainfall characteristics, potential salinity and the scale and density of development.

Council is keen to work with developers on individual proposals which incorporate water sensitive urban design features. However, the minimisation of costs of Council ownership/maintenance and demand on both natural and financial resources shall be a high priority in the consideration and operations of works and associated community assets.

One commonly used WSUD element is Vegetated Swales. These consist of a grassed or vegetated channel used to convey stormwater run off as an alternative to constructed kerb and gutters in suitable areas. Potential contaminants from the road surfaces runoff are filtered as they pass through the vegetation. Further treatment can also be achieved with the integration of Bioretention Systems into the base of swales

Swales can be incorporated into urban designs along streets (within the median strip or footpaths), in parklands and between lots where maintenance access can be preserved. In addition to their treatment function, these systems can add to the aesthetic character of an area.

Practical examples of what can be achieved with Vegetated Swales are shown in the photographs below:

Examples of Grass Swales used in Urban Streetscapes

(Source – Association of Bayside Municipality Areas, (Melbourne, Victoria) publication 'Delivering Water Sensitive Urban Design')

Some examples of WSUD features are outlined below –

a) Bioretention Swales
b) Sedimentation Basins
c) Bioretention Basins
d) Infiltration Measures
e) Sand Filters
f) Rainwater Tanks

7.2 Bioretention Swales

Bioretention swales (or biofiltration trenches) are treatment systems that are located at the downstream end of a swale cell (i.e. immediately upstream of the swale overflow pit). Bioretention swales provide efficient treatment of stormwater through fine filtration, extended detention treatment and some biological uptake, and are particularly efficient at removing nitrogen and other soluble or fine particulate contaminants. They also provide a conveyance function (i.e. along the swale).

Bioretention swales can form attractive streetscapes and provide landscape features in an urban development. They are commonly located in the median strip of divided roads, in carparks and in parkland areas.

Runoff is 'filtered' through a prescribed filter media as it percolates downwards under gravity. The 'filtered' runoff is then collected at the base of the filter media via perforated pipes and flows to downstream waterways or to storages for potential reuse. Unlike infiltration systems, bioretention systems are well suited to a wide range of soil conditions, including low hydraulic conductivity 'clay' soils and areas affected by soil salinity and saline groundwater, as their operation is designed to minimise or eliminate exfiltration from the filter media to surrounding in-situ soils.

Any reductions in runoff volumes are primarily attributed to maintaining soil moisture of the filter media (which is also the growing media for the vegetation) and evapotranspiration losses. Should in-situ soil conditions be favourable, infiltration can be encouraged from the base of a bioretention system to recharge local groundwater and to reduce surface runoff volumes.

Vegetation that grows in the filter media of bioretention swales is an integral component of these treatment elements. Both the vegetation and the filter media have functional roles in stormwater treatment and it is the intrinsic relationship between the two that ensures the long term functional performance of the system.

7.3 Sedimentation Basins

Sediment basins are used to retain coarse sediments from runoff, are typically the first element in a 'treatment train', and are frequently used for trapping sediment in runoff from construction sites. Within a 'treatment train' they play an important role by protecting downstream elements from becoming overloaded or smothered with sediments, thus optimising treatment performance and minimising ongoing maintenance costs.

Sediment basins operate by reducing flow velocities and encouraging sediments to settle out of the water column. They rely on the creation of quiescent flow conditions and the prevention of 'short circuit' flow paths between the inlet and outlet. Sediment basins are typically constructed with sufficient depth (usually 1.5 m to 2.0 m) to allow for sediment accumulation and to prevent colonisation by fringing aquatic macrophytes (which is undesirable due to the requirement for regular desilting of sediment basins). They can also be designed as ephemeral systems, allowing them to drain during periods without rainfall and refill during runoff events.

Sediment basins can have various configurations including hard edges and base (e.g. concrete), or a more natural form with edge vegetation creating an attractive urban element. They are, however, typically turbid and maintenance usually requires significant disturbance of the system.

Maintenance of sediment basins involves dewatering and dredging/ excavating accumulated sediments. This is required approximately every five years, but depends on the nature of the catchment. For construction sites that can produce very large loads of sediment, desilting may be required more frequently.

7.4 Bioretention Basin

Bioretention basins operate with the same treatment processes as bioretention swales except do not have a conveyance function. High flows are either diverted (bypassed) away from the basin or are discharged into an overflow structure.

Like bioretention swales, bioretention basins can provide efficient treatment of stormwater through fine filtration, extended detention treatment and some biological uptake, particularly for nitrogen and other soluble or fine particulate contaminants.

Bioretention basins have an advantage of being applicable at a range of scales and shapes and therefore have flexibility for locations within a development. They are equally applicable to redevelopment sites and greenfield sites. Smaller systems may take the form of 'planters' that can be located within lots (e.g. gardens) and along roadways at regular intervals (e.g. in traffic calming devices) to create a boulevard aesthetic. All of these systems treat runoff near to its source and prior to entry into an underground drainage system.

Larger bioretention basins may be located at outfalls of a drainage system (e.g. in the base of retarding basins) to provide 'end-of-pipe' treatment to runoff from larger subcatchments where 'at source' applications may not be feasible. Large size bioretention basins need to consider the delivery of runoff into the basin to avoid scour and to ensure even distribution over the full surface area of the filter media.

A wide range of vegetation can be used within bioretention basins, allowing them to be easily integrated into the landscape theme of an area. Vegetation that grows in the filter media of bioretention basins is an integral component of these treatment devices. Both the vegetation and the filter media have functional roles in stormwater treatment and it is the intrinsic relationship between the two that ensures the long term functional performance of the system. They are however, sensitive to any materials that may clog the filter medium or damage the vegetation and therefore vehicles, building materials and construction washdown wastes should be kept away from bioretention basins.

7.5 Sand filters

Sand filters operate in a similar manner to bioretention systems with the exception that they have no vegetation growing on their surface. Therefore, they have a reduced stormwater treatment performance due to the absence of a biologically active soil layer typically created around the root zone of vegetation planted in bioretention systems. Sand filters lack vegetation because the filter media does not retain sufficient moisture to support vegetation growth or they are installed underground (therefore light limits vegetation growth).

Prior to entering a sand filter, flows are generally subjected to pretreatment to remove litter, debris and coarse sediments (typically via a sedimentation chamber). Following pretreatment, flows are spread over the sand filtration media and water percolates downwards to perforated pipes located at the base of the sand media. The perforated pipes collect treated water for conveyance downstream. During higher flows, water can pond on the surface of the sand filter increasing the volume of water that can be treated. Very high flows are diverted around sand filters to protect the sand media from scour.

Sand filters are particularly useful in areas where space is a premium and treatment is best achieved underground, such as in high density developments with little to no landscape areas. Due to the absence of vegetation, they require regular maintenance to ensure the surface of the sand filter media remains porous and does not become clogged with accumulated sediments. This typically involves regular routine inspections and tilling or removing any fine sediments that have formed a 'crust' on the surface.

7.6 Rainwater tanks

Rainwater tanks are sealed tanks designed to contain rainwater collected from roofs to provide the following main functions:

a) allow the reuse of collected rainwater as a substitute for mains water supply, for use for toilet flushing, laundry, or garden watering;

b) when designed with additional storage capacity above the overflow, provide some on-site detention, thus reducing peak flows and reducing downstream velocities; and

c) where it may be permissible to use rainwater tanks for internal hot water supply.

The water collected can be reused as a substitute for mains water supply either indoors (toilet flushing and laundry) or outdoors (garden watering).

Rainwater tanks can be either above ground or underground. Above ground tanks can be placed on stands to prevent the need of installing a pump to distribute the water. Such systems are referred to as gravity systems. Pressure systems require a pump and can be either above or below ground tanks. Tanks can be constructed of various materials such as Colorbond™, galvanised iron, polymer or concrete.

Part 8 Definitions

peak discharge means the maximum stormwater discharge associated with at least a 100 year ARI Storm Event, calculated in accordance with *'Australian Rainfall and Runoff'*.

A	Upper	larger trees with deep root systems	*Acacia dealbata, Acacia filicifolia, Casuarina cunninghamiana, Eucalyptus nova anglica, Eucalyptus pauciflora, Eucalyptus Stellulata, Eucalyptus viminalis, Leptospermum brevipes*
B	Middle	medium sized plants with good root systems and larger canopies which shade the stream	Acacia Melanoxylon, *Acacia rubida, Acacia siculiformis, Banksia Integrifolia, Bursaria spinosa, Cassinia quinquefaria, Dillwynia juniperina, Eucalyptus, stellulata, Eucalyptus pauciflora, Grevillia juniperina, Hakea microcarpa, Lomandra longifolia*
C	Toe	low growing, multi-trunked plants with matter roots to bind the toe (best species for erosion control)	Callistemon Sieberi, *Juncus usitatus, Leptospermum polygalifolium, Lomandra longifolia,* Carex Gaudicmaudiana, Schoenoplectus Validas
	Stream	Damp edges	*Carex Gaudicmaudiana, Stellaria angustifolia, Lythrum salicaria, Hemarthria uncinata, Pennisetum alopecuroides*
		Submerged species	*Vallisneria gigantean, Potamogeton crispus, Potamogeton ochreatus, Triglochin procerum*
		Deep-water emergents	*Eleocharis sphacelata, Typha dominghensis, Phragmites australis, Schoenoplectus mucronatus, Typha orientalis, Schoenoplectus validus*
		Shallow water emergents	*Eleocharis acuta, Ranunculus inundatus*
		Floating-leaved species	*Ottelia ovalifolia, Ludwigia peploides*

Armidale Dumaresq Council

Armidale Dumaresq
Development Control Plan 2012

Section 2 Site Analysis and General Controls

Chapter 2.8 Noise

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Part 1 General provisions

1.1 Introduction

This chapter outlines where noise may occur, within and external to a development. Amenity can be impacted upon from a range of noise sources including motor vehicles, aircraft, trains and industrial uses. This may not only be an annoyance, but also have long term health consequences. A variety of mitigation strategies exist to reduce sound levels and sustain the acoustic amenity of an area.

The purpose of this chapter is to define the types of land uses that may generate excessive noise, and to provide information about when an acoustic assessment and mitigation measures may be required.

1.2 Objectives

The objectives of this chapter are:

O.1 To identify and guide design so that excessive noise impacts from noise-generating land uses are identified and appropriate mitigation strategies are applied.

O.2 To ensure noise generating land uses do not unreasonably impact on the amenity of surrounding areas.

1.3 Land to which this chapter applies

This chapter applies to all land in the Armidale Dumaresq local government area.

1.4 Addressing the guidelines of this chapter

The guidelines for managing noise impacts on development are set out in this chapter. These are expressed in the form of objectives which need to be addressed for each development proposal. Alternative approaches may be proposed, provided these adequately address the relevant objectives and comply with legislation.

Part 2 Development controls

2.1 Residential development

Subdivision or development for residential purposes adjoining classified or arterial roads, the airport, and industrial/commercial zones or uses shall include a program of appropriate noise attenuation measures to reduce the impact of traffic or other noise that will potentially affect residential properties.

Noise attenuation measures must be prepared in accordance with Council's Environmental Noise Guidelines. The program shall predict noise levels for a ten year period and any noise attenuation measures shall address these noise levels.

S.1 Noise barriers must be constructed as part of a subdivision where required by an acoustic study.

S.2 Height and/or the materials used in the construction of dwellings are to be defined by the required acoustic study establishing the appropriate noise attenuation measures. Each site identified will require an s88B (*Conveyancing Act 1919*) instrument identifying the noise attenuation measures.

S.3 The maximum facade reflection levels are to be achieved 1.0 metre from the most affected boundaries or other sensitive location, at a height of 1.5 metres above finished floor level.

S.4 Where proposed noise attenuation measures impede on view corridors, it must be

demonstrated how such view corridors can be preserved and still achieve external acoustic criteria (amenity) for residents.

S.5 Habitable rooms of dwellings adjacent to high levels of external noise must be designed to limit internal noise levels to a maximum of 45dBA in accordance with relevant *Australian Standards* for acoustics control, (including *AS3671 - Road Traffic).*

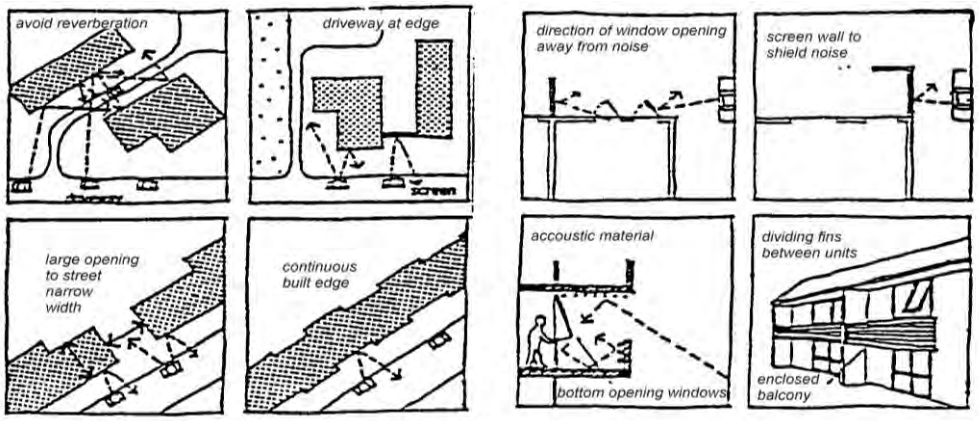
S.6 Architectural treatments are to be designed in accordance with AS3671 - Traffic Noise Intrusion Building Siting and Construction, the indoor sound criteria of AS2107 - Recommended Design Sound Levels and Reverberation Times for Building Interiors. The traffic noise measurement used in conjunction with AS3671 - should be those currently recommended for use by the NSW Office of Environment and Heritage Road Noise Policy.

S.7 The materials proposed for use to mitigate noise shall be guaranteed to provide a minimum of twenty (20) years of life and will be maintained by the landowner for normal wear and tear. Alternatively, other arrangements may be considered for the maintenance of the noise barriers.

S.8 A traffic noise assessment survey and a traffic noise mitigation program (undertaken by a suitably qualified acoustic consultant in accordance with the RMS and OEH measurement methodology), shall accompany the development application.

S.9 Noise attenuation fencing or barriers are preferred to be 1.8m however; additional heights may be acceptable where these are located adjacent to a major road. All attenuation fences or barriers must have appropriate landscaping and water irrigation as approved by Council. Stand alone fencing, i.e. not adjacent to private land shall be of more durable material, e.g. concrete with cast patterns/symbols and painted with anti graffiti coating. An s88B (*Conveyancing Act 1919*) Instrument is to be created where a noise attenuation barrier is adjacent to private land ensuring the integrity of the barrier is maintained by the private landowner.

S.10 Acoustic barriers and other measures shall be augmented by suitable landscape measures (including automated irrigation) to be shown on a detailed landscape plan which shall be submitted to Council with the development application. An indication of the overall height of the acoustic barrier should be given relative to a known point. An acoustic engineer shall endorse the acoustic barrier at construction certificate stage.



Some ideas for achieving acoustic privacy

2.2 Noise from air conditioning units

S.11 An air conditioning condenser or a heat pump installed as part of a development must be located (or provided with appropriate noise attenuation measures) such that its operation is not audible inside any habitable room of any adjoining/nearby dwelling.

2.3 Industrial and commercial development

S.12 Noise from industrial and commercial development must be assessed in accordance with Council's *POL 235 Environmental Noise Guidelines* in Table 1 below to determine if an acoustic assessment is required.

S.13 Electrical, mechanical or hydraulic equipment or plants adjacent to residential premises must not generate a noise level greater than 5dBA above ambient L_{A90} sound level at the property boundary at any time of the day.

2.4 Road and rail traffic noise

Noise from road and rail developments must be assessed in accordance with Council's *POL 235 Environmental Noise Guidelines* in Table 1 below to determine if an acoustic assessment is required. For proposed development near rail corridors, reference to the requirements of 'Development Near Rail Corridors and Busy Roads – Interim Guidelines' prepared by the NSW Government Department of Planning must also be considered as part of any acoustic assessment.

S.14 Traffic noise in residential streets should not exceed 55 dB L_{A10} at the facade of dwellings.

Part 3 Acoustic reporting

Applicants will be required to submit an acoustic report for development where indicated in Table 1 below. This may include:

a) the provision of noise barriers, mounding, landscaping, additional setbacks or a combination of all these measures;

b) architectural treatment of buildings will only be considered where it has been demonstrated that noise barriers or mounding is not reasonable or feasible;

c) the noise attenuation measure will only be approved following a review of its visual impact and the resultant proposals to create quality urban design, e.g. materials and artistic design to minimise graffiti.

Note: The acceptance of such measures will be at Council's discretion and will be considered on a case by case basis. For a list of requirements to be included in the Acoustic Assessment refer to Council's *POL 235 Environmental Noise Guidelines*.

A noise attenuation compliance report / certificate may be required as per Council's *POL 235 Environmental Noise Guidelines* prior to the issue of a final occupation certificate for the development/s.

Part 4 Further Information

Armidale Dumaresq Council, *POL 235 Environmental Noise Guidelines*

Living and Working in Rural Areas Handbook 2007

Protection of the Environment Operations Act 1997

State Environmental Planning Policy (Infrastructure)

Environmental Protection Authority, *NSW Industrial Noise Policy*

Environmental Protection Authority, *Road Noise Policy*

NSW Department of Planning, *Development near Rail Corridors and Busy Roads – Interim Guideline*

NSW Department of Planning and Infrastructure, *Rail infrastructure noise guideline*

Roads and Traffic Authority, *Reducing Traffic Noise – a Guide for Home Owners, Designers and Builders*

AS 3671 Road Traffic Noise Intrusion AS 1055 Acoustics – Description and Measurement of Environmental Noise AS 2107 Acoustics – Recommended design sound levels and reverberation times for building interiors AS 2021 Acoustics – Aircraft Noise Intrusion – Building Siting and Construction

Quick Reference to Acoustic Requirements

Appendix 1

Table 1 Quick Reference to Acoustic Requirements		
Type of Development or Noise Source	**Classification**	**Form of assessment to be submitted with DA**
Industrial, Commercial or Residential		
Industrial	Low Noise Risk	Letter of Certification[1]
	High Noise Risk	Acoustic Report
Commercial	Offices in existing office complexes, shops in existing Shopping Centres	Nil, except as requested by Council
	Low Noise Risk	Letter of Certification[1]
	High Noise Risk	Acoustic Report
Residential	Less than 10 dwellings or main road access	Nil, except as requested by Council
	11 or more dwellings with access via a local road.	Acoustic report
Community Noise		
Air conditioners - Domestic		Nil, except as requested by Council
Amplified Music		Nil, other than Commercial Operations (see above)
Barking Dogs		Nil, other than Commercial Operations (see above)
Birds - Domestic or Caged		Nil, except as requested by Council
Child Care Centres		Nil, other than Commercial Operations (see above)
Churches and Religious Development		Acoustic Report
Community and Multi-Purpose Halls		Acoustic Report
Home Business / Industry	Low Noise Risk	Letter of Certification[1]
	High Noise Risk	Acoustic Report
Lawnmowers		Nil, except as requested by Council
Learn to swim schools on residential premises		Acoustic Report
Schools	Low Noise Risk	Letter of Certification[1]
	High Noise Risk	Acoustic Report
Swimming Pool Pumps		Nil, except as requested by Council
Tennis Courts	Low Noise Risk	Letter of Certification[1]
	High Noise Risk	Acoustic Report
Outdoor Activities		
Open Air Concerts		Nil, except as requested by Council
Recreational Facilities		Acoustic Report
Recreational Vehicles		Acoustic Report
Shooting Ranges		Acoustic Report

[1] *The letter of certification prepared by a suitably qualified acoustic consultant should state that the development will be Low Noise Risk as defined above and that it will comply with the criteria below.*

Low Noise Risk

- The development will only affect the properties immediately adjacent;
- The intrusive noise level (LAeq) clearly exceeds the background (LA90) by less than 5 dBA at any residential boundary or by less than 10 dBA at any commercial boundary; and
- Is not identified in List 1 below.

High Noise Risk

The area affected by the development extends beyond the immediate adjoining properties; or

The intrusive noise level (LAeq) exceeds the background noise level by more than 5 dBA; or

- Is identified in List 1 below.

List 1

- External mechanical plant or any plant or equipment ducted to outside; or
- External forklift operations ; or
- Regular use of powered equipment on site (including handheld power tools, compressors, hoists etc but excluding standard office equipment); or
- Operates beyond Monday-Saturday 7am-6pm; or
- More than one heavy rigid truck delivery/pickup per day where loading / unloading is undertaken outside of any building (ie open yard area); or
- More than six light/medium rigid truck delivery/pickups per day; or
- More than eighteen vehicle movements on site per hour where adjoining premises are noise sensitive (ie residential); or
- External amplified music or PA/paging systems (note that internal systems will still need to comply);or
- More than 7 children receiving care (excludes home based childcare) or for existing centres increase by more than 7 children.

Armidale
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Development Control Plan 2012

Section 2 Site Analysis and General Controls

Chapter 2.9 Parking

Effective 26 June 2013

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Part 1 General Provisions

1.1 Introduction

Our road transport network brings people, goods and services together. Like most locations in regional Australia, our community relies heavily on private cars to move from place to place, with over 88% using this mode of travel to work according to the 2011 census, compared with around 76% for the State as whole. Private car ownership levels in Armidale Dumaresq continue to increase, while public transport patronage remains comparatively low (less than 1% of employees used buses for travel to work in 2011). However cycling and walking are becoming more popular - over 8% of employees in Armidale Dumaresq cycled or walked to work in 2011. These modes of travel are beneficial for health reasons and also contribute to the sustainability of our community.

Effective vehicle parking arrangements for new developments therefore remain important to support most land uses, including access to business premises by clients and customers, as well as for freight and service vehicle movements.

Parking must be sufficient to support the economic viability of a development but not excessive to the point where other modes of travel are discouraged and the appearance of streets is compromised.

Site design needs to ensure adequate access and manoeuvrability is provided to accommodate the maximum sized vehicles normally expected in connection with particular land uses. Obstruction of public roads and pathways is to be avoided, adequate sight distances for motorists, cyclists and pedestrians maintained and noise impacts managed to any adjoining sensitive land uses.

Landscaping can also improve the appearance of parking areas by providing shade and visual interest, while providing a transition from the built environment to the public roads.

1.2 Objectives

The objectives of this chapter are:

O.1 To ensure that adequate provision is made for convenient off-street parking of passenger and service vehicles.

O.2 To recognise and provide solutions where historic deficiencies in parking provision exist.

O.3 To ensure that parking areas are safe, functional and attractively designed and constructed for their expected users.

1.3 Land to which this chapter applies

This chapter applies to all land in the Armidale Dumaresq local government area.

1.4 Types of development to which this chapter applies

This chapter applies to all types of development expected to generate demand for vehicle parking.

1.5 Addressing the guidelines of this chapter

The guidelines for parking are set out in this chapter. These are expressed in the form of objectives that need to be addressed for each development proposal. For each objective (O), 'acceptable solutions' (S) are provided which, if met, will ensure compliance. Alternative approaches may be proposed, provided these adequately address the relevant objectives and comply with legislation.

Part 2 Parking Guidelines

2.1 Off-street parking provisions

Objectives

O.1 To ensure that convenient off-street parking provision is provided that is sufficient for the expected type, volume and turnover of traffic likely to be generated by developments.

This includes:

a) car parking by customers, clients, patients, employees, students, residents, visitors, etc., as appropriate; and

b) parking for other vehicles as appropriate, including motor cycles, scooters and bicycles, as well as expected service and delivery vehicles,

while recognising any historic deficiencies in the provision of parking on individual sites.

S.1 Vehicle parking for the proposed use(s) is provided in accordance with Appendix 1: Parking Provision.

S.2 A development proposal to enlarge or change the use of an existing development provides the total number of parking spaces calculated from Appendix 2, subject to a 'credit' for any existing parking deficiency for that site previously accepted by Council (or existing prior to planning controls) in relation to the requirements in Appendix 1.

Note: see 'worked example', Appendix 2.

S.3 Council may consider* a proposal for off-street parking provision which differs from that required in Appendix 1, or where no standard is provided in Appendix 1, where supported by a traffic impact/parking demand study by a suitably qualified and experienced person, to address the specific circumstances of a development proposal.

*Note: *except where minimum parking requirements are prescribed by State regulations.*

S.4 In CBD locations where safe off-street goods delivery areas may prove difficult to achieve, Council may consider kerbside loading zones or delivery arrangements with time limitations.

2.2 Monetary contributions towards off-street public car parking facilities

Objectives

O.1 To ensure that consideration is given to proposals for monetary contributions towards off-street public car parking facilities, instead of off-street private parking.

S.5 Contributions are levied consistent with a contributions plan or planning agreement adopted by Council.

Note: normally only for non-residential developments in Armidale CBD, where it is not possible to provide sufficient parking off-street.

2.3 Parking provision for vehicle users with special needs

Objectives

O.1 To provide adequate parking provision for vehicle users with special needs.

S.6 Parking for use by people with disabilities is provided as close as practicable to the public entrance(s) to a development.

S.7 Parking must be at the minimum rate required under the current Australian *Disability (Access to Premises – Buildings) Standards*; or the relevant rate in the NSW State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004, whichever is greater.

S.8 For projects likely to be frequented by older persons or people with disabilities, consideration is

given to additional accessible parking spaces and for parking/storage areas for motorised mobility scooters and 'wheelie walkers'.

Note: normally only for non-residential developments in Armidale CBD, where it is not possible to provide sufficient parking off-street.

S.9 For larger retail developments (where required parking for a development is 25 spaces or more), or for other developments where a high level of use is expected by vehicles carrying infants, conveniently located parking is reserved for vehicles driven by parents with children in prams, at 2 per cent of spaces required in Appendix 1, or part thereof.

2.4 Temporary parking facilities for events

Objectives

O.1 To provide for temporary parking facilities that addresses potential excess demand in connection with occasional major events.

S.10 Temporary 'overflow' parking areas may be considered to address parking demands only expected to occur rarely:

a) where there is suitable space available to the development for such parking demands; and

a) where such parking can be provided without compromising public safety or amenity, site functionality and accessibility; and

b) where adequate guidance is provided for users – for example through the use of parking attendants, signage and barriers; and

c) where supported by a traffic impact/parking demand study completed by a suitably qualified and experienced person, to address the particular circumstances of the proposal.

2.5 Vehicle access to and from parking area

Objectives

O.1 To ensure that safe and effective vehicle access arrangements are provided to and from parking areas on development sites.

Terminology Note: 'Classified roads' are defined in the NSW Roads Act and include main roads and highways; 'Council distributor roads' are those roads so defined by Council for the urban area of Armidale. They link neighbourhoods and carry a higher level of traffic. For further advice please consult Council's engineering staff.

S.11 Direct access from a development to a classified road is avoided/not intensified.

Note: such access requires NSW Roads & Maritime Services approval.

S.12 Where possible, direct access from a development to a Council distributor road is avoided/not intensified.

S.13 Vehicles associated with a development, including service vehicles, can effectively manoeuvre and park fully within the development site; and enter and leave the site driving forwards.

Note: for developments requiring three or less car parking spaces and only having access to a minor road, reversing is acceptable.

S.14 Vehicle driveway crossings between a public road and a development site are appropriate for the development and designed:

a) to ensure adequate sight distances for vehicle users and pedestrians, consistent with AS 2890.1 and 2; or the Austroads *'Guide to Traffic Management'* for driveways in rural locations;

a) to avoid conflict with existing vehicle or pedestrian traffic generators;

b) to avoid dominating streetscapes;

c) to maximise kerbside parking and allow for kerbside garbage collection;

d) to allow incoming and outgoing vehicles to pass one another and prevent interference with vehicle movement on adjacent road lanes;

e) to be signposted accordingly where entrances and exits are separated, and so the first driveway reached from the adjacent kerbside lane is the entrance; and

f) to meet Council's engineering requirements.

2.6 Design of parking areas

Objectives

O.1 To ensure that parking areas are designed to be convenient, functional and safe for users.

S.15 Parking is provided on the same site as the development, or on adjoining/nearby land accessible for users which can be consolidated with the development site.

S.16 Except as specifically provided in other chapters of this DCP, parking spaces, especially service vehicle areas, are located behind the building line unless extensively landscaped, and can be readily located by users.

S.17 Parking area design is consistent with the current editions of the *Australian Standard 2890 series (Parking facilities)*, as follows:

- 2890.1 - Off-street car parking;
- 2890.2 - Off-street commercial vehicle facilities;
- 2890.3 - Bicycle parking facilities;
- 2890.5 - On-street parking *(where required to be upgraded or altered as a result of development);*
- 2890.6 - Off-street parking for people with disabilities (see also AS 1428.1).

S.18 Parking spaces for use by parents with prams have minimum dimensions of 5.4 x 3.2 metres, with appropriate pavement marking.

S.19 Parking for motor bikes can occur within car parking spaces (at least two bikes can be parked in a standard car bay), but consideration should be given to reserving bike parking in larger developments and making use of 'leftover' spaces for use by bikes.

S.20 'Stack' or tandem car parking arrangements are not normally included in the assessment of parking provision. However they can be considered:

a) where low vehicle turnover is expected and the spaces can be always under the control of a single person (ie keys are able to be held by a resident occupant/manager); or

b) in vehicle sales or repair premises or in tourist and visitor accommodation, with permanent valet parking arrangements.

S.21 Facilities are provided to assist users, including:

a) individual parking bays clearly demarcated in a highly visible and durable finish, such as pavement line marking or reflective discs;

b) bays for larger projects are numbered or otherwise identified to assist users locate their vehicles;

c) directional signage of coordinated design is provided to assist in locating parking, including pavement arrows to indicate required travel direction;

d) bays are designated where appropriate for loading, visitor use, etc;

e) speed limit signs 'humps' or other traffic calming measures are provided especially where long circulation aisles are required;

f) appropriate cautionary measures and signs/pictograms are provided (eg near pedestrian

activity areas);

g) good illumination (including sensor lighting) and lines of sight are provided within parking facilities, for safe use by both pedestrians and vehicle users outside daylight hours, or where parking is provided indoors.

h) light colour finishes are provided for indoor facilities;

i) CCTV coverage of parking areas not under regular user/public surveillance is considered and places of potential concealment are designed out, to enhance the safety and security of users.

Note: for further details see NSW Police Crime Prevention through Environmental Design /Safer by Design materials

Part 3 Landscaping

Objectives

O.1 To ensure that parking areas are landscaped in order to improve air quality, and provide shade, vertical elements and visual amenity in large, hard surfaced parking areas.

O.2 To maintain a visual buffer to road frontages and neighbouring properties, while still allowing safe visibility and passive surveillance for parking areas.

O.3 To ensure that site landscaping employs appropriate species for the local climate.

O.4 To provide plantings that minimise potential for damage to pavements, property and/or infrastructure.

3.1 Carpark and site landscaping

S.1 Landscaping is provided throughout car parks, in the form of tree planting, understorey plantings, mulch areas, mounded garden beds, and the like.

S.2 Existing trees are retained where possible.

S.3 Different surface finishes and other man-made elements are also considered to increase visual interest (eg to delineate visitor or customer parking or to distinguish parking spaces from manoeuvring and service vehicle areas).

S.4 Except as specifically provided in other chapters of this DCP, a minimum of 2.5m^2 of landscaped area per parking space is provided for parking areas (equivalent to a one metre strip for the width of each parking bay).

S.5 Planting is also encouraged between parking spaces to maximise shade and further enhance the appearance of the car park.

S.6 In multi-storey parking facilities, the use of planter boxes on the external face of parking structures is encouraged. Likewise, exposed retaining walls may be planted with suitable trailing or climbing species.

S.7 Particular attention is given to the landscaping of site perimeters, as follows:

a) on parking areas fronting public roads, garden beds shall be a minimum of three (3) metres wide along the full frontage;

b) adjacent to property boundaries, where the parking area will be visible to neighbours;

c) to allow passive surveillance while avoiding amenity problems such as overshadowing;

d) to avoid any interference with sight lines for traffic or pedestrians on adjacent properties or streets (eg through reduced plant heights adjacent to entry/exit points).

3.2	**Site preparation requirements**
Objectives	
O.1	To ensure that planting and site preparation is planned and undertaken to optimise prospects for the survival and good health of the landscaping once the car park is in use.
S.8	Kerbed planting areas, tree guards and root control barriers are utilised to protect plantings and minimise potential damage to car parks and vehicles.
S.9	Planting areas are prepared by ripping at sub-grade and finished with good quality garden loam to a depth of 300mm.
Note: Where fill has been used, this should be broken up to a depth of 300mm and topped up by good quality garden loam for the upper 50mm of the planting area.	
S.10	Trees and shrubs are planted to horticultural standards and a drip irrigation system installed with one dripper per plant and adequately drained.
S.11	The planted area should be covered with a weed mat and suitable mulch material (eg. pine bark) to a minimum depth of 75mm.
3.3	**Species selection**
Objectives	
O.1	To ensure that species selection is fit for purpose, does not require excessive maintenance, suits the climate and is water efficient.
S.12	Species selection is from plants and trees sourced from local nurseries/suitable for the New England climate.
Note: *Council maintains a list of suitable trees which is regularly reviewed and updated.*	
S.13	Species selection takes into account water requirements and availability.
S.14	Species with large surface/invasive roots or large girth, brittle limbs, fruits which drop or which attract large numbers of birds are avoided.
S.15	Species requiring frequent maintenance are avoided.
S.16	Any planting on public land or land to be dedicated to Council is approved by Council's Civic Recreation Services Unit in accordance with Council's *Urban Streetscape Policy*.
Part 4	**Engineering requirements**
Objectives	
O.1	To ensure that the engineering design and construction of parking areas is functional, durable and appropriate to the intended use, to facilitate their safe, nuisance-free and sustained use.
O.2	To promote water sensitive urban design.
S.1	The surface of vehicle parking and manoeuvring areas is to be constructed with a coarse base of sufficient depth to cater for the amount and weight of traffic generated by the development. The surface shall be sealed with either bitumen, asphaltic concrete, concrete or interlocking pavers.
S.2	In special cases, for example where the car park is remote from other properties and where traffic volumes are low, vehicle movements infrequent or in rural locations, Council may consider the use of consolidated unsealed gravel pavements for car parks where this can be justified.
S.3	Temporary overflow car parks can be on grassed areas, provided the surface has the capacity to withstand major damage, erosion or 'bogging' of vehicles in wet weather.
S.4	Preliminary details of construction materials for access and car parking areas shall be submitted with development applications. Detailed construction certificate plans for parking areas on poor

sub-grade; or involving the use of heavy vehicles; or with more than 25 car parking spaces, shall be prepared by a practising qualified Civil Engineer.

S.5 Vehicle driveway crossings are designed to the specifications shown (plan and profile) on Council drawing numbers 040-4/Issue 2 and 040-3/Issue 3.

S.6 These are to be constructed in standard reinforced concrete, except for parking areas where heavy vehicles are to access the site, or parking areas with more than 25 cars, in which case heavy duty reinforced concrete is to be used.

S.7 Transitional grades are designed to prevent vehicles scraping the crossing surface on entering or leaving the site, and to protect properties below the adjoining road level from stormwater inundation.

Note: Construction of driveways across public road reserves/verges requires the relevant roads authority's approval under the NSW Roads Act 1993.

S.8 All access driveways, manoeuvring areas and parking areas are designed to avoid concentration of water runoff and to avoid nuisance to adjoining property, including public roads and footpaths.

S.9 For paved parking areas greater than 30m^2, concrete kerb and gutter, inlet pits and pipelines connected to an approved drainage system are provided to achieve satisfactory disposal of surface stormwater for minor storm flows.

S.10 Drainage design calculations and drawings for construction certification of paved areas of more than 30m^2 shall be prepared by a practising qualified Civil Engineer.

S.11 Paved areas of less than 30m^2 serving single dwelling houses or duplex flats are permitted to drain directly to the street.

S.12 Detailed civil engineering design and construction for car parking facilities is undertaken in accordance with Council's *Engineering Code.*

Part 5 Large traffic generating developments

Objectives

O.1 To give consideration to the requirements of NSW Roads and Maritime Services in relation to parking for larger 'traffic generating' developments, as defined in SEPP (Infrastructure) 2007.

Note: The development may involve the erection of new premises or the enlargement or extension of existing premises with access to a classified road or to road that connects to classified road, where access is proposed within 90m of the connection, measured along the alignment of the connecting road.

For further details see cl.104 and Schedule 3 of the SEPP.

S.1 A detailed traffic impact/parking demand study is provided with relevant development applications.

S.2 The study is prepared by a suitably qualified and experienced person, in accordance with current NSW Roads and Maritime Services Guidelines, to address the particular circumstances of the proposal.

Part 6 Conservation incentives

Objectives

O.1 To give consideration to reduced off-street parking provision to assist in the conservation of heritage items.

S.1 Council will consider excluding from parking calculations the floor space of a heritage item when determining the total number of parking spaces to be provided on site.

S.2	This will be considered in a similar fashion to clause 5.10 of LEP 2012, which requires conservation incentives to be considered in the context of an approved heritage management document. This will only apply if Council is satisfied that the provisions of Clause 5.10 are met.
S.3	Where applicants seek such consideration, a traffic impact/parking demand study shall be completed by a suitably qualified and experienced person, to address the particular circumstances of the proposal.

Part 7 Definitions

The following definition is found in LEP 2012 Dictionary.

gross floor area means the sum of the floor area of each floor of a building measured from the internal face of external walls, or from the internal face of walls separating the building from any other building, measured at a height of 1.4 metres above the floor, and includes:

a) the area of a mezzanine, and
b) habitable rooms in a basement or an attic, and
c) any shop, auditorium, cinema, and the like, in a basement or attic,

but excludes:

d) any area for common vertical circulation, such as lifts and stairs, and
e) any basement:
    i) storage, and
    ii) vehicular access, loading areas, garbage and services, and
f) plant rooms, lift towers and other areas used exclusively for mechanical services or ducting, and
g) car parking to meet any requirements of the consent authority (including access to that car parking), and
h) any space used for the loading or unloading of goods (including access to it), and
i) terraces and balconies with outer walls less than 1.4 metres high, and
j) voids above a floor at the level of a storey or storey above.

Table 1 Minimum off street car, service vehicle and bicycle parking provision

1.1 Basis of Council's standards

The standards for parking provision are set out in the table which follows, for various types of land uses. These uses are defined in the Dictionary to Council's Local Environmental Plan (LEP 2012).

The standards for car and service vehicle parking have been derived from our previous DCP, local experience, a review of other local government parking codes, as well as the NSW Roads and Maritime Services (formerly RTA) *Guidelines for Traffic Generating Development*. Those Guidelines are currently (2013) under review. Any revised documents on parking demand for different land uses issued by NSW Roads and Maritime Services will be considered further in conjunction with local research, and Table 1 further reviewed in the light of this material at the appropriate time.

The bicycle parking standards in this Appendix have been derived from the former NSW Department of Infrastructure Planning and Natural Resources, *Planning guidelines for walking and cycling* (2004), p.46, and the Austroads publication *Cycling aspects of Austroads guides* (2011), pp139-140.

1.2 Application of the standards

1. The standards are intended as a 'deemed to comply' basis for parking provision for developments commonly undertaken in Armidale Dumaresq. Applicants should consider these standards in preparing and submitting development applications, and work with Council staff in relation to the nature and extent of parking to be provided, having regard to the nature of a particular development and its likely parking requirements.
2. For certain uses, as noted in the table, we require a specific traffic impact/parking demand study to be undertaken by suitably qualified and experienced person.
3. Such studies may be also provided with any development application if an applicant so wishes, to address the specific circumstances of a development proposal. For example, concessions may be sought for uses where practitioners or employees can be are not required to work concurrently. Where an applicant seeks to rely on such circumstances to support an application, certain aspects of the use may then be subject to related conditions of any consent.
4. For some land uses, however, minimum parking requirements are prescribed by State legislation/regulation, including certain types of residential complying development, and development subject of State Environmental Planning Policies or SEPPs. Where relevant, these requirements are referenced in the table below.

1.3 Parking calculations

Some worked examples of parking calculations are provided in Appendix 2.

For example, requirements for separate land uses are to be added together where multiple land uses within a development are proposed to operate at the same time.

1.4 Considering pedestrian arcades in parking calculations

Where pedestrian corridors or arcades are proposed for use by the general public traversing the length of a building, their floor area is normally incorporated within

the gross floor space of the development and generates additional car parking requirements at the applicable rates. Similar arrangements will apply to the ground floor of atrium areas.

However, such spaces may qualify to be exempt from the car parking calculations where an applicant can establish the following:

a) The area will provide a practical pedestrian link between two CBD locations of public interest/activity;

b) That the area will remain open to the general public for an appropriate period daily to serve as an unrestricted functional pedestrian link between these locations;

c) The area will provide an attractive public area, with seating and landscaped features which do not impede pedestrian flow;

d) The floors area will not at any time be utilised for retail, commercial, or like purposed by tenants of the complex or others; and

e) That the applicant accepts a condition of any consent to maintain the area as defined and to open it to the public at specified times as agreed upon with Council.

Except where calculations result in a figure of less than one (which is to be rounded up) all calculations are to be rounded to nearest whole number (ie 0·1 - 0·4 rounded down, 0·5 - 0·9 rounded up).

Land Use as defined in the Dictionary to LEP 2012	Minimum Parking Spaces required	Minimum Service Vehicle Parking Spaces required	Minimum Bicycle Parking required
Note: Where a use is not listed in this table, specific traffic impact/parking demand studies to address the specific circumstances of a development proposal are to be provided by suitably qualified and experienced persons. Aspects of the use may then be subject to conditions of consent.			
Residential accommodation			
dwelling houses (including as complying development)	1 covered car space per dwelling	Normally not required; Developments with long access driveways may need to provide for access by furniture removal vans, garbage collection and emergency vehicles.	Bicycle parking can be provided in connection with individual dwellings. For shared accommodation, such as student colleges, one space is to be provided per 4 rooms and one visitor space per 16 rooms.
secondary dwellings	see SEPP (Affordable Rental Housing) 2009		
dual occupancies	1 covered car space per dwelling		
multi dwelling housing, attached dwellings, semi-detached dwellings and residential flat buildings	1 covered car space per dwelling dwelling/unit plus visitor parking (see Chapter 4.2 Multi-unit housing)		
seniors housing	see SEPP (Housing for Seniors or People with a Disability) 2004		
residential care facilities			
student colleges/halls of residence	1 per 2 resident students + 1 per resident staff + 1 per 2 FTE non-resident staff		
hostels/supportive accommodation	1 per 5 beds + 1 per resident staff + 1 per 2 FTE non-resident staff		
boarding houses	see SEPP (Affordable Rental Housing) 2009		
group homes			
exhibition homes	2 onsite parking spaces external to garage/dwelling parking space(s)		
rural worker's dwellings	1 per dwelling		
caravan parks	see Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005		
manufactured home estates			
moveable dwellings			
shop top housing	dwelling requirement + shop requirement		
Home activities			
home-based child care, home occupations, home industry, home occupation (sex services)	1 covered car space per dwelling		
home businesses, home industries	1 covered car space per dwelling + 1 per 2 non-resident employees	Sufficient for needs of business – kerbside or driveway parking acceptable except for frequent (more than three times daily) deliveries where dedicated space desirable	

Land Use as defined in the Dictionary to LEP 2012	Minimum Parking Spaces required	Minimum Service Vehicle Parking Spaces required	Minimum Bicycle Parking required	
			Staff - Secure parking, lockers and shower required	Customer/Visitor - (Short-term use, parking per AS2890.3)
	Note: GFA = Gross Floor Area as defined in the Dictionary to LEP 2012; FTE = full time equivalent			
Tourist and visitor accommodation				
bed and breakfast accommodation	1 per bedroom + 1 for permanent residents	Sufficient for needs of business – driveway parking with reversing space acceptable except for frequent (more than three times daily) deliveries where dedicated space desirable	Nil	Nil
backpackers' accommodation	1 per 5 beds + 1 per resident staff + 1 per 2 FTE non-resident staff		Equivalent to 10% of beds	Equivalent to 5% beds
caravan parks	see Local Government *(Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005*			
camping grounds				
hotel or motel accommodation, eco tourist facilities	1 per residential unit/room + 1 per resident staff + 1 per 2 FTE non-resident staff; + food & drink premises and/or pub requirement if applicable (not required if access to such areas is only available to residents)	Driveway parking with adequate reversing space acceptable except for frequent (more than three times daily) deliveries where dedicated space desirable; + 1 per 1,000m^2 GFA of public area set aside for food & drink/restaurant uses; premises > 20 rooms to address off-street coach parking	Equivalent to 3% of rooms	Nil
manufactured home estates	see Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005	1 covered car space per dwelling		
moveable dwellings				
serviced apartments	see dwellings/multi dwelling housing as applicable			
Commercial premises *Note: Applications for major commercial developments must be accompanied by a Traffic Impact Study that also makes adequate provision for public transport facilities including taxi parking. All development proposals must be supported by information on the likely type and number of service vehicles anticipated, which should inform parking/loading area design.*				
business premises - including banks, hairdressers, dry cleaners	1 per 40 m² GFA	1 per 4,000m^2 GFA for areas up to 20,000m^2; thereafter, 1 per 8,000m^2 GFA	1 per 200m^2 GFA	1 per 750m^2 GFA, once GFA > 1000m^2
funeral homes (+ cemetery/crematoria)	1 per 40 m² GFA (+ 1 per 3 seats in any chapel)	sufficient for all hearses		
office premises, public administration buildings	1 per 40 m² GFA	see business premises		

Land Use as defined in the Dictionary to LEP 2012	Minimum Parking Spaces required	Minimum Service Vehicle Parking Spaces required	Minimum Bicycle Parking required	
			Staff - Secure parking, lockers and shower required	**Customer/Visitor - (Short-term use, parking per AS2890.3)**
	Note: GFA = Gross Floor Area as defined in the Dictionary to LEP 2012; FTE = full time equivalent			
Retail premises				
shops, including neighbourhood shops	1 per 40 m² GFA + trolley storage areas as required	1 per 400m^2 GFA for the first 2,000m^2 GFA and 1 per 800m^2 GFA thereafter (50% of spaces adequate for trucks).	1 per 300m^2 GFA	1 per 500 m2 GFA, once GFA > 1000m^2
bulky goods premises, hardware and building, rural, wholesale supplies	< 500 m² GFA - 1 per 70 m² GFA >500 m² GFA - 1 per 100 m² GFA	1 per 800m^2 GFA, and based on a traffic/parking study for the specific use	1 per 750m^2 GFA (sales)	nil
cellar door premises	1 per 40m^2 GFA for retail area + food & drink premises and/or pub requirement if applicable	see shops	see shop/food and drink premises	
food and drink premises -pubs	1 per 6m^2 of bar/customer service area (CSA) + food & drink premises required if bistro etc included		1 per 100m^2 CSA	1 per 100m^2 CSA
food and drink premises - restaurants, cafes	in B3 zone: 1 per 40 m² GFA; in other zones: 1 per FTE staff + 1 per 3 customer seats			see shops
food and drink premises -take away	see restaurants/cafes. For drive in facilities, minimum queuing space for 8 cars within facility		see shops	1 per 50 m2 GFA
garden centres	1 per 130m^2 outdoor display area + 1 per 40m^2 GFA for any indoor retail areas		see shops, for any retail floor space	
kiosks, roadside stalls	to be based on a traffic/parking study for the specific use; stalls on classified road frontages to be subject of consultation with RMS			
plant nurseries, landscape material supplies, timber yards	1 per FTE staff + garden centre rate for any public display or retail areas	1 per 800m^2 GFA, and based on a traffic/parking study for the specific use	nil (but see bulky goods premises etc for any public display/retail areas)	
markets	1 per 40 m² area occupied by market stalls	sufficient for all stallholders	nil	1 per 10 stalls
vehicle sales or hire premises	1 per vehicle for all sales and hire vehicle parking, + 1 per 130m2 vehicle display area + additional parking for workshop or service facility at service station rate	Adequate to allow regular service vehicles likely to use the premises, including vehicle transporters, to enter, park within and leave the site driving forwards	see bulky goods premises etc	

Land Use as defined in the Dictionary to LEP 2012	Minimum Parking Spaces required	Minimum Service Vehicle Parking Spaces required	Minimum Bicycle Parking required	
			Staff - Secure parking, lockers and shower required)	Customer/Visitor - (Short-term use, parking per AS2890.3)
	Note: GFA = Gross Floor Area as defined in the Dictionary to LEP 2012; FTE = full time equivalent			
Other commercial premises				
amusement centres	see business premises			
animal boarding or training establishments	Low end establishment - 2 parking spaces constructed to an all weather standard High end establishment - 4 parking spaces constructed to an all weather standard	Adequate to allow regular service vehicles likely to use the premises to enter, park within and leave the site driving forwards		
entertainment facilities function centres	1 per FTE employee + 1 per 3 seats (or capacity divided by 3 where no seating) + food & drink premises and/or pub requirement as applicable	Adequate to allow regular service vehicles likely to use the premises to enter, park within and leave the site driving forwards	Equivalent to 5% of FTE staff	Equivalent to 5% of seating/capacity
highway service centres	service station requirement + food & drink premises requirement as applicable	see service stations	nil	
industry retail outlets	1 per 70 m² GFA	see bulky goods premises etc		
registered clubs	see food and drink premises -pubs			
restricted premises	see business premises			
service stations *(note car wash facilities to be the subject of a traffic/parking study for the specific nature of the facility)*	2 per fuel bowser (1 either side) for all fuel sales + 1 for each tyre pressure gauge and gas sales facility + 1 per 40 m² for any retail area + 6 per work bay for any car servicing or repair facility + food & drink premises requirement if customer seating provided	Adequate to allow regular service vehicles likely to use the premises, including fuel tankers, to enter, park within and leave the site driving forwards and avoiding obstruction to the circulation of other vehicles within the complex	see shops	1 per 50 m2 GFA
sex services premises (brothels)	see business premises			
veterinary hospitals	in B zones, see business premises; in other zones, to be based on a traffic/parking study to reflect the specific nature of the practice.			
Educational establishments				
schools	1 per FTE employee + 1 for every ten Year 11 and 12 Students + pick up/set down areas for parents, buses	to be based on a traffic/parking study for the specific use	1 per 5 pupils over year 4	nil

Land Use as defined in the Dictionary to LEP 2012	Minimum Parking Spaces required	Minimum Service Vehicle Parking Spaces required	Minimum Bicycle Parking required	
			Staff - Secure parking, lockers and shower required)	**Customer/Visitor - (Short-term use, parking per AS2890.3)**
	Note: GFA = Gross Floor Area as defined in the Dictionary to LEP 2012; FTE = full time equivalent			
adult/tertiary education, university teaching and learning areas *(see separate standards for other uses including student colleges/halls of residence under 'Residential accommodation')*	1 per FTE employee + 1 for every 5 students not resident on campus		Equivalent to 5% FTE staff + 10% of FTE student numbers	nil
industrial training establishments	see adult/tertiary education			
Health services facilities and other community infrastructure				
health consulting rooms, medical centres	4 for the first practitioner then 1 for each additional practitioner	for consulting rooms - driveway parking with adequate reversing space acceptable except for frequent (more than three times daily) deliveries where dedicated space desirable; for medical centres - to be based on a traffic/parking study for the specific use + space for off street ambulance access	1 per 400m^2 GFA	1 per 200 m2 GFA
hospitals, mortuaries	to be based on a traffic/parking study to reflect the specific nature of the facility, plus reserved space(s) suitable for direct ambulance access		Equivalent to 5-10% of FTE staff	1 per 30 beds/places
information & education facilities (museums)	to be based on a traffic/parking study for the specific use			
Health services facilities and other community infrastructure (continued)				
community facilities, respite day care centres				
child care centres	1 per FTE employee plus pick up/set down area based on size of facility	to be based on a traffic/parking study for the specific use	Equivalent to 5% of FTE staff	Equivalent to 10% of FTE staff
places of public worship	1 per 3 seats (or capacity divided by 3 if no seating) *Note: If church and church hall are situated on the same site, provision need only be made for whichever building generates the higher parking requirement*	to be based on a traffic/parking study for the specific use		Equivalent to 5% of seating/capacity
emergency services facilities	to be based on a traffic/parking study for specific use			

Land Use as defined in the Dictionary to LEP 2012	Minimum Parking Spaces required	Minimum Service Vehicle Parking Spaces required	Minimum Bicycle Parking required	
			Staff - Secure parking, lockers and shower required	Customer/Visitor - (Short-term use, parking per AS2890.3)
	Note: GFA = Gross Floor Area as defined in the Dictionary to LEP 2012; FTE = full time equivalent			
Industries and storage uses *Note: Applications for major industrial or storage developments must be accompanied by a Traffic Impact Study that addresses all parking and service vehicle parking requirements. All development proposals must be supported by information on the likely size and number of service vehicles anticipated, which should inform parking/loading area design.*				
light and general industries	1 per 100m^2 GFA	See note above. 1 per 800m^2 GFA, and thereafter based on a traffic/parking study for the specific use	1 per 1000m^2 GFA	nil
high technology industries	to be based on a traffic/parking study for specific use			
self storage units	1 per FTE employee + sufficient space for standing a car or small rigid truck space adjacent to each unit that will not obstruct the circulation of other vehicles within the complex	See note above. Adequate to allow regular service vehicles likely to use the facility to enter, park within and leave the site driving forwards and avoiding obstruction to the circulation of other vehicles within the complex	nil	
vehicle repair and body repair facilities	6 per service/work bay	Adequate to allow regular service vehicles likely to use the premises, to enter, park within and leave the site driving forwards	1 per 1000m^2 GFA	nil
warehouses	1 per 300m^2 GFA or 1 per FTE employee, whichever is greater	See note above. 1 per 800m^2 GFA, and thereafter based on a traffic/parking study for the specific use	1 per 1000m^2 GFA	nil
depots	to be based on a traffic/parking study for specific use			
Transport and utility infrastructure facilities				
various	to be based on a traffic/parking study for specific use			
Recreation facilities				
Indoor/ Outdoor/Major/Other	to be based on a traffic/parking study for specific use			

Multiple Uses

Where a development contains more than one land use the total parking requirement will be calculated by adding together the number of spaces required for each separate use, as follows:

Proposed Retail and Office and Development with Gross Floor Area of 800m² retail and 450m² offices:	
Car Parking Requirement	
Retail Space 800m²/40m² *Office Space 450m²/40m²*	*= 20 Spaces* *= 11.25 Spaces*
Total Requirement	*= 31.25 Spaces* (or 31 Spaces)*
Service Vehicle Requirement	
Retail Space 800m²/400m² *Office Space 450m²/4000m²*	*= 2 Spaces* *= 0·11 Space*
Total Requirement	*= 2.11 spaces** *or 2 spaces (eg 1 for trucks and 1 for vans)*

Changes of Use

Where a development involves a change of use, the difference between the parking which would have been required for the former use and that required for the new use will determine whether any additional parking will be required.

Council will require the original parking to be maintained as well, unless a 'credit' applies (see below- Parking Credits).

Warehouse Building (600m² Gross Floor Area) to be changed to Industrial Use:	
i) Car Parking formerly required 600m²/300m²	*= 2 Spaces*
ii) Car Parking required for Proposed Use 600m²/100m²	*= 6 Spaces*
iii) Total Additional Requirement = ii) - i)	*= 4 Spaces* *to make a total of 6 spaces*

Note.Service vehicle requirements for warehouses and industrial uses are the same, thus no additional requirement would apply.

Parking 'Credits'

Council recognises that, in certain cases, land uses may have been lawfully established without any off-street parking or with only a proportion of the parking that would now be required for those uses under this chapter.

An estimate of this 'historic deficiency' may be obtained by calculating the relevant car parking requirements under this chapter for the existing lawful development on a site and subtracting any existing off-street parking provision. The resultant figure will then be treated as a 'credit' in any parking calculations which may be required for new development on the site (including changes of use).

Two examples of the use of credits are set out below:

Existing cinema (100 seats) to be extended by a further 50 seats - no off street car parking presently available:	
i) Total Car Parking Required = 150/3 + 1 per FTE staff	*= 50 spaces + 1 per FTE staff*
ii) Credit for existing cinema = 100/3 + I per FTE staff	*= 33 spaces + 1 per FTE staff*
iii) Actual Requirement = i) - ii)	*= 17 spaces + net staff requirement*

Existing retail building of 200m^2 Gross Floor Area with 2 off-street parking spaces - Proposed change of use to Funeral Chapel with 30 seats:	
i) Parking Required = 1 per 3 seats	*= 10 spaces*
ii) Credit for Existing Shop *= (200m^2/40m^2 - 2 existing spaces)*	*= 5-2 = 3 Spaces*
iii) Actual Requirement = i) - ii)	*= 7 spaces*

Armidale
Dumaresq Council

Armidale Dumaresq
Development Control Plan 2012

Section 2 Site Analysis and General Controls

Chapter 2.10 Signage

Effective 26 June 2013

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Table of Contents

Part 1 General provisions

1.1 Introduction

This chapter outlines the provisions for business identification signs, building identification signs and advertising signs. Signage can impact significantly on the visual amenity of an area. The purpose of this chapter is to preserve the existing amenity of streetscapes from the negative visual impacts of signage, particularly on heritage buildings and in heritage conservation areas.

This chapter provides design guidelines to assist developers, advertisers and sign manufacturers in the preparation of proposals for the erection and display of outdoor signs and advertising.

1.2 Objectives

This objectives of this policy are:

O.1 To protect areas and buildings, especially areas of heritage significance or special character, from the adverse impacts of intrusive signage and advertising material.

O.2 To ensure signs are of a type, number, size, scale, character and location appropriate to the host premises and the locale.

O.3 To ensure signs do not create visibility and safety hazards to road users and pedestrians.

1.3 Land to which this policy applies

This chapter applies to land in the Armidale Dumaresq local government area.

1.4 Addressing the guidelines in this chapter

The guidelines for signage are set out in this chapter. These are expressed in the form of objectives which need to be addressed for each development proposal. For each objective, 'acceptable solutions' are provided which, if met, will ensure compliance. Alternative approaches may be proposed, provided these adequately address the relevant objectives and comply with legislation.

1.5 Legislation relevant to this policy

The permissibility of signage is outlined in a number of policies and plans, including:

- *State Environmental Planning Policy 64 – Advertising and Signage (SEPP 64).*
- *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 (Codes SEPP).*
- *State Environmental Planning Policy (Infrastructure) 2007 (in relation to specific infrastructure development).*
- *Armidale Dumaresq Local Environmental Plan 2012 (LEP 2012).*

If there is any inconsistency between a SEPP, the LEP 2012 and this development control plan, the SEPP will take precedence.

Signs erected within, or projecting into or over a public road may also require approval under the provisions of the *Local Government Act 1993* and the *Roads Act 1993*. Signs within road reserves and traffic signs require the approval of the relevant roads authority (either Council or NSW Roads and Maritime Services). Traffic signs on roads are not covered by this chapter.

In addition, the *Summary Offences Act 1988* regulates or prohibits certain content in advertising and business signs.

1.6 State Environmental Planning Policy No 64—Advertising and Signage

Some advertising and signage is subject to specific assessment criteria in SEPP 64, including Schedule 1 of that SEPP. Readers should familiarise themselves with the SEPP.

1.7 Exempt development

Some signage can be erected (or existing signage replaced) as exempt development. The following environmental planning instruments outline the circumstances where signage may be exempt development:

a) *SEPP 64 - Advertising and Signage*.
b) *Codes SEPP 2008*.
c) *Infrastructure SEPP 2007* refers to exempt provisions for signage where signs area erected on behalf of a public authority in connection with a road or road infrastructure facilities, railway facilities and other infrastructure projects.
d) Certain other signs and advertisements are exempt development if they meet the standards outlined in both Part 3 and Schedule 2 – Exempt Development of the LEP 2012.

1.8 Signage where a development application is required

Unless specified as exempt development under a SEPP or LEP 2012, signage requires development consent. Signage should meet the general controls for signage outlined in this chapter, as well as the individual controls for each type of signage.

The Applicant must receive consent for the construction of the sign prior to the sign being erected. In addition, a construction certificate may be required for erection of signs, especially where bracings, large framework and footings are required.

Building Identification Signs and ***Business Identification Signs*** are permissible with consent in the following zones under LEP 2012:

RU1	Primary Production	B5	Business Development
RU4	Rural Small Holdings	B7	Business Park
RU5	Village	IN1	General Industrial
R1	General Residential	IN2	Light Industrial
R2	Low Density Residential	RE1	Public Recreation
R5	Large Lot Residential	RE2	Private Recreation
B2	Local Centre	E3	Environmental Management
B3	Commercial Core	E4	Environmental Living
B4	Mixed Use	SP2	Infrastructure

Advertising Structures are permissible with consent in the following zones under LEP 2012:

RU5	Village	B5	Business Development
B2	Local Centre	B7	Business Park
B3	Commercial Core	IN1	General Industrial
B4	Mixed Use	IN2	Light Industrial

Building identification signs, business identification signs and advertising structures are permissible with consent in 4(a) Industrial zone under Armidale Dumaresq LEP 2008.

Part 2 Types of Advertising Signage requiring approval under SEPP 64

'Advertisements' under SEPP 64 - being signage that does not include building or business identification signs, exempt development or signage on vehicles – are covered by Part 3 of the SEPP. Consideration of the permissibility of advertisements and relevant controls under the provisions of the SEPP is required.

Part 3 General controls for all signage

3.1 General controls for signage

The following general controls apply to all signage. Signage must:

S.1 relate to the lawful use of the building (except for temporary signs or tourist information or directional signs).

S.2 not be detrimental to the character and functioning of the building, and reflect the established character of the area.

S.3 integrate with the colour, scale and appearance of the structure/land on which it is to be erected.

S.4 provide clarity of communication with simple, concise and uncluttered graphics.

S.5 be at least 700mm from kerb or roadway edge of a public road, unless otherwise specified for the particular type of sign.

S.6 be at least 2.6 metres above any public footpath.

S.7 not extend over a window or other opening.

S.8 not obscure significant architectural elements or decorative features of a building.

S.9 not obscure or dominate other existing signs on the same property or adjacent properties.

S.10 not cover mechanical ventilation inlet or outlet vents.

S.11 not project above the top of the wall on which it is displayed (except for certain signs – see 5.13 roof signs in this chapter).

S.12 not be flashing or moving (except for variable message signs) in view of the distraction/annoyance that may be caused and the potential traffic hazard.

S.13 not be internally illuminated, unless the sign is on premises in Zones B2, B3, B4, B5, B7, IN1, or IN2, or on business or industrial premises in zone RU5. Internally illuminated signage on a heritage item or in a heritage conservation area shall not be above awning level.

S.14 not be fixed to trees or light, telephone or power poles.

S.15 not reduce road safety by interfering with the operation of traffic lights or authorised road signs.

S.16 not be attached to parked vehicles directing attention to a nearby business or goods for sale.

S.17 not protrude into the Obstacle Limitation Surface Plan for Armidale Regional Airport.

3.2 Additional controls and guidelines for heritage items and conservation areas

The *LEP 2012* - Schedule 5 has a list of all heritage items and heritage conservation areas in Armidale Dumaresq. The location of heritage items and heritage conservation areas are shown on the LEP 2012 Heritage Map. The heritage conservation areas are also shown on the map in Appendix 1 of this chapter. The following additional provisions and guidelines apply to signage on a Heritage Item or in a Heritage Conservation Area:

S.1 Signs shall be designed so that they fit within the architectural forms of the building, shall not obscure architectural features (including windows and doors, verandahs or balustrades) of the building and/or adjoining buildings and shall not break into the parapet line and be located in

traditional signage areas on the building.

S.1 Existing historic signage shall be retained and conserved, and new signage must not obscure or diminish existing heritage signage.

S.2 Signs on heritage buildings should be in keeping with the age and style of the building.

S.3 Preferred materials for signs are painted timber or metal sheet, or powder coated timber or metal sheet.

S.4 Signage colours are required to compliment heritage colour schemes and fluorescent and/or iridescent paints are not to be used.

S.5 Signs shall be displayed in such a way that they do not damage the heritage fabric of the building in their construction or removal.

S.6 Signage colours are required to compliment heritage colour schemes and fluorescent and/or iridescent paints are not to be used.

S.7 Signs shall be displayed in such a way that they do not damage the heritage fabric of the building in their construction or removal.

S.8 Boxed signs and projecting wall signs shall not be above awning level.

S.9 Flashing, colour change or movement signs are not permitted.

S.10 Roof signage is not permitted.

S.11 A maximum of one (1) under awning sign and one (1) above awning sign are permitted per building, although above awning signs are not encouraged on heritage items or in heritage conservation areas.

Signs on heritage buildings should be in keeping with the age and style of the building. An Art Deco building, for example, should display Art Deco lettering. With the exception of a few special styles like Art Deco, Grotesque (or sans serif) lettering would be suitable for most late nineteenth and early twentieth century styles. Consult the guidelines in Appendix 2 of this DCP or the National Trust booklet *The Conservation Plan: A guide to the preparation of conservation plans for places of European cultural significance, 7th Edition*, JS Kerr, National Trust of Australia (NSW), Sydney, 2013 for further information.

3.3 Signage for new commercial/retail development

Development Applications for new commercial/retail development must indicate proposals for integrated signage on the building or complex i.e., the proposed positioning and dimensions of all future signs must be indicated with the building design plans. Conditions of approval will require future signage of individual premises to conform to the approved integrated signage layout.

3.4 Number of Signs per building

S.1 Signs on premises should not be duplicated, especially at a high level.

S.2 Advertisements above awning level (or more than 3 metres above ground level where no awning exists) should be restricted to one sign on the façade of a building and one sign at 900 to the façade (eg one wall sign and one projecting wall sign).

S.3 Separate allowances will be made for buildings with more than one frontage, or sites with more than one building, according to the circumstances of each case.

S.4 Proposals for multiple advertisements on sites or site frontages where no building exists will be assessed on merit. The length of frontage, the nature of the locality and any existing advertising in the vicinity will be considered in the assessment.

S.5 Where a number of different signs on a single property are proposed, or where a large building complex is involved accommodating a number of independent firms or functions (eg

shopping centres, factory units etc), signs must be of uniform or complementary style and character. In the case of new development of this type, a comprehensive sign package should be submitted to Council for approval.

S.6 Composite signs should be used where possible to minimise clutter.

3.5 Signage on Bed and Breakfast Establishments

S.1 For bed and breakfast establishments requiring development consent, the building/business identification signage must:

a) meet the general standards for signage;
b) have a maximum of one sign per property;
c) have a display area of not more than $0.3m^2$
d) must be contained within the property that is being advertised.

3.6 Signage on Brothels and Restricted premises

S.1 Signage for brothels and restricted premises shall:

a) be limited to one building or business identification sign not exceeding 1 metre x 0.3 metres in size.
b) not interfere with the amenity of the neighbourhood as a result of its content, illumination, size or shape.

Part 4 Types of Signage (in alphabetical order)

4.1 'A' Frame Signs

An 'A Frame' or sandwich board sign is a type of free standing advertising sign.

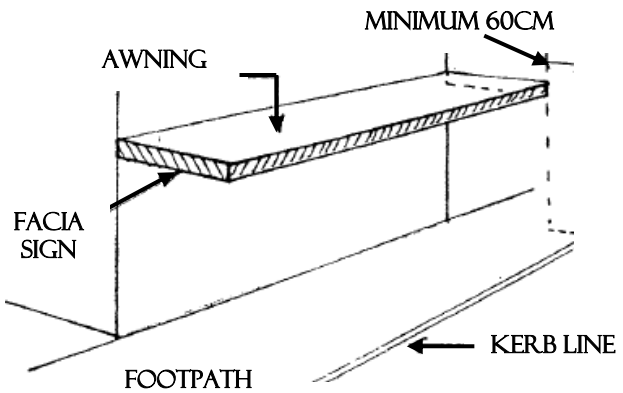
S.1 Where consent is required for placing a free standing sign on a public footpath or the Beardy Street Mall, between Faulkner and Dangar Streets, Council will take into consideration *Part 2 – Approval Criteria* and *Part 3 – Other Matters relating to Approval* of POL180 Regulatory: Armidale Dumaresq Local Approvals Policy Street Trading Activities.

4.2 Awning Fascia Sign

An awning fascia sign is a sign that is attached to the fascia or return end of an awning.

S.2 An awning fascia sign must:

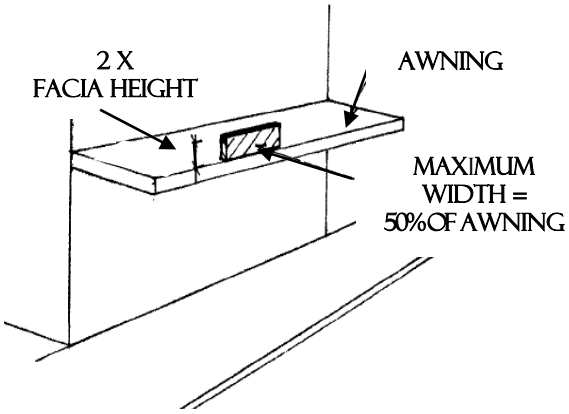
a) meet the general controls for signage;
b) not project above or below the fascia or return end of the awning;
c) not extend more than 30mm from the fascia or return end of the awning;
d) not extend or project beyond a point 60cm within the vertical projection of the kerb line.



4.3 Awning Sign (above an awning)

S.3 A sign above an awning must:

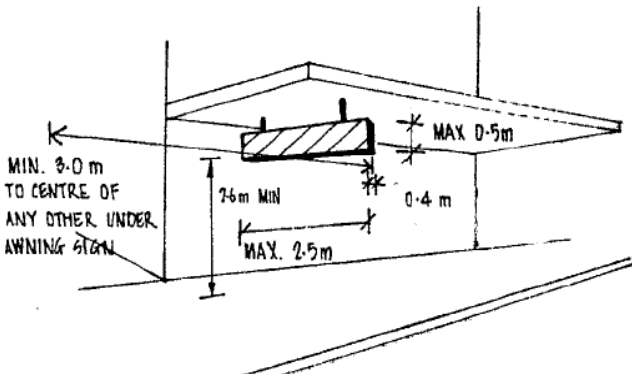
a) meet the general controls for signage;
b) be parallel to the fascia or return end of the awning;
c) not project beyond any edge of the awning;
d) maximum width = 50% of length of awning;
e) maximum height = no more than twice the fascia height.



4.4 Awning Sign (below an awning)

S.4 A sign below an awning must:

a) meet the general controls for signage;
b) be horizontal to the ground and a minimum of 2.6m above the ground;
c) not project beyond the edge of any awning;
d) not exceed 2.6m in length;
e) have a maximum area of 1.5m^2 per side;
f) be erected at right angles to the building; and
g) the centre of the sign to be at least 3.0m from the centre of any other under awning sign.



4.5 Directory Board Signs

A directory board sign is a sign that contains information about the businesses in a specific area.

S.5 In commercial arcades, signage at the street frontage should be restricted to signs relating to businesses with frontage to that street, and a tenants' directory board and a building identification sign for the arcade itself.

S.6 Directory boards should not contain advertising signage, however, may contain the logo and colours relating to that business franchise.

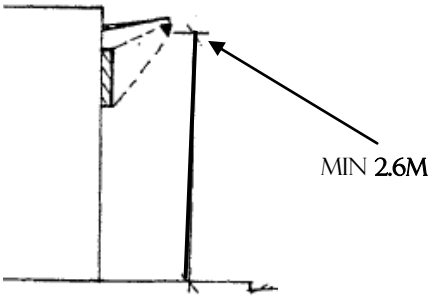
S.7 See specifications under the type of sign that relates to the size and design of your directory board sign.

4.6 Floodlit Signs

A floodlit sign is a sign illuminated in whole, or in part, by an external source of artificial light and whether or not included in any other class of advertising structure.

S.8 The light structure for a floodlit sign must be a minimum of 2.6m above the ground or over a public road.

Note: It is recommended that internally illuminated signs are used in preference to floodlit signs to reduce the need for floodlighting structures, and to minimize light dispersion to surrounding property.



4.7 Glass Window Shop Signs (signs displayed behind the glass)

S.9 Signs behind the glass line of a shop window may be exempt development under the provisions of Schedule 2 of the *LEP 2012*. Where development consent is required, consideration of the general controls in this chapter is required.

4.8 Moving Signs

Moving signs are a sign where all or part of that a sign or related advertising structure is designed to be in continuous intermittent motion.

S.10 Moving signs will not normally be considered as appropriate in any location because of concerns for public safety, visual amenity and traffic safety arising from such signage. However, where an application is made, proposals for such signage must demonstrate in detail and that no safety and amenity issues will arise from the erection of such a sign.

4.9 Pole or Pylon Sign

A pole or pylon sign includes a sign erected on a pylon or pole independent of any building or other structure.

S.11 A pole or pylon sign must:

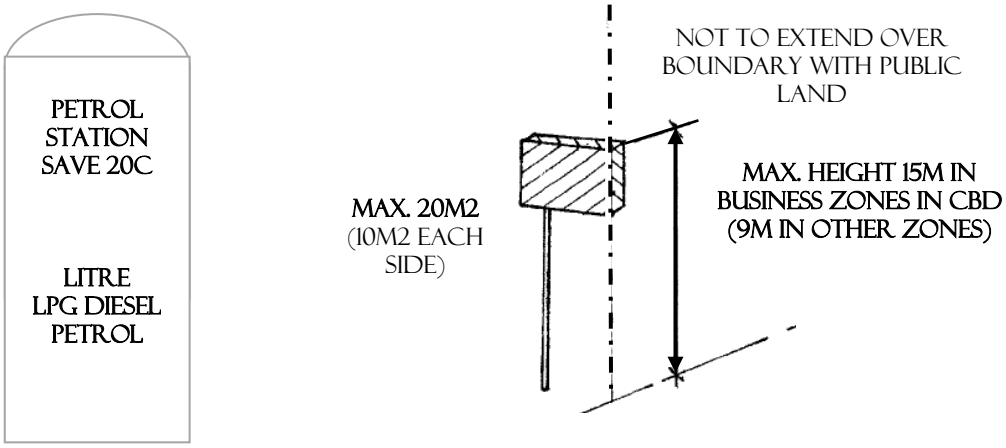
a) meet the general controls for signage;
b) not project over any road alignment;
c) have a maximum advertising area of $20m^2$ (ie $10m^2$ per side for a double-sided sign);
d) have a maximum height above ground of 15m in B3 and B4 zones in Armidale Central Business District and 9m elsewhere.

S.12 For solid signage, a sign must:

e) meet the general controls for signage;
f) have a maximum height above ground to the top of the sign of 8m;
g) have a maximum width of 2.5m.

See diagrams of pole and pylon signs on the following page.

Pole or Pylon Sign diagram



4.10 Projecting Wall Sign

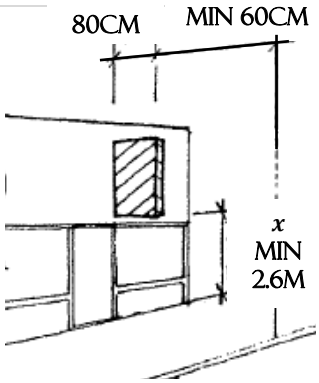
A projecting wall sign is a sign that projects at right angles to the wall of the building to which it is attached (see diagram below).

S.13 A projecting wall sign must:

a) meet the general controls for signage;
b) not project above the wall to which it is attached;
c) be at right angles to the wall of the building to which it is attached;
d) not project or extend beyond a point 70cm within the vertical projection of the kerb line;
e) maximum advertising area to be three times the distance (to the nearest whole metre) between the lowest part of the sign and the ground;
f) where advertisements appear on three faces of the sign, the front face is to be parallel to the building alignment and not exceed in width one-third of the maximum allowable projection of the sign as determined in accordance with the table below.

Height of lowest part of sign above ground	Maximum allowable projection
2.6 m - 3.7 m	80 cm
3.7 m - 4.6 m	90 cm
4.6 m - 5.5 m	1.2 m
Exceeding 5.5 m	1.5 m

MAX AREA BOTH SIDES (3 X x) M²
(x TAKEN TO NEAREST WHOLE NUMBER)
IE. x = 2.6M
THE MAXIMUM ADVERTISING AREA = 9M²



4.11 Public Notice Signs

A public notice sign is a sign displayed by a public authority.

Public notice signs may be exempt development under the provisions of Schedule 2 of the *LEP 2012*. Where development consent is required, consideration of the general controls in this chapter is required.

4.12 Real Estate Signs

A real estate sign indicates that the property where it is displayed is for sale, lease or rent, or has been sold or let.

Real estate signs may be exempt development under the provisions of Schedule 2 of the *LEP 2012*. Where development consent is required, consideration of the general controls in this chapter is required.

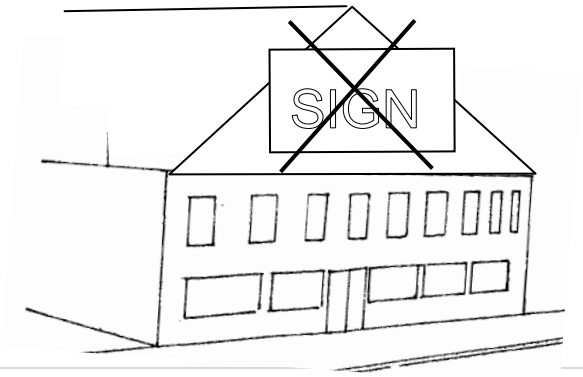
S.14 A real estate sign must be displayed in accordance with the Real Estate Institute of New South Wales Code of Ethics, Rules of Practice and Policies.

4.13 Roof Signs

A roof sign is a sign that is erected on or above the parapet or eaves of a building.

S.15 A roof sign must:

a) meet the general controls for signage;
b) be designed to integrate with an existing roof structure (eg placed on an existing façade – see Figure below);
c) be flush with the roof, façade or parapet to which it is attached;
d) not extend laterally beyond or above the roof, façade or parapet of the building to which it is attached/displayed, except in the 4(a) Industrial zone under LEP 2008, and only where a development application is submitted for a change of use or for a change to an existing sign due to a tenancy change. In this case, a 'roof sign' may extend beyond the top of the façade or parapet to which it is affixed by up to 20% of the display area of the sign.



4.14 Temporary Signs for Events

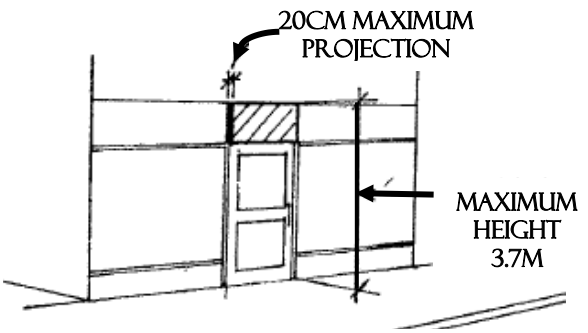
A temporary event sign announces a special event, such as a local festival, fair or celebration, or a venue for an exhibition or demonstration, to any temporary matter in conjunction with such an event. A temporary event sign may include overhead banners and bunting.

Temporary event signs may be exempt development under the provisions of Schedule 2 of the *LEP 2012*.

S.16 Where development consent is required, consideration should be given to the relevant general controls in this chapter.

4.15 Top Hamper Sign

A top hamper sign is a sign attached to the transom of a doorway or display window of a building.



S.17 A top hamper sign must:

a) meet the general controls for signage;
b) not extend more than 20cm beyond the face of the building;
c) not extend below the level of the head of the doorway or window to which it is attached;
d) no part of the sign is to extend more than 3.7m above the ground.

4.16 Tourist Information, Place Name or Directional Signs

Tourist information, place name or directional signs are signs that direct the public to tourist attractions and places in the locality.

Some tourist information or directional signs may be erected as Exempt Development under the provisions of Schedule 2 of the *LEP 2012*. If your proposed sign does not meet the exempt standards, the following provisions must be met for development consent.

S.18 The sign must direct the public to tourist attractions or locations in the vicinity of the sign, such as a:

a) town or village;
b) place of historic, scientific, educational or public interest;
c) picnic areas, park or rest area;
d) public building, public utility or essential service;
e) tourist, recreational, sporting, charitable or religious facility or function, including a facility for the motorist, such as a caravan park, camping area, hotel, motel, service station, place of public worship and/or sports club.

S.19 Proposals for signs within a road reserve require the approval of the relevant roads authority. The relevant roads authority is either the Council or the NSW Roads and Maritime Services.

S.20 All signs must be designed and erected to meet relevant road sign standards.

4.17 Variable Message Signs

A variable message sign is where the message design or displayed wording changes at pre-set timing intervals or by any mechanical or electric source of power.

S.21 Variable Message Signs must:

a) the site is located within the B3 Commercial Core and B4 Mixed Use zones in the Armidale Central Business District; and
b) the site is not a heritage item or on a building in a heritage conservation area; and
c) the speed limit of the adjacent road is 50 kph or less; and
d) the proposed sign is not visible from a main road or from other sites where the demand on a driver's concentration is high; and
e) the time to change from one display to a new display is not less than five seconds; and uses any one of the following methods of changing displays (scroll top, scroll bottom, overlay crawl, overlay out, overlay in, sequence, crawl, blanking, wipe down, wipe up, wipe on or barrel roll); and
f) the display will be completely static from first appearance to removal.

4.18 Wall Signage

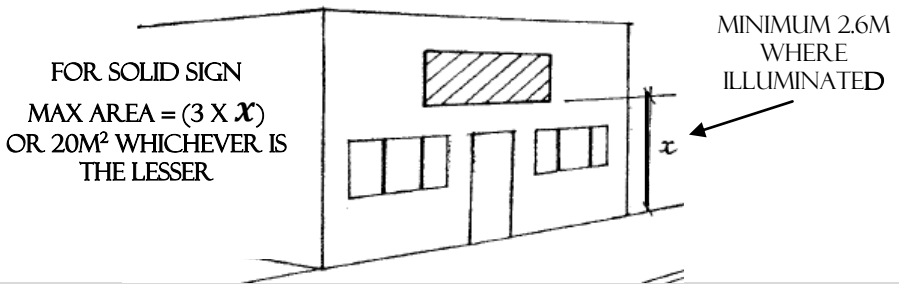
A wall sign is a sign that is painted on or fixed flat to the wall of a building.

S.22 Only one wall sign may be displayed per building elevation.

S.23 A wall sign must:

a) meet the general controls for signage;
b) not project above the top of the wall on which it is attached/displayed;
c) not to extend laterally beyond the wall of the building to which it is attached/displayed
d) If of a 'skeleton letter' type, not to have an advertising area greater than 4.6 times the distance (to the nearest whole metre) below the lowest part of the sign and the ground
e) project no more than 30cm from the wall on which it is attached;
f) have a maximum area of 3 times the distance (to the nearest whole metre) below the lowest part of the sign and the ground (as illustrated below);
g) where the sign is illuminated, not be less than 2.6m above ground.

In this clause, *building elevation* means an elevation of a building as commonly shown on building plans.



Part 5 Construction, Engineering, Maintenance and Removal of Signs

5.1 Footings, Bracing Materials and Construction of Signs

S.24 The erection of any sign must comply with the applicable standards of the Building Code of Australia.

A construction certificate and inspections of the footings, bracing and other structural features may also be required. The development consent conditions will specify where this is required.

Where a site is identified as contaminated and footings are required for the proposed signage, Council should be consulted to give advice about the requirements for managing any contaminated soil and materials that will occur as a result of the soil disturbance.

5.2 Materials and Maintenance of Signs

S.25 All signage should be professionally painted (where applicable) and made of durable, weatherproof materials suitable for outdoor display.

S.26 All owners of signage shall keep the signs and associated structures in good repair, and in a clean and tidy condition.

5.3 Removal of Signs

S.27 When a business ceases trading and vacates the premises signage related to the business should be removed. Such a requirement may be included in a condition of development consent for the signage.

Part 6 Definitions

advertisement means a sign, notice, device or representation in the nature of an advertisement visible from any public place or public reserve or from any navigable water.

advertising display area means, the area of an advertisement or advertising structure used for signage, and includes any borders of, or surrounds to, the advertisement or advertising structure, but does not include safety devices, platforms or lighting devices associated with advertisements or advertising structures.

Note: The advertising display area of an advertising structure that contains advertising on two or more sides is to be calculated separately for each side and is not the sum of the display areas on all sides.

i) in the case of a 'skeleton letter' type sign, the area within which the letters fit, not the area of the individual letters added together
ii) in any other case (eg cylindrical signs) one-third of the total surface area of the advertising structure that is used or is to be used for advertising.

advertising structure means a structure used or to be used principally for the display of an advertisement.

building identification sign means a sign that identifies or names a building and that may include the name of a building the street name, the number of a building, a logo or other symbol but does not include general advertising of products, goods or services.

business identification sign means a sign

a) that indicates:
   i) the name of the person or business; and
   ii) the nature of the business carried on by the person at the premises or place at which the sign is displayed;
b) that may include the address of the premises or place and a logo or other symbol that identifies the business;

but that does not contain any advertising relating to a person who does not carry on business at the premises or place.

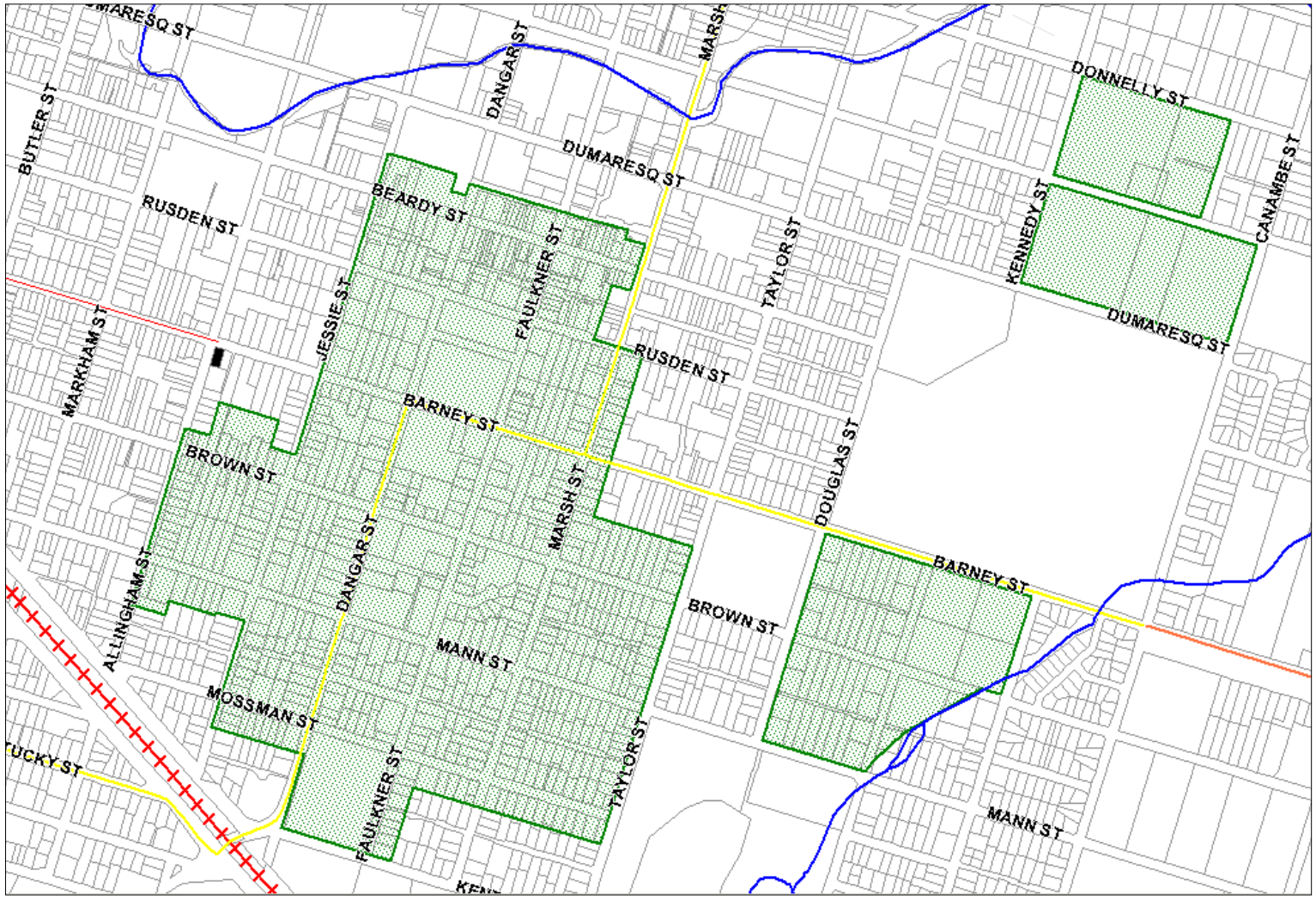
signage means any sign, notice, device, representation or advertisement that advertises or promotes any goods, services or events and any structure or vessel that is principally designed for, or that is used for, the display of signage, and includes any of the following:

c) an advertising structure
d) a building identification sign
e) a business identification sign

but does not include a traffic sign or traffic control facilities.

Armidale Heritage Conservation Areas Map

Appendix 1



Areas of heritage significance

Character

- These areas are sufficiently valued by the community to be worth conserving. Development which enhances their character should be encouraged. Heritage areas may include individual buildings or sites, streetscapes or precincts of architectural, historic, scientific or landscape importance, as well as areas where there is a concentration of a particular use. They may be listed as heritage items – historic buildings, sites or conservation areas in the statutory plan – or designated under other legislation.

Objectives

- Outdoor advertising should be designed and located in a manner which has been identified as significant: protecting and enhanced what is valued about the building or the place.

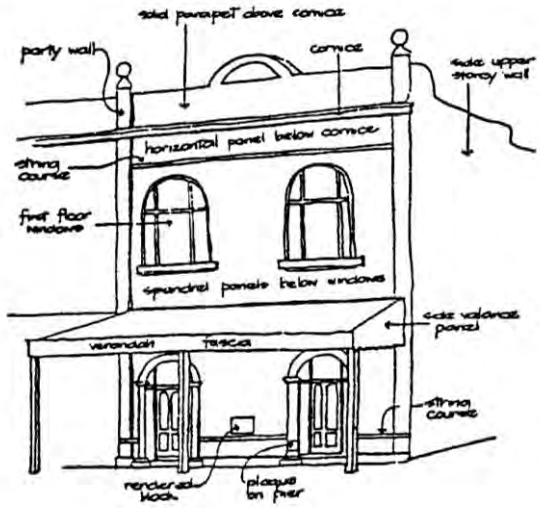


FIGURE 1 IDENTIFYING SIGN PANELS

Appropriate sign opportunities

- Opportunities for advertising, as well as acceptable media used, may be more limited than in other areas.
- Where possible, the planning authority should undertake a heritage or conservation study of its area which should include a visual analysis identifying, among other things, the location character and intrusiveness of existing advertising and preferred location s(and standards) for future advertising. Detailed requirements for placement may be site specific (for example, specific items of environmental heritage).
- Historically, signs were rarely placed on pilasters, architectural moulding or across rustication (incised decorative patterns).They were placed so as to allow the architectural details of buildings to remain prominent.
- Generally, sign panels can be determined by dividing a building up into a grid and identifying locations on:
  - a) a solid parapet above a cornice;
  - b) the horizontal entablature or panel below a cornice;
  - c) verandah (upper or lower ground floor) fascia as well as the possible side valence panel formed by the roof profile;
  - d) spandrels panels below windows;
  - e) ground or first floor windows;
  - f) notice boards or plaques on ground floor piers;
  - g) string courses;
  - h) small signs limited to individual architectural elements such as a rendered block;
  - i) on side upper-storey walls;
  - j) party walls able to be viewed above adjacent buildings;

These locations are shown in Figure 1.

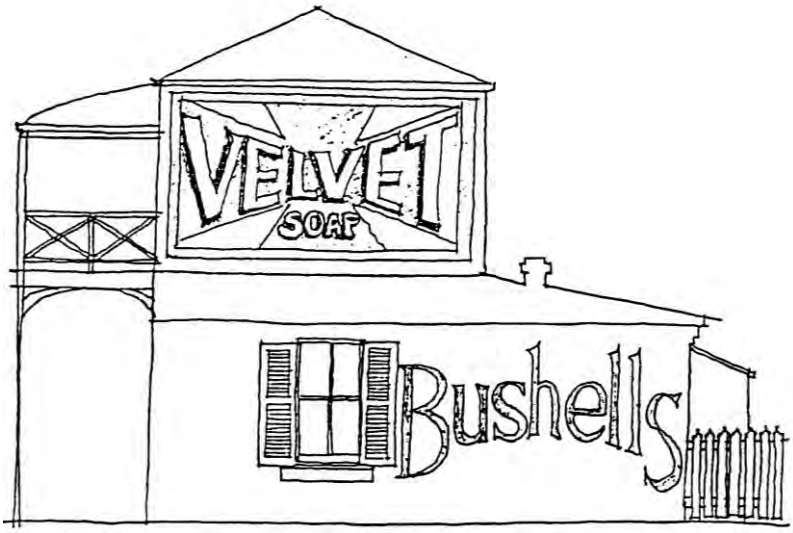
- Modern signs can, at times, be accommodated as follows:
  - a) projecting from a building at first floor window level;
  - b) hanging beneath a verandah roof;

c) projecting from a building without a verandah above the ground floor window head or on a ground or first floor pier;

- It is not usually necessary to attempt to create or recreate an 'historic' character in the advertising, but modern standardised 'trademark' advertising will not usually be appropriate. This is unless the presentation is modified by placing the modern sign in a panel with a perimeter margin and surrounding wall surface printed in sympathetic heritage colours.
- The number of signs should be restricted as follows:

  a) up to three sign locations on a building with a verandah and two on a building without a verandah;

  b) one hanging under-verandah sign per premise
- In general, there are no standard sizes for signs in heritage areas. They may vary according to the design and history of the building or its environment .
- Permanent signs on shop windows should not cover more than 35% of the window area, between the windowsill and door head.
- The verandah-fascia sign should have a maximum height of 175mm with lettering 150mm.
- As the external colours applied in different historic periods varied and were more limited in range than today, it is wise to research appropriate colour ranges for buildings in heritage areas.



- Heritage lettering styles may involve shaded letters, the mixing of sizes and styles of letters and ornamental scrolls as relevant to the period of the building.
- Fluorescent and iridescent paints are inappropriate.

Source: 'Outdoor Advertising - An Urban Design-Based Approach' NSW Department of Planning, 1991.

Armidale
Dumaresq Council

Armidale Dumaresq
Development Control Plan 2012

Section 2 Site Analysis and General Controls

Chapter 2.11 Engineering

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Table of Contents

Part 1 General matters

1.1 Introduction

This is a supplementary chapter that reflects the development controls, diagrams and information in the current Chapter C1 Urban Residential Development and Subdivision Code of DCP 2007 and will apply in the interim period between the commencement of DCP 2012 and the finalisation of the revised Engineering Code. The Engineering Code is currently under revision with an expected effective implementation date in August 2013. On endorsement of the revised Engineering Code, this Chapter will be revoked.

This chapter is to be read in conjunction with all relevant chapters in DCP 2012. All relevant matters relating to the development must be addressed in the development application, the SEE and on site analysis plans and site plans. The site analysis process may highlight the requirement for specialist reports to be undertaken.

1.2 Objectives

The objectives of this chapter are:

O.1 To supplement current engineering guidelines and information for the construction of roads, footpaths, bus routes and cycleways.

1.3 Land to which this chapter applies

This chapter applies to all zones in the local government area:

Part 2 Street Networks

The following street component for each type of street are as specified in *Table 1: Characteristics of Street Types* (Appendix 1).This table identifies the following:

a) carriageway widths;

b) verge widths;

c) parking within street reserve;

d) kerb type;

e) pedestrian cyclist facilities.

2.1 Network structure and linkages

S.1 The street network has a clear structure and component streets conform to their function in the network.

S.2 Streets link with other streets that are no more than two levels higher or lower in the hierarchy.

S.3 The network has clear physical distinctions between each type of street. These distinctions are based on function, legibility, convenience, traffic volumes, vehicle speeds, public safety and amenity.

S.4 The design features of each type of residential street encourage driver behaviour appropriate to the primary function of the street.

S.5 Junctions along residential streets are spaced to create safe and convenient vehicle movements.

S.6 The street network takes account of the topography and vegetation, respects any existing or potential site assets, and takes advantage of opportunities for views.

S.7	The street network takes account of natural drainage and open space systems.
S.8	Streets do not operate as through traffic routes for externally generated traffic.
S.9	Emergency and/or footpath connections are provided into residential area with only one road access and more than 30 allotments.
2.2	**Geometric design**
S.10	The horizontal and vertical alignments satisfy safety criteria and reflect physical land characteristics and major drainage functions. Horizontal and vertical alignment criteria may be satisfied by complying with the following: a) Longitudinal gradients do not exceed 12% in general Curve super elevation does not exceed 5%. b) For downgrades of 5-10% street design should be based on an increase of the maximum speed of 5 km/h. For downgrades >10%, this maximum speed should be increased by 10 km/h. c) Crossfall on street pavement is generally 3%, otherwise 2.5-5%.
S.11	Geometric design for intersections, roundabouts and slow points is consistent with the vehicle speed intended for each street.
S.12	Sufficient area is provided at the head of a cul-de-sac for waste disposal vehicles to make a 3 point turn.
Kerb radii at intersections and junctions are kept to a minimum, subject to:	
	a) satisfying required turning manoeuvres b) keeping pedestrian crossing distances to a minimum c) controlling the speed of vehicles.
S.13	Kerb radii do not exceed 6m, except if required to accommodate turning vehicles.
S.14	Turning vehicles are accommodated using turning templates, to enable the following turns to be made in a single forward movement: a) between collector and access streets, the design heavy rigid vehicle (turning path radius 11m) using any part of the pavement. b) between access streets, the b99 design car (turning path radius 7.5m), using the correct side of the pavement only.
S.15	Siting conditions on land abutting major and minor distributor roads ensure that all vehicles can enter or leave the street in a forward direction.
2.3	**Traffic speed and volume management**
S.16	The street network limits the length of time local drivers need to spend in a low speed environment.
S.17	The street network is designed to reduce traffic speeds and volumes to acceptable levels, with most dwellings fronting streets with low volumes.
S.18	Intersections within the street network are either roundabouts or other appropriate traffic management treatments to slow and control traffic.
2.3.1	**Traffic speed and volume reduction techniques**
S.19	Speed and volume reduction techniques are used to achieve desired speeds, as part of a design for the whole street environment in accordance with Austroads Local Area Traffic Management Guidelines, and include the following principles:

a) street 'leg' length is limited to control vehicle speeds;

b) introducing bends - where bends are introduced to control speeds to 20 km/h or less, the deflection angle in the change of the alignment of a street or pavement is at least the angle determined from *Table 2: Street Leg Length and Design Speed (Appendix 2)*.

c) introducing slow points - where slow points are used to allow speeds greater than 20 km/h, the length of street between two bends or slow points complies with the distances specified in *Table 3: Minimum Deflection Angles for Speed Control to 20 km/h (Appendix 2)*

d) slow points including either horizontal or vertical deflection are designed to slow traffic to design speeds;

e) slow points and carriageway narrowings are designed to take into account the needs of cyclists, by ensuring speed compatibility, adequate space for concurrent passage or off street diversions;

f) landscape design, on street parking and streetscape design are used to complement speed restriction measures;

g) the verge provides safe sight distances, taking into account expected vehicle speeds and pedestrian and cyclist movements.

2.3.2 Speed restriction devices

Where speed reduction devices are part of a design for the total street environment, devices conform to those in *Figure 2: Deflection Angles for Speed Control (Appendix 4).*

S.20 Where speed restriction devices are used in isolation, they include:

a) full horizontal displacement of the vehicle path

b) swept vehicle paths to have a 20m radius

c) constriction on exit rather than on entry (otherwise there is a risk that the device may be short cut)

d) additional pavement treatment behind the kerb for large vehicles

e) line marking and Signposting.

2.3.3 Speed and safe sight distances

S.21 Safe sight distances, based on vehicle travel speeds, exist at property access points, pedestrian and cyclist crossings and at junctions and intersections -see *Figure 3: Street Design and Visibility (Appendix 5).*

S.22 Sight distances at pedestrian and cyclist crossings and at junctions/intersections, and from driveways conform to AS2890 Parking Facilities and and AustRoad Guidelines.

2.3.4 Speed and carriageway width

S.23 The design facilitates safe use by providing a carriageway width which allows vehicles to proceed safely at the operating speed intended for that level of street by:

a) making allowances for restrictions caused by on street parking;

b) providing a horizontal and vertical alignment which is not conducive to excessive speeds;

c) promoting the safety of pedestrians at bus stops and other crossing points;

d) promoting the safety of cyclists in streets and at crossing points.

2.4 Street crossings

Safe street crossings are to be provided for all street users with safe sight distances and adequate pavement markings, warning signs and safety rails (where appropriate for cyclists).

S.24 Where traffic volumes exceed 3000 vpd or speeds exceed 50 km/h, safe crossings are created with the use of pedestrian refuges, slow points, thresholds or other appropriate mechanism.

S.25 Pram and wheelchair crossings are provided at all kerbs and are adequately designed for this purpose as well as assisting sight impaired people.

S.26 Footpaths are constructed to provide a stable surface that is easily maintained. Footpaths are to be constructed using concrete or pavers to the requirements of Council's Engineering Code.

2.5 Verge widths

The verge width is outlined in *Table 1: Characteristics of Street Types* (Appendix 1).

S.27 The verge width may be increased where necessary to allow space for larger scale landscaping, indented parking, future carriageway widening, retaining walls, cycle paths or overland flow paths.

2.6 Street reserve

S.28 The street reserve width is sufficient to cater for all street functions, including:

a) safe and efficient movement of all users;
b) provision for parked vehicles;
c) provision of landscaping;
d) location, construction and maintenance of public utilities.

2.7 On-street parking

S.29 On–street parking is provided in accordance with projected needs which are determined by:

a) the number and size of probable future dwellings;
b) the carparking requirements of likely future residents;
c) availability of public transport;
d) likely future on-site parking provisions;
e) locations of non residential uses such as schools and shops;
f) the occasional need for overflow parking.

S.30 On–street parking is designed and located to:

a) conveniently and safely serve users, including pedestrians, cyclists and vehicles;
b) enable efficient use of car spaces and accessways including adequate manoeuvrability between the street and lots;
c) fit in with any adopted street network and hierarchy objectives, and any related traffic management plans;
d) achieve relevant streetscape objectives.

S.31 One on street parking space is to be provided for every two dwellings. These are to be located against the kerb or in parking bays constructed within the verge, located within 60m of each allotment.

2.8 Driveway access to individual lots

S.32 The carriageway and verge width allows for unobstructed access to individual lots, even when a car is parked on the opposite side of the street.

S.33 Driveway egress movements do not create a safety hazard.

S.34 Lot design enables driveways on major collector streets and streets which carry more than 3000 vpd to be designed to promote forward movement of vehicles across the verge - *Figure 4: Options for Access onto Limited Access Road (Appendix 6)*

2.9 Traffic noise

S.35 Streets and lots are located so that dwellings are not subject to unacceptable levels of traffic noise.

S.36 Traffic noise is assessed under Chapter 2.8 Noise of this DCP 2012.

Part 3 Footpaths and cycleways

3.1 Location

The location of footpaths and cycleways in a street reservation is determined by vehicle speeds and volumes.

S.1 Footpaths are provided on one side of streets with traffic volumes between 300 vpd and 2000 vpd, and on both sides of streets with traffic volumes over 2000 vpd.

S.2 No footpaths are required on streets with a traffic volume <300 vpd as pedestrians can share with vehicles in a low speed environment.

3.2 Design

S.3 The following matters must be addressed in the design of footpaths and cycleways:

a) protection of pedestrians and cyclists from parked vehicles and vehicles moving along the street and on driveways;

b) the impact of the positioning of footpaths and cycleways on postal delivery;

c) lighting;

d) opportunities for casual surveillance;

e) the location of physical services;

f) cross falls;

g) landscaping;

h) whether there is any development fronting that part of the street;

i) the alignment of paths:

i) provides cyclist and pedestrian safety;

ii) is varied to preserve trees and other significant features;

iii) focuses on vistas and landmarks to add visual interest where they exist.

3.3 Construction

S.4 Footpaths or shared paths are designed and constructed of appropriate width, longitudinal gradient and sight distance to cater for the number of projected pedestrians and cyclists, and user types (eg the aged, the very young, people with prams and people with disabilities).

S.5 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.
S.6	A pedestrian (only) footpath, where required, is 1.2 metres wide and has a maximum grade to be no greater than that of adjacent street and preferably under 5%.
S.7	Footpaths are widened to 1.4 metres minimum in the vicinity of meeting points, schools, shops and other activity centres.
S.8	Cycle paths and shared footpaths have widths in accordance with relevant Austroads guidelines.
S.9	Maximum longitudinal gradient of cycle paths to be no greater than that at any adjacent street pavement.
S.10	Construction and on-going maintenance should be designed to be cost effective in the long term.
Part 4	**Bus routes**
4.1	**Bus routes**
Bus routes have a carriageway width that:	
S.1	Allows for the movement of buses unimpeded by parked cars
S.2	Safely accommodates cyclists.
S.3	Avoids cars overtaking parked buses.
S.4	The geometry of streets identified as bus routes provides suitable turning manoeuvres, sight distances, kerb radii at intersections, longitudinal grade, cross-fall and parking for buses (as determined from appropriate design documents), and has maximum carriageway widths within the ranges specified in *Table 1: Characteristics of Street Types (Appendix 1).*
S.5	Bus stops are, or are planned for, 300 m spacings where the route serves residential development. The bus stop bay is to be designed to meet the current relevant AUSTROADS Guidelines and in accordance with Council Policies POL 141 Rural Bus Stops and POL 185 Bus Shelters within the Urban Areas.

Table 1 Characteristics of Street Types

Street Type (7)	Indic. max. traffic vol. (vpd) (1)	Target street speed (km/h)	Carriageway width (metres) (2)	Parking provision within street reserve	Kerb (5)	Foot-path	Cycle-way	Verge width min.(m) each side (6)
Access Place	300	15	6	Carriage-way	Roll-over	Not required	Not required	Total 7m (3)
Access Place: The lowest order of street providing access to sites without any traffic generated by sites in other streets.								
Minor Access Street	1000	30	6	Carriage-way	Roll-over	One side	(8)	Min. 4m each side
Access Street	2000	40	8	Carriage-way	Roll-over or upright	One side	(8)	Min. 4.5m each side
Minor Access Street And Access Street: *Generally streets where the residential environment is dominant, traffic is subservient, speed and volume are low and pedestrian and cyclist movements are facilitated.*								
Local Collector	3000	50 (20 at designated pedestrian/ cycleway crossing) (4)	Site specific design required	Indented to leave 6m min. clear carriage-way	Upright	Both sides	(8)	Min 4.5m each side with adequate road reserve width for widening for future bus route if required
Local Collector: *The collector street collects traffic from access streets and carries higher volumes of traffic. A reasonable level of residential amenity and safety is maintained by restricting traffic volumes and vehicle speeds. Vehicle speeds are controlled by street alignment, intersection design and, in some cases, by speed control measures.*								
Minor or Major Distributor	Site specific design required							
Minor or Major Distributor*: These are the major roads within Armidale. They carry traffic from Regional Roads to the CBD as well as providing links between Regional Roads. They also serve as key routes for local Armidale traffic.* *Major distributors in Armidale include: Barney Street between Markham and Dangar Streets; Beardy Street between Markham and Niagara Streets; Canambe Street between Kentucky and Erskine Streets; Clarks Road/Elm Avenue; Donnelly Street/Queen Elizabeth Drive from the bypass to Marsh Street; Erskine Street; Handel Street; Kentucky Street east of Dangar Street, Link Road; Madgwick Drive; Markham Street; Miller Street; Niagara Street; Rockvale Road; Dumaresq and Rusden Streets between Markham and Marsh Streets.*								

1. *For single allotments apply a traffic generation rate of 10 vpd (vehicle per day). For multi-unit dwellings apply a rate of 6 vpd per dwelling.*
2. *The maximum width within the range needs to be used when bus use is anticipated or when upright kerbs are used. Widening may be required to allow for wider vehicle paths but should not negate the function of bends serving as slow points.*
3. *Typical verge widths of 3.5m each side, with indented parking to within 1.5m of boundary.*
4. *Requires special design and control so that vehicle speeds are reduced progressively.*
5. *Roll-over kerbs are preferred for safety reasons. Upright kerbs may be considered for drainage purposes or in locations where on-street parking should be clearly defined and parking within the verge is not desired.*
6. *Additional width may be required to accommodate cycle path.*
7. *Refer to Council's Policy POL035 – Vehicular Driveway Construction, Maintenance and Location.*
8. *Refer to the Armidale Bicycle Strategy and Action Plan 2012.*

Table 2: Street Leg Length and Design Speed
Table 3: Minimum Deflection Angles for Speed Control to 20 km/h

Appendix 2

Table 2 Street Leg Length and Design Speed*

Street Type	Target Design Speed (km/h)	Maximum Leg Length* Between 20 km/h Slow Points (m)
Minor Access Street	30	75-100
Access Street	40	100-140
Local Collector	50	120-155

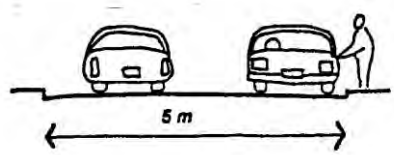
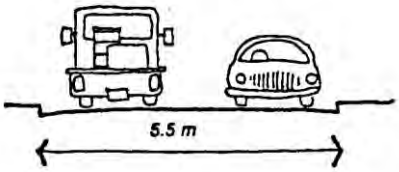
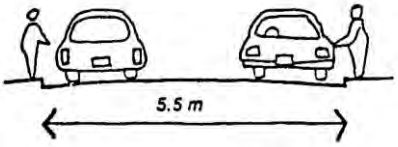
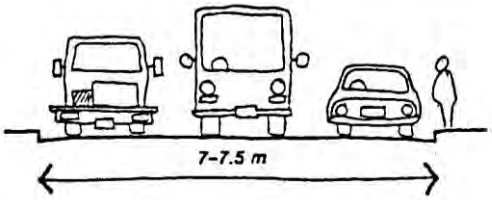
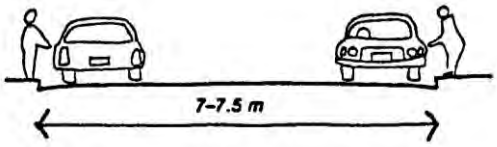
** Leg length is defined as the distance between intersections or junctions, or points and locations where vehicles must slow to a maximum of 20 km/h*

Table 3 Minimum Deflection Angles for Speed Control to 20 km/h

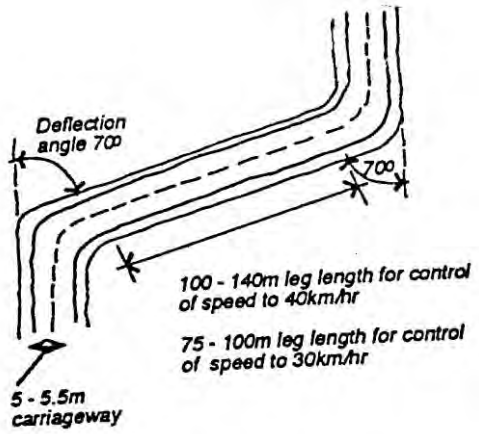
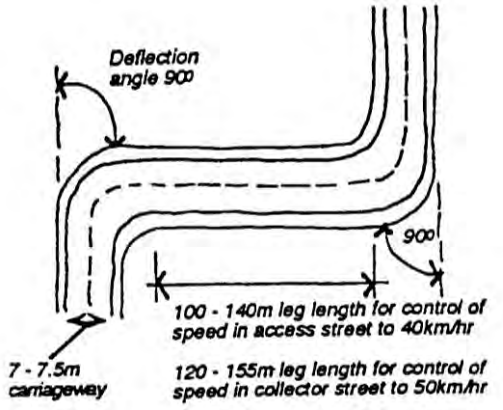
Bend Type	Street Pavement Width (m)*	
	5.0-6.0	7.0-7.5
Single Bend	70°	90°
Chicane (two reverse single bends)	45°-45°	60°-60°

** Wider pavements may be reduced to 3.5m carriageways at bends by use of medians*

1Appendix Carriageway Width Alternatives

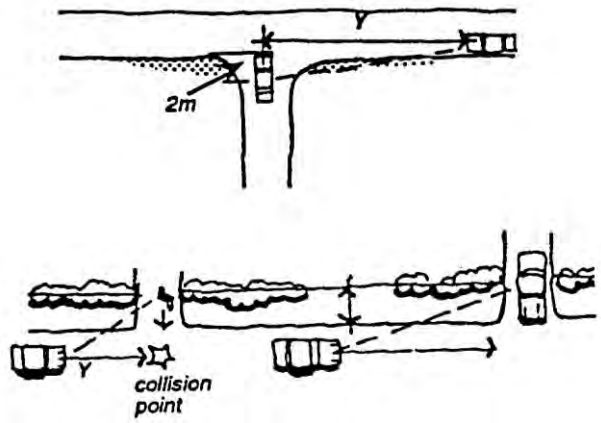
	A 5m wide carriageway allows a car to pass a parked car or a moving car.
 	A 5.5m wide carriageway allows a moving car to pass a truck, but is clearly too narrow for cars to park opposite each other without blocking the street.
 	A 7.0-7.5m wide carriageway is wide enough for two vehicles to pass each other while passing a parked car. It is wide enough for a moving car to pass between two parked cars, but is clearly not wide enough for two moving vehicles to pass at once.

2Appendix Deflection Angles for Speed Control

Access Street

Access Street or Collector Street


3Appendix Street Design and Visibility

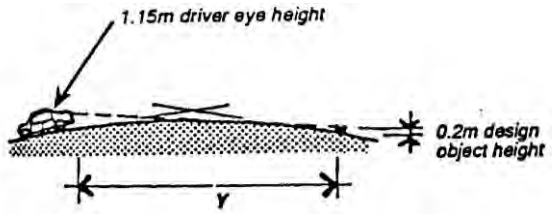
a) Priority Junctions and Driveways



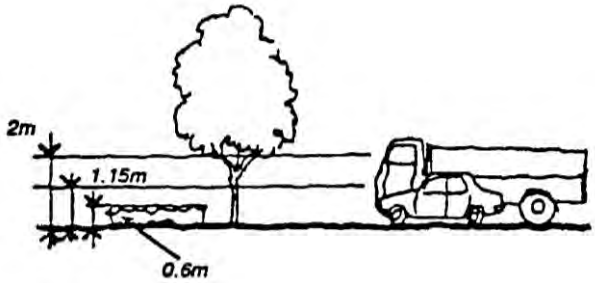
Visibility uninterrupted by fixed objects to be provided over entire shaded area. Hilly terrain may require junctions to be moved onto or well away from crests to satisfy sight distance requirements.

Stopping distance Y is directly related to speed. Increased speed requires increased verge width to improve visibility of people or cars coming out of driveways or at intersections.

b) Vertical Curves



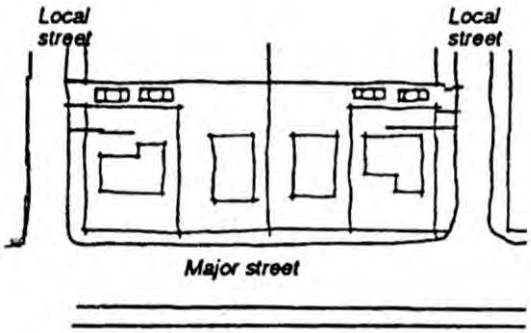
c) Carriageway Edge



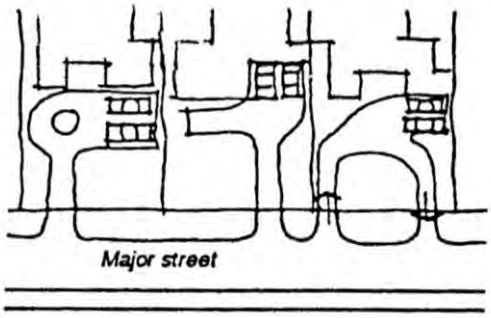
Planting with foliage in the height range of 0.6m to 2m should not restrict the available sight distance to less than Y on streets with frontage access. 1.15m represents the standard driver eye height.

4Appendix Options for Access onto Limited Access Roads

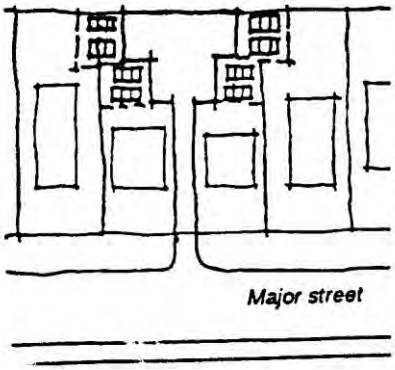
Lots with car access from side street



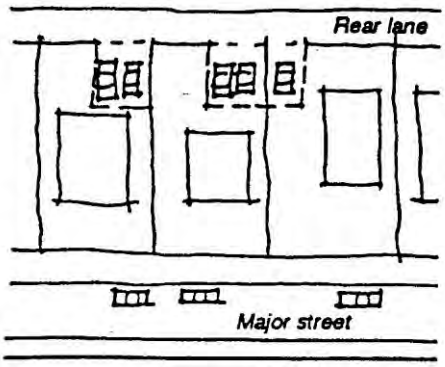
Wide lots allow for large driveways so vehicles can enter and exit forwards



Shared driveways reduce the number of entry points and allow vehicles to enter and exit forwards



Adding a rear lane provides vehicle access for houses fronting a major street.



Armidale
Dumaresq Council

Armidale Dumaresq
Development Control Plan 2012

Section 3 Subdivision Development Controls

Chapter 3.1 Urban Residential Subdivision

Contact Details

Armidale Dumaresq Council

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New South Wales 2350
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Email council@armidale.nsw.gov.au

Table of Contents

Step 1

Is your subdivision Exempt Development?

The *SEPP (Exempt and Complying Development Codes) 2008* allows some minor subdivision and boundary adjustments to be undertaken as exempt development.

Yes

Undertake subdivision under the provisions of *SEPP (Exempt and Complying Development Codes) 2008*

Step 2

Check the zoning of your land and the Lot Size Map (see LEP 2012).

Does your proposed subdivision meet the minimum lot size?

(see Lot Size maps and LEP 2012 Part 4)

No

Read clause 4.6 of LEP 2012 for exceptions to development standards

Yes

Step 3

Read Chapter 2.1 Site Analysis and General Controls
Read this Chapter 3.1 Urban Residential Subdivision

Step 4

Undertake preliminary site analysis and prepare conceptual sketch plans and ideas.
Meet with Council staff for a pre-development application meeting.
Bring concept plans and sketches to this meeting.
Bring your surveyor and/or consultant to this meeting.

Step 5

Consult with your Planning Consultant and/or Registered Surveyor to produce your plans, SEE and other relevant specialist reports using the relevant parts of these Chapters to complete your Development Application.

Step 6

Make an appointment with a Planner to submit completed:

- Development Application form;
- Site Analysis, Engineering and Subdivision plans;
- Statement of Environmental effects (SEE); and
- any relevant specialist reports.

Step 7

Subdivision Application checked by Council, application lodged and fees paid.

Outstanding matters?

Address matters and return to Council.

Note: Common delays in obtaining approval relate to the applicant not meeting relevant requirements or providing insufficient information for Council officers to complete the assessment of applications.

Step 8

Development Application assessed.
Approved: Conditions of Consent issued.
Refused: Applicant advised of refusal.

Step 9

Applicant addresses all Conditions of Consent and makes application to Council for a Construction Certificate.

Step 10

Once the Construction Certificate has been issued and Notice of Commencement given to Council subdivision works may commence. Arrange for relevant inspections by Council's Development Engineers.

Step 11

When construction is complete, application is made to Council for a Subdivision Certificate.

Part 1 General Provisions

1.1 Introduction

This chapter provides information about subdividing urban land in the Armidale Dumaresq local government area.

The purpose of this chapter is to provide guidance to developers on planning and design principles at the subdivision stage of the design process, and to ensure that urban subdivision design maximises site opportunities and provides site layouts that create a safe, functional, energy efficient and attractive places to live.

This chapter is to be read in conjunction with all relevant chapters in Section 2 Site Analysis and General Controls. All relevant matters relating to the development must be addressed in the development application, the SEE and on site analysis plans and site plans. The site analysis process may highlight the requirement for specialist reports to be undertaken.

1.2 Objectives

The objectives of this chapter are:

O.1 To encourage well thought out design at the subdivision stage.

O.2 To ensure consideration of site opportunities and constraints, including layouts that allow future development to maximise solar access to primary living/working areas.

O.3 To ensure that large subdivision design provides for a range and mix of lot sizes and shapes.

O.4 To ensure that the layout design of the subdivision provides for the maximum retention of existing trees and native vegetation.

O.5 To ensure that subdivision design provides for adequate and well designed road, stormwater drainage, and utility infrastructure in a logical position on the land.

O.6 To ensure that street and pedestrian networks provide for safe and efficient travel for vehicles, bicycles and pedestrians.

1.3 Land to which this chapter applies

This chapter applies to the following zones:

R1	General Residential
R2	Low Density Residential
R5	Large Lot Residential

1.4 Addressing the guidelines in this chapter

The guidelines for subdivision are set out in this chapter. These are expressed in the form of objectives that need to be addressed for each development proposal. For each objective (O), ‘acceptable solutions’ (S) are provided which, if met, will ensure compliance. Alternative approaches may be proposed, provided these adequately address the relevant objectives and comply with legislation.

1.5 Developer contributions

Infrastructure contributions will be levied on physical and social infrastructure in accordance with Council’s *Water Supply and Sewerage Development Servicing Plan*; *Section 94 Contributions Plan* and any other adopted Contributions Plan relevant to the site. This contribution may be a financial contribution, dedication of land and/or provision of a material public benefit be made by a

developer to provide for or upgrade public services or facilities for which the development is likely to create a demand. Contributions that apply to development in rural and rural residential zones are outlined in the Council's adopted Contributions Plan and Water Supply and Sewerage Development Servicing Plan.

Depending upon the likely demand for public services or facilities that a development proposal is likely to generate, Council may also require preparation of a specific Contributions Plan or enter into a Planning Agreement with the developer prior to determining a particular development proposal.

Part 2 Lot design, layout and dimensions

Objectives

O.1 To provide a range of lot sizes to suit a mix of housing types and sizes.

O.2 To ensure that lot shape, orientation and dimensions provide for adequate separation between adjoining residential developments for privacy and to maximise solar access for future dwellings.

O.3 To provide for lots of a regular shape for maximum lot yield.

O.4 To ensure that all new lots are provided with adequate frontage to a public road and long, narrow lots and battleaxe lots are avoided.

O.5 To retain and expand areas of natural habitat, and direct development away from environmentally sensitive areas.

O.6 To ensure sites are designed to retain and protect flora, fauna and watercourses.

O.7 To protect natural, cultural and heritage features.

O.8 To take account of topography and slope to minimise the need for cut and fill associated with future dwellings and driveway construction.

O.9 To ensure lots are designed to make adequate provision for utility services.

2.1 Minimum lot size

S.1 Refer Clause 4.1 Minimum Subdivision Lot Size and the relevant Lot Size Maps in *Armidale Dumaresq LEP 2012*.

2.2 Lot layout, orientation and solar access

S.2 The lot layout (orientation, size and dimensions) should facilitate the future siting of dwellings to take advantage of:

a) micro-climatic benefits;

b) on-site solar access and access to breezes;

c) Armidale's climatic conditions; and

d) conservation of non-renewable energy sources.

S.3 All new lots must have a 4 star rating or higher in accordance with Solar Access for Lots - Guidelines for Solar Efficient Residential Subdivision in Armidale (Appendix 1).

S.4 Lot design ensures that each lot:

a) will not be overshadowed by neighbouring houses to the north.

b) can have a sufficiently long north facade to receive winter sun.

S.5 Streets are aligned in a north-south or east-west direction.

S.6 East-West Streets - suitable for small lots, with narrow lots on the north side and wide lots on the south side of the street.

S.7 North-South streets to increase the width of lots.

2.3 Lot dimensions and shapes, and lot ratios

S.8 A new lot created as a result of a subdivision shall be of a regular shape where possible.

S.9 The depth of the lot should not exceed the width of the lot by more than 4:1, unless it can be justified based on the site analysis that there are no viable alternative solutions.

S.10 Wedge shaped lots are to be kept to a minimum, and will generally only be supported at the head of a cul-de-sac.

S.11 Lot size and dimensions should consider the slope of the land and the desirability of minimising earthworks/retaining walls associated with dwelling construction.

2.4 Minimum lot frontage to a public road

LEP Zone	Minimum Public Road Frontage
R1 General Residential	12 metres
R2 Low Density Residential	30 metres
	Wedge shaped lots shall have a minimum width at the front setback of 30m
R5 Large Lot Residential	75 metres; or, the depth of the lot does not exceed the lot frontage width by more than 4:1.
	Wedge shaped lots shall have a minimum width at the front setback of 50m

2.5 Battleaxe lots

S.12 Battleaxe blocks are not permitted in the R1 General Residential, R2 Low Density Residential and R5 Large Lot Residential zones except where it can be demonstrated that no alternative solution is possible.

S.13 Where the creation of a battleaxe block is justified (above) and is acceptable to Council, the minimum width of the driveway handle is to be 4m wide in the R1 zone, and 20m wide in the R2 and R5 zones.

S.14 Where the battleaxe handle is longer that 50m, provision for passing must be made.

S.15 No battleaxe handles are to be directly adjoining.

S.16 Subdivisions creating multiple battleaxe lots will not be allowed.

Part 3 Building envelopes

Objectives

O.1 To ensure that lots created from subdivision of land for residential purposes contain a building envelope free of major environmental and infrastructure/services constraints and have good solar access.

O.2 To ensure that the subdivision layout responds appropriately to the findings of the site analysis.

O.3 To protect existing vegetation and the scenic qualities of the locality.

3.1 Building envelopes

S.1 In urban residential zones, lots must have the appropriate area and dimensions for the siting and construction of a dwelling and ancillary outbuildings, the provision of private open

space, and vehicle access and parking.

S.2 A building envelope must be identified on a lot where there are significant identified site constraints.

S.3 Where a building envelope is identified, it should be positioned to ensure future tree removal is minimised.

S.4 Lots must not have a slope greater than 15%, unless the application is supported by a geotechnical investigation demonstrating that the land is suitable for the erection of a dwelling and its associated infrastructure.

S.5 Lots must be able to provide setbacks from road frontages, side and rear boundaries in accordance with this chapter.

Part 4 Street layout and landscape design

Objectives

O.1 To provide attractive streetscapes and landscapes that reinforce the functions of a street, enhance the amenity of buildings, and are sensitive to the built form, landscape and environmental conditions of the locality.

O.2 To reinforce the attributes of heritage significant streetscapes and landscapes.

O.3 To provide streetscapes that promote safety and casual street surveillance.

O.4 To maximise landscaped areas where appropriate, including the incorporation of existing vegetation where possible and desirable.

4.1 Design of new streets

S.1 New streets should define a street 'theme', or complement existing streetscapes nearby.

S.2 The scale of the street should be relative to both the street reserve width and existing or expected future building bulk.

S.3 Streets should terminate with views that make the most of the special features of a site or enhance its character (such as a park, a stand of mature trees, distant hills, water or significant building).

S.4 Where streets terminate with a view of a house (or other building), the house (but not the garage) should be on axis with the street.

S.5 Street alignments should be straight or gently curved where possible to enable edges (such as street trees and building frontages) to frame vistas.

S.6 Existing neighbourhoods should connect to new developments through connecting street systems.

S.7 Streets must achieve lines of sight specifications for pedestrians, cyclists and vehicles.

S.8 Street design should:

a) provide adequate lighting for pedestrian and vehicle safety.

b) provide attractive and coordinated street furniture and facilities to meet user needs.

c) satisfy maintenance and utility requirements and minimise the visual impact of above ground utilities.

4.2 Design for sloping sites

S.9 Where the land slopes at a grade of 6% or more, the predominant street alignment should be perpendicular to contours.

S.10 Where a lot slopes from one side to the other, the design should reduce or avoid retaining

	walls on side boundaries.
S.11	Avoid street layouts that result in lots being considerably higher or lower than the street level.
4.3	**Street layout and landscape plan**
S.12	A Streetscape/Landscape Plan is required, showing the following: a) the relativity to the natural landscape; b) the street reserve and indicative locations of the carriageway, parking bays, footpaths, cycleway systems, speed control devices and, where practicable, driveways, bus stops, street lighting and substations; c) where identifying features exist (such as views, vistas, existing vegetation and landmarks), and how these key features are used in the design layout; d) the indicative location of existing buildings; e) the location of boundaries and identification of areas of communal open space and specific recreational uses; f) the proposed position, style and height of street lighting; g) the location and species of existing vegetation for proposed removal or conservation; h) the proposed position, species and potential growth height of street trees; i) information on the selection and positioning of species, including solar access requirements, soil types, growth habits, climate adaptability etc.; j) the location and species of other plantings and soft landscape treatments; k) general arrangement of hard landscaping elements including fencing, access points, furniture, pavement style, and treatment of the verge including any associated parking or drainage requirements; l) the location of existing and proposed services; m) major earth cuts, fills and mounding; n) indicative treatment of floodways and drainage lines;
S.13	In areas where desired future urban character has been defined (through a precinct specific development control plan), the street and landscape design must conform to the specifications of that plan.
4.4	**Landscaping for staged development**
For staged development proposals, landscaping is to be completed as far as practicable in the early stages of the development, to ensure establishment in advance of any subsequent building activity. Landscaping is to be adequately protection from potential damage associated with construction activities.	
4.5	**Landscaping in the R5 zone**
S.14	For subdivisions in the R5 zone, screen landscaping is to be provided on the frontage to existing nominated rural roads to integrate the development into the rural landscape. Permanently fenced multiple row plantings of a majority of indigenous New England species must be 10m in width and provided for the full frontage of any lot (excluding driveways) to any of the following roads: a) Kellys Plains Road b) Platform Road

c) Old Gostwyck Road
d) Castledoyle Road
e) Grafton Road
f) Link Road
g) Cluny Road
h) Fittler Road

S.15 Council may also require additional landscaping buffers where a development adjoins agricultural activities on neighbouring property; a rail corridor; or other activities that require separation from residential activities.

4.6 Fences in the R5 zone

S.16 Developers shall provide a stock proof fence to all public road frontages and public open space areas in the R5 zone. To maintain the landscape values and character of the locality, such fencing is not to be metal panel fencing (of any height).

S.17 For staged subdivisions, landscaping and fencing is to be implemented for each stage of the development.

Part 5 Street networks and neighbourhood design

Objectives

O.1 To provide a hierarchy of interconnected streets that gives safe, convenient and clear access, including access for emergency vehicles.

O.2 To ensure that the hierarchy of streets is clearly discernible through variations in carriageway width, on-street parking, street tree planting, and pedestrian amenities.

O.3 To provide a legible and permeable movement network for vehicles, pedestrians and cyclists along streets and paths to points of attraction within and adjoining any development.

O.4 To ensure sufficient carriageway and verge widths are provided to allow streets to perform their designated functions within the street network and to accommodate public utilities and drainage systems.

O.5 To encourage the use of streets by pedestrians and cyclists, and to allow cars, buses and other users to proceed safely, and without unacceptable inconvenience or delay.

O.6 To encourage design that responds to the topographical features of the site.

O.7 To ensure design reinforces desired traffic speed and behaviour.

O.8 To integrate and form linkages with parks, reserves and transport corridors.

5.1 Subdivisions with internal road networks

S.1 All internal road networks and layouts are to comply with the requirements of Council's Engineering Code.

S.2 Emergency and/or footpath connections are to be provided into residential areas with only one road access and with more than 30 allotments.

5.2 Street and common driveway construction

S.3 All pavement construction and kerb and gutter profiles are to comply with the requirements of Council's Engineering Code.

S.4 Street and common driveway pavement surfaces and edges must be designed to be durable enough to carry wheel loads of travelling and parked vehicles; ensure the safe passage of

vehicles, pedestrians and cyclists; contain the discharge of rainfall; and the preservation of all-weather access.

5.3 Signage, street furniture and street lighting

S.5 Signage, street furniture and lighting is to be:

a) designed to reinforce the distinct identity of the development;

b) co-ordinated in design and style;

c) located so as to minimise visual clutter and obstruction of the public domain; and

d) of a colour and construction agreed by Council.

S.6 Locating entry signage and the like within a public road reserve is subject to Council's agreement.

S.7 The location and design of any signage, street furniture and non-standard street lighting is to be indicated on the Landscape Plan and on engineering construction drawings.

S.8 Street lighting, including the frequency and position of required lighting that provides the best outcome for pedestrian and vehicle safety, is to be designed to meet current Australian Standards.

S.9 Applicants must provide written evidence that they have consulted the relevant energy authorities in relation to proposed street lighting.

S.10 The position of any street lighting is to be identified on site plans for the subdivision. The verge must be clearly identified on these plans.

5.4 Street trees

S.11 Street trees are required for all streets. Street tree planting is to:

a) be consistently used to distinguish between public and private spaces and between different classes of street within the street hierarchy;

b) minimise risk to utilities and services;

c) to be positioned and consist of species selected in accordance with *POL 120 Urban Streetscape (Street Vegetation) Policy.*

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

e) provide an attractive landscape character and shade.

S.12 Proposed street tree positioning and species are to be identified on site plans for the subdivision. The verge must be clearly identified on these plans.

5.5 Street naming and lot numbering

Objectives

O.1 To identify roads and individual premises to the public, the relevant authorities, and to emergency and essential services.

S.1 Where there is no existing road name, the application should provide a written proposal together with a plan indicating the location of the place to be named. This should include the names of new road(s).

S.2 Where more than one street exists within a subdivision, consideration should be given to a street naming 'theme' to help create a distinct identity for the area.

S.3 Street names are to be selected from a list in 'POL 071 Policy for Local Place Naming'.

S.4 New street name signs are to be paid for by the developer.

S.5 All occupied properties shall be individually numbered.

S.6 Numbers shall be displayed adjacent to the entrance driveways.

Note: Council is responsible for the allocation of address numbering of lots. Address numbers are allocated at subdivision stage when the location of driveway entrances is determined. At the subdivision stage, property numbering shall be displayed on the street frontage.

Part 6 Vehicle access

Objectives

O.1 To ensure all development has legal and properly constructed access.

O.2 To prevent private access arrangements over adjoining land (rights-of-carriageway) for new lots.

O.3 To ensure that the standard of public roads is sufficient for traffic likely to be generated by a development.

O.4 To minimise future costs to the community associated with road improvement.

O.5 To ensure property access is located with safe sight distances on public roads.

6.1 Access and minimum road standards

S.1 All new lots created by a subdivision must have legal and properly constructed access. Depending on the circumstances, the following options are available for providing access:

a) Public Road as defined under the Roads Act 1993

b) Construction and dedication of a Crown Road as a Council public road.

S.2 Where a road is to be constructed or upgraded it shall be constructed to the minimum road standard as shown in *Tables 1 & 2* (below).

S.3 Each new lot created by a subdivision shall have public road access to the minimum road standard specified in *Tables 1 & 2*.

S.4 In all subdivisions, access to the lots created shall be by way of constructed and dedicated Public Road, as defined under the Roads Act 1993.

S.5 Applicants should consult with Council concerning the need to provide links to adjoining land which is likely to be subdivided in the future and to ascertain whether a provisional road network has been or will be developed for the area.

S.6 In the R1 and R2 zones, the road shall be constructed across the full frontage of the property.

S.7 In the R5 zone, where the subdivision road is likely to be extended in the future to serve other development, the road shall be constructed to a minimum of 20 metres beyond the property access and provided with a temporary turning area.

S.8 Provision of a suitably sited and constructed bus lay-by in accordance with Council's policy POL141-Roads: Rural Bus Stops may be required in association with road works.

S.9 Council may require suitable arrangements to be made for the provision of verge tracks for pedestrians and horse riders to traverse along roadsides clear of vehicular traffic.

S.10 Collector roads within the R5 zone shall accommodate the safe passage of cyclists.

S.11 Where subdivisions will have frontage to an existing Public or Crown Road that is unconstructed or is not maintained by Council, the full cost of upgrading that road to Council's specification is to be borne by the developer.

S.12 Conflict with arterial and distributor roads is to be avoided. Direct access to a classified road will not be permitted where another practical option exists.

S.13 Where the subdivision proposes access to a classified road, the access will require concurrence from the RMS, and must be located and constructed in accordance with the relevant road authority requirements.

S.14 Dedication of a splay corner of minimum dimensions 5 metres x 5 metres will be required to improve and maintain safe sight distance at the intersection of roads associated with the subdivision. A greater splay dimension may be required at the intersection of major roads.

Table 1: Minimum road access standards

All road construction, including driveways, shall comply with the requirements of Council's Engineering Code, and the relevant Australian Standards and Austroads Guidelines.

LEP Zone	Circumstances	Minimum Road Standard
R1 General Residential	All subdivisions	Two lane sealed road with kerb and gutter.
R2 Low Density Residential	All subdivisions	For roads internal to the subdivision: • Two lane sealed road; and • Each lot is to connect to a sealed road.
		For unsealed connecting roads: • Two lane sealed road with gravel shoulder.
		Where a sealed connecting road exists: • Widen road to achieve half road construction to the sealed two lane road standard (see Figure 1 below).
R5 Large Lot Residential	Road will serve a maximum of 5 lots (including existing lots) and is not likely to be extended or to form part of a through road.	Single lane sealed road to nearest two lane sealed road connection.
	All other subdivisions	Two lane sealed road to nearest two lane sealed road connection.

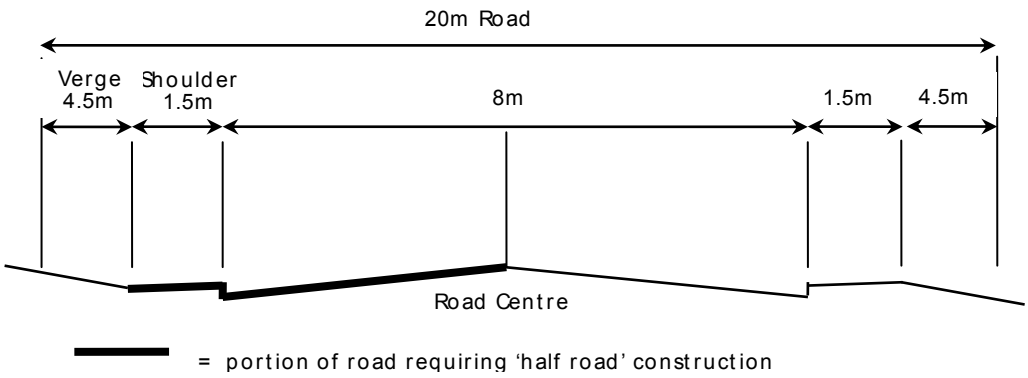


Figure 1 – Half Road Construction for Subdivision in the R2 zone

Table 2: Characteristics of Street Types

Street Type (7)	Indic. max. traffic vol. (vpd) (1)	Target street speed (km/h)	Carriageway width (metres) (2)	Parking provision within street reserve	Kerb (5)	Foot-path	Cycle-way	Verge width min.(m) each side (6)
Access Place	300	15	6	Carriage-way	Roll-over	Not required	Not required	Total 7m (3)
Access Place: The lowest order of street providing access to sites without any traffic generated by sites in other streets.								
Minor Access Street	1000	30	6	Carriage-way	Roll-over	One side	(8)	Min. 4m each side
Access Street	2000	40	8	Carriage-way	Roll-over or upright	One side	(8)	Min. 4.5m each side
Minor Access Street And Access Street: *Generally streets where the residential environment is dominant, traffic is subservient, speed and volume are low and pedestrian and cyclist movements are facilitated.*								
Local Collector	3000	50 (20 at designated pedestrian/ cycleway crossing) (4)	Site specific design required	Indented to leave 6m min. clear carriage-way	Upright	Both sides	(8)	Min 4.5m each side with adequate road reserve width for widening for future bus route if required
Local Collector: *The collector street collects traffic from access streets and carries higher volumes of traffic. A reasonable level of residential amenity and safety is maintained by restricting traffic volumes and vehicle speeds. Vehicle speeds are controlled by street alignment, intersection design and, in some cases, by speed control measures.*								
Minor or Major Distributor	Site specific design required							
Minor or Major Distributor*: These are the major roads within Armidale. They carry traffic from Regional Roads to the CBD as well as providing links between Regional Roads. They also serve as key routes for local Armidale traffic.* *Major distributors in Armidale include: Barney Street between Markham and Dangar Streets; Beardy Street between Markham and Niagara Streets; Canambe Street between Kentucky and Erskine Streets; Clarks Road/Elm Avenue; Donnelly Street/Queen Elizabeth Drive from the bypass to Marsh Street; Erskine Street; Handel Street; Kentucky Street east of Dangar Street, Link Road; Madgwick Drive; Markham Street; Miller Street; Niagara Street; Rockvale Road; Dumaresq and Rusden Streets between Markham and Marsh Streets.*								

1. *For single allotments apply a traffic generation rate of 10 vpd (vehicle per day). For multi-unit dwellings apply a rate of 6 vpd per dwelling.*
2. *The maximum width within the range needs to be used when bus use is anticipated or when upright kerbs are used. Widening may be required to allow for wider vehicle paths but should not negate the function of bends serving as slow points.*
3. *Typical verge widths of 3.5m each side, with indented parking to within 1.5m of boundary.*
4. *Requires special design and control so that vehicle speeds are reduced progressively.*
5. *Roll-over kerbs are preferred for safety reasons. Upright kerbs may be considered for drainage purposes or in locations where on-street parking should be clearly defined and parking within the verge is not desired.*
6. *Additional width may be required to accommodate cycle path.*
7. *Refer to Council's Policy POL035 – Vehicular Driveway Construction, Maintenance and Location.*
8. *Refer to the Armidale Bicycle Strategy and Action Plan 2012.*

6.2	**Right-of-Carriageway**
S.15	Access by right-of-carriageway is not encouraged and will only be permitted in cases where no other practical alternative exists.
S.16	The right-of-carriageway shall only serve one lot or holding and must not be located on a lot containing an existing right-of-carriageway.
S.17	The right-of-carriageway shall have a width of not less than 20 metres.
6.3	**Construction and dedication of a Crown Road as a Council Public Road**
S.18	Where access is proposed via a Crown Road, the road is to be constructed by the developer to Council's specification and dedicated as a Council public road.
S.19	The applicant is to provide written agreement from the responsible authority (currently NSW Crown Lands) for the use of the Crown Road for access.
6.4	**Undedicated roads**
Undedicated roads are roads that are not dedicated as Council or Crown Roads and include Forestry Roads, Rural Lands Protection Board reserves and Ministerial Roads.	
S.20	The applicant is to provide written agreement from the responsible authority for the use of the road for access.
6.5	**Driveways**
S.21	Where the land adjoins an existing sealed public road, the driveway crossover shall be sealed from the road shoulder to the boundary.
S.22	The driveway shall be located so as to minimise earthworks and removal of vegetation/street trees in the road reserve.
S.23	Driveways on collector road and roads that carry more than 3000 vpd must be designed to allow forward movement of vehicles across the verge. Site plans must demonstrate that each lot with a driveway onto such roads have the facility to turn within the lot.
S.24	Direct driveway access to a classified road will not be permitted where another practical option exists.
S.25	Entrances shall be limited to one per lot unless otherwise approved by Council. The relocation of an existing entrance may require the complete removal of the existing entrance.
S.26	Any new driveway on a local road shall have safe intersection sight distance in accordance with the relevant Australian Standards AS 2890 or the *Austroads Guidelines*.
S.27	All driveways must be designed in accordance with Council's Policy POL035 – Vehicular Driveway Construction, Maintenance and Location.
6.6	**Kerb and guttering**
S.28	All kerb and guttering is to be provided as required by *Table 2: Standards for Street Types* (above) and the Engineering Code.

Part 7 Public transport design

Objectives

O.1 To ensure new public transport services link to adjoining areas and other public transport routes (including future routes).

O.2 To provide for ease of movement of buses between developments; and link activity centres within and external to the development.

7.1 Bus routes

S.1 Consultation with Armidale's local bus transport provider and Transport for NSW is required to determine whether a bus service is required.

S.2 Where the size of the subdivision is likely to require bus movements throughout the internal road network, road widths external to and within the subdivision must be designed to cater for potential bus service provision.

S.3 All bus routes are to be designed in accordance with Council's Engineering Code.

S.4 Road networks must be designed to allow buses to access and move through the street network without complicated turning manoeuvres.

S.5 The position of the bus route should ensure at least 90% of dwellings are within 400m safe walking distance from an existing or potential bus route.

7.2 Bus stop location and design

Bus stops must be designed in accordance with Austroads Guidelines and Council Policy *POL185 Bus Shelters within the Urban Areas*.

S.6 Bus stops are, or are planned for, 300 m spacings where the route serves residential development. The bus stop bay is to be designed to meet the current relevant AUSTROADS Guidelines and in accordance with Council Policies POL 141 Rural Bus Stops and POL 185 Bus Shelters within the Urban Areas.

S.7 Bus stops are to be designed to prevent vehicles from overtaking a stationary bus, or vehicle speeds are reduced to ensure safe pedestrian crossing.

S.8 The siting of bus stops should relate to the pedestrian path network.

S.9 Bus stops are to be located and designed to provide shelter, seats, adequate lighting, and timetable information, and to minimise adverse impact on nearby dwellings.

Part 8 Pedestrian and cyclist facilities

Objectives

O.1 To ensure residential street and path design creates safe pedestrian and cyclist routes that connect to adjoining streets, schools, open spaces and activity centres.

O.2 To ensure that footpaths and cycle routes meet the needs of the primary users (ie. children, parents with prams, people with disabilities, aged pedestrians and cyclists, and commuter and recreational cyclists.

8.1 Planning and design

S.1 All new bicycle facilities, including shared pedestrian/cyclist paths, on-road bicycle routes and bicycle parking facilities must be incorporated into street network plans in accordance with the *Armidale Dumaresq Bicycle Strategy and Action Plan 2012,* Council's Engineering Code and the relevant Australian Standards.

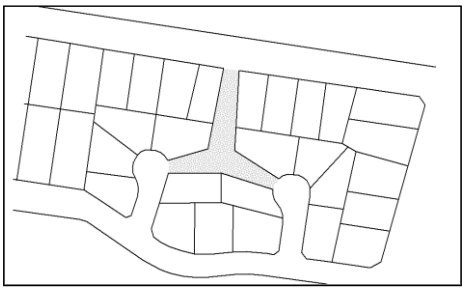
S.2 For details on technical design and construction of bicycle and pedestrian paths, please refer to Council's Engineering Code and the relevant Australian Standards and Austroads Guidelines.

S.3 Pedestrian and cyclist paths are to be constructed to meet contemporary engineering standards (ie. be designed and constructed of appropriate width, longitudinal gradient and sight distance to cater for the number of projected pedestrians and cyclists, and user types). Design must take into account the topography, safe street crossings, adequate markings, warning signs, safety rails and lighting.

S.4 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 add visual interest where they exist.

8.2 Inter-allotment access

S.5 Pedestrian links between streets, or connecting to open space areas or cycleways must provide an all-weather footpath and sufficient land either side for landscaping, with a minimum width of 5 metres.



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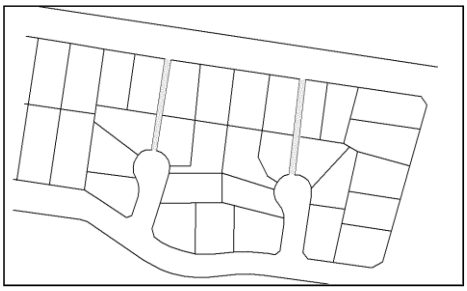
Inter-allotment pedestrian/cycle access allowing for path and landscaping



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Inter-allotment with narrow pathway and no opportunity for landscaping

Figure 2 – Examples of effective Inter-allotment drainage designs

Note: The *Armidale Dumaresq Bicycle Strategy and Action Plan 2012* provides a strategic planning framework for the development of a quality environment for all types of bicycle riding. Proposals to construct new facilities that are not currently included within the plan will be assessed on their merits.

Part 9 Public open space

Objectives

O.1 To provide public open space/parkland for outdoor recreational and social activities.

O.2 To landscape public open space so that it contributes to the visual amenity, usability and environmental health of the neighbourhood.

O.3 To provide grassed and soft landscaped areas for absorption of stormwater.

S.1 Public open space/parkland or contributions for such must be provided in accordance with Council's Development Contributions Plan.

S.2 For subdivisions of 20 or more lots, public open space provisions must be made.

S.3 Where dedication of land for public open space/parkland is required, a Site/Landscape Plan must be submitted that addresses:

a) street reserves, carriageways, parking bays, footpaths, cycleways and street and park

lighting on or adjacent to the proposed dedicated site;

b) existing vegetation and proposed general character of tree planting and landscaping (including proposed species);

c) existing rare or significant vegetation, natural habitats and features (eg creeks) which are to be retained, enhances or otherwise affected;

d) general arrangement of hard landscaping elements and major earth cuts, fills and mounding;

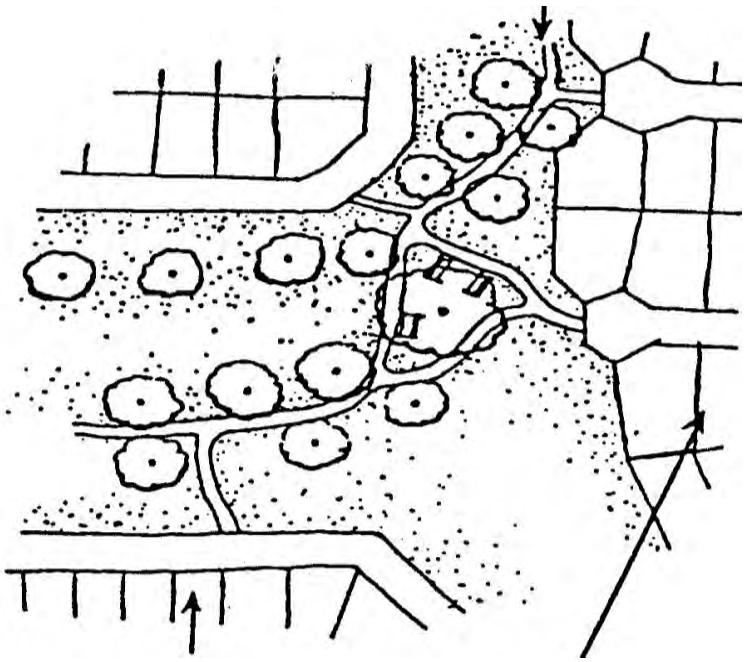
e) indicative treatment of any drainage systems, along with general information on fencing, access points and furniture.

S.4 Parks must outline a clear relationship between public open space and adjoining land uses by using treatments including fencing and landscaping to define boundaries.

S.5 Continual lengths of solid fencing along open space areas should be avoided for security, surveillance, aesthetic and maintenance reasons.

S.6 Parks must include provision for lighting in accordance with *Australian Standard 1158.1*.

Minimise the number of lots/dwellings backing onto open space to improve surveillance of open space and its users.	*Open space may form part of pedestrian network connecting adjacent areas.*



Lots fronting open space across street.	*Lots siding open space can have dwellings designed to address both the street and the park.*

Figure 3 – Public open space design

Part 10 Public land

For the purpose of this clause, public land may include areas of public open space, riparian reserves, pedestrian access corridors or the like, but does not include formed public roads.

Objectives

O.1 To ensure public land retains its amenity and is maintained for its intended use.

O.2 To provide for the fair and orderly use of public land.

10.1 Access to public land

S.1 Direct vehicular access shall not be permitted from any significant development or newly

created allotments on to areas of public land. Any significant development that has a common boundary with public land shall include a 'restriction to user' over the subject land prohibiting vehicular access to the public land.

10.2 Development adjoining public land

S.2 Proposed developments adjoining or adjacent to areas of public land shall seek to minimise the number of lots/dwellings backing on to the public land.

S.3 Significant development proposals that adjoin, or create new allotments that adjoin areas of public land, shall include details of the proposed treatment of the common boundary (e.g. timber fencing 1800mm high, landscaping) to establish a clear relationship between the public land and the adjoining land use.

10.3 Fencing and landscaping of public land

S.4 Any fencing provided in connection with significant development along a common boundary with public land shall:

a) avoid continual lengths of solid fencing along the public land frontage for surveillance and aesthetic purposes; and

b) create a consistent appearance when viewed from the adjacent area of public land.

S.5 Additional landscape planting may be required within the area of public land to minimise visual impacts of a development. Details of the visual appearance of the development when viewed from adjacent public land, and details of any screen plantings, shall be included in any significant development proposal.

S.6 Fencing and landscaping proposed under this clause shall be established prior to issuing of a Subdivision Certificate/Occupation Certificate. A bond shall be paid to Council in respect to any additional landscaping to ensure its satisfactory establishment and maintenance for a period of not less than 12 months. The amount of any such bond shall be determined in relation to the extent and nature of landscaping provided.

S.7 Any significant development proposing fencing under this clause shall include a caveat over the subject lot requiring future replacement of fencing to be consistent (in terms of colour, materials and style) with that provided in the original development.

Part 11 Utility infrastructure

Objectives

O.1 To ensure that land within Council's Development Servicing Plan for Water and Sewerage is provided with services in accordance with that Plan.

O.2 To ensure that all development has an adequate water supply to meet domestic and commercial use and fire fighting purposes.

O.3 To ensure that satisfactory provision is made for the safe and nuisance free disposal of effluent.

O.4 To ensure the design and construction of infrastructure services are provided to the standards outlined in the Council's Engineering Code; the relevant servicing authorities; and other relevant management plans and policies.

O.5 To ensure that the design and provision of utility services are cost effective and create minimal environmental impact over their life cycle.

O.6 To ensure that the location of services/future services minimise the use of land, are accessible for future repair work, and are positioned to protect future occupants health.

O.7 To ensure lots that are greater than twice the minimum lot size will have access to adequate

	infrastructure to service future subdivision of land.
O.8	To ensure that an adequate electricity supply is available for the intended use.
11.1	**Infrastructure servicing for staged subdivision**
S.1	Where development is staged, Council must authorise that each stage is fully serviced before any new area is released.
11.2	**Common trenching and buffers for utility infrastructure**
S.2	Compatible public utility services should be located in common trenching in order to minimise the costs and the land required for underground services.
S.3	Adequate buffers are to be maintained between utilities trenching and existing buildings to protect occupants amenity and health.
S.4	The lot size and shape design must allow for the location of services/future services in a position that minimises use of land, is accessible for future maintenance, and is positioned to protect the health of future occupants.
11.3	**Water supply**
Servicing Authority: Armidale Dumaresq Council	
S.5	Each allotment created by subdivision of land within the 'Water DSP Development Area' in Council's Development Servicing Plan for Water and Sewerage must be provided with a connection to Council's reticulated water supply.
S.6	Water supply is to be designed to the standards specified in Council's Engineering Code.
S.7	For new subdivisions, a reticulated potable water supply system is to be provided from Council's mains. This supply and all connections must meet the minimum standards for both domestic supply and fire fighting purposes.
S.8	Water systems must be designed to be easily accessible and maintained.
11.4	**Sewerage system requirements in the R1 and R2 zones**
Servicing Authority: Armidale Dumaresq Council	
S.9	Each allotment created by subdivision of land within the 'Sewer DSP Development Area' in Council's Development Servicing Plan for Water and Sewerage must be provided with a connection to Council's reticulated sewerage system.
S.10	Sewerage reticulation is to be designed to the standards in Council's Engineering Code.
S.11	Sewerage systems must be designed to be easily accessible and maintained.
S.12	A sewerage reticulation system is to be designed to allow the whole of each new allotment to be serviced by gravity drainage.
S.13	The public sewer main is to be extended to each individual allotment.
11.5	**Sewerage system requirements in the R5 zone**
Servicing Authority: Armidale Dumaresq Council	
S.14	In the R5 zone, where the size of the lots to be created by subdivision of land within the 'Sewer DSP Development Area' in Council's Development Servicing Plan for Water and Sewerage is less than 2 hectares, the lot must connect to Council's reticulated sewerage system.
S.15	Each allotment created by subdivision of land within the 'Sewer DSP Development Area' in

Council's Development Servicing Plan for Water and Sewerage that is greater than 75 metres from an existing sewer main must be provided with a connection to Council's reticulated sewerage system, except where the applicant can justify, to Council's satisfaction, that connection to Council's sewerage system is not required based on the criteria below:

a) The proposed on-site sewerage management system(s) must be able to demonstrate that it can satisfy Council's Policy POL 225 – Regulatory: Local Approvals Policy - On-site Waste Water Systems.

b) The case for on-site waste management is consistent with the type and scale of the development relative to its proximity to the existing reticulated sewerage system.

c) The sequence of infrastructure provision identified under the Servicing Plan relative to the proposed development.

d) The case for on-site waste management considers potential future development of nearby land, including type and timing of development(s).

e) A case for on-site waste management is consistent with and accounts for future development on the subject land with respect to the area of the land parcels, type of development and sensitivity of the environment.

f) The economic feasibility of connection to Council's sewer compared to providing an on-site sewerage management system. A cost benefit analysis is to be submitted, including the total cost to install, run and maintain an on-site system compared to the cost of connecting to the sewer over a substantial period being 20 years.

S.16 On all other land on-site effluent disposal is acceptable. It must be demonstrated that each lot created by the subdivision will be suitable for on-site effluent disposal in accordance with this Council's Policy POL 225 – Regulatory: Local Approvals Policy - On-site Waste Water Systems.

S.17 Where connection to the sewerage reticulation is required, it must be designed to the standards in Council's Engineering Code, and allow the whole of each new allotment to be serviced by gravity drainage.

S.18 Sewerage systems must be designed to be easily accessible and maintained.

S.19 A sewerage reticulation system is to be designed to allow the whole of each new allotment to be serviced by gravity drainage.

S.20 The public sewer main is to be extended to each individual allotment.

11.6 Stormwater drainage

S.21 Stormwater drainage systems are to be designed in accordance with Chapter 2.7 Floodplain Protection and Stormwater Drainage.

11.7 Electricity supply

S.22 Electricity supply requirements are outlined in Chapter 2.1 Site Analysis.

Part 12 Earthworks

S.1 Where earthworks are required, including excavation, fill, retaining walls, batters and geotechnical investigations (including soil, slip and spring activity), the relevant provisions in *LEP 2012* Clause 6.1 Earthworks and Chapter 2.6 – Earthworks and Geotechnical Assessment must be applied.

Part 13 Strata and community subdivision (subdivision of buildings)

Objectives

O.1 To allow separate titles to be created for parts of a building.

O.2 To provide for effective and efficient management of common or shared facilities.

13.1 Suggestions for managing body corporate activities

Suggested Solutions:

- Create separate sites for each dwelling with their own public street frontage.
- Limit communal land to driveways and utilities areas only.
- Design dwellings to minimise the need for corporate building management.
- Ensure that communal open space or shared facilities are designed to be cost effective to maintain and service.

13.2 Building standards

S.2 Strata subdivision of an existing building may require the building to be upgraded to comply with the provisions of the Building Code of Australia (BCA).

13.3 Definition of public, communal and private areas

S.3 Private open space areas are to be attached to a specific dwelling unit.

S.4 Private open space areas are to be clearly defined.

S.5 Communal spaces are to be accessible to all residents of the strata building.

13.4 Car parking spaces

S.6 Car parking spaces must be assigned to a specific dwelling.

S.7 Visitor car parking spaces are to be maintained as common property.

S.8 Visitor car parking spaces are to be signposted as such.

13.5 Utility service meters

S.9 A separate water meter, or a private sub meter may be required for each strata unit/dwelling.

S.10 For new construction, sewer connections must comply with the requirements of Clause 162 of the Local Government (General) Regulation 2005.

S.11 Where there is a large amount of common property, including gardens and landscaped areas, swimming pools and the like, separate metering is to be provided for the common area.

S.12 A separate electricity meter is to be provided for each strata unit/dwelling.

13.6 Issuing a Subdivision Certificate for strata subdivision

S.13 Before a Subdivision Certificate on the relevant title plan is issued, either:

a) a Construction Certificate must be issued for the proposed building and work completed to the point where the boundaries can be defined by survey; or,

b) in the case of subdivision of an existing building, a Building Certificate may be required to ensure compliance with the relevant building standards.

What is Solar Access?

Solar access is a measure of how much solar energy (sunshine) is available to assist with the heating of a building.

In winter, north facing windows gain more heat from the sun than they lose. In summer they have the advantage of being able to be easily shaded. By ensuring the windows to heated parts of the house face north you can benefit from free solar heating which reduces your energy bills and helps to save the environment. If the sun can not shine on these north windows due to overshadowing (eg. by surrounding buildings) then the free solar heating is lost.

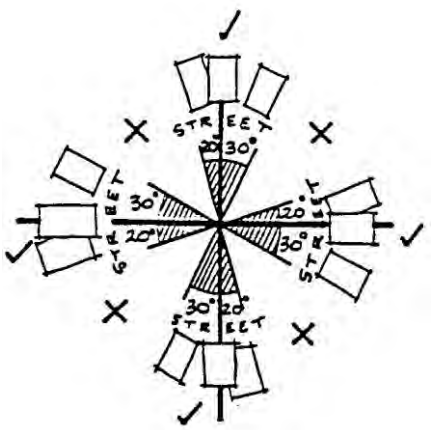
Subdividing for Solar Access

This brochure provides information about how to design subdivisions to minimize houses overshadowing each others north windows. It incorporates information on:

- how to maximize solar access through the careful design of the orientation and size of house lots;
- how to site each house to ensure that it has solar access; and
- how to measure solar access on a scale from 1 to 5 stars.

Design Guidelines for Solar Access

To maximize solar access the design of residential subdivisions should be based on the following principles:



1. Street layout

Align streets east-west and north-south wherever possible.

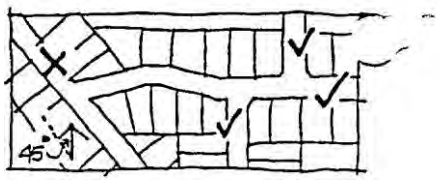
Aim for north-south streets within 20° west and 30° east of true north.

Aim for east-west streets within 30° south and 20° north of true east.

2. Land uses and densities

Concentrate smaller lots on north slopes or adjacent to lightly treed open space.

Locate larger lots, non-residential uses or public open space where solar access is poor.



3. Laying out the lots (see diagrams page 21 and 22)

Lot shape and orientation

Where streets are within the acceptable orientation range

use rectangular lots.

Locate as many long lot boundaries as possible within the permissible orientation range.

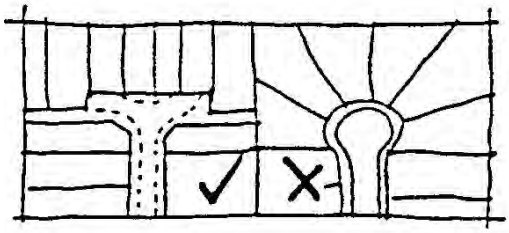
Where the street is not within the orientation range use skewed lots.

Use the Solar Lot Width Guidelines

Select the appropriate lot width from the tables 1 and 2 on page 18 & 19.

Show the setback on the lot plan

Help builders, designers and home buyers to make best use of the sun by showing the preferred setback line for each lot on the subdivision plan.



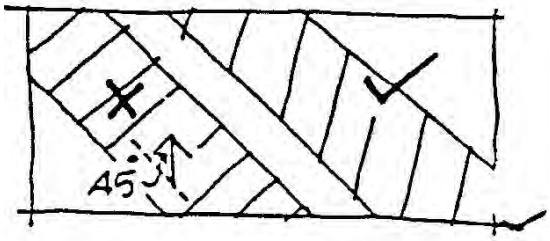
Street orientation, lot width and rating

Locate the narrowest lots on the north side of east-west streets.

Lots on the south side of east-west streets need to be wider to accommodate car access.

East-west lots need to be wider unless two storey construction is to be restricted.

East-west lots can be narrower if there is road or open space to the north (eg. a corner lot).



Adjust the Lot Rating to Reflect the Impact of the Slope

Lots on south facing slopes need more open space to the north to protect solar access while lots on north facing slopes need less open space (see diagram page 20).

Additional Controls

Where narrow lot widths are involved limiting the height of buildings relative to the south boundaries provides additional protection of solar access.

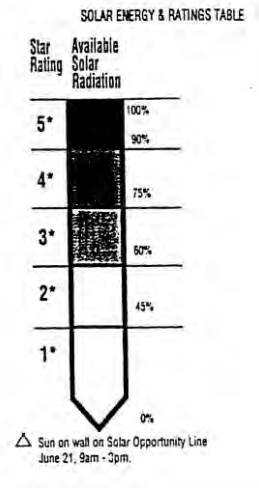
Matching the House to the Lot

An energy efficient house can still be build on a lot with poor solar access. By raising window sill heights or using clerestory windows actual overshadowing of windows can be minimized. Where solar access is limited insulate to higher levels, minimize air leakage, and keep glass areas to moderate sizes.

Rating Solar Access

Solar Access Star Ratings

The Solar Access 5 star rating provides a measure of the amount of solar radiation available to assist in the heating of a house. The adjacent chart shows the rating thresholds as a percent of the solar radiation which would enter a house through north windows with no overshadowing.



Applicability of the rating

The rating system only applies to separate lots which are 200-1000m² in area. For smaller lots solar access must be more closely integrated with building design and siting. Lots larger than 1000m² have a greater opportunity to achieve good solar access, however, building should be set back the required amount from the north boundary.

Various lots receive only a 1 star rating. These are:

Lots with all their long boundaries outside the permissible orientation range. This may not stop the house being correctly oriented; however, as most houses are built parallel to boundaries clear guidelines would be needed. If mandatory house siting rules were attached to the lot it could then be rated according to setback as shown in Figure 1 on page 20.

Lots with a slope of 20% or more (1:5). Such lots should be avoided through better subdivision layout and are therefore only given a 1 star rating.

Determining Lot Orientation

The tables 1 & 2 show how lot rating depends on the lots predominant orientation and width. This orientation is determined by the bearing of the longer boundaries on the lot, and general orientation of the lot to the street. (see also diagrams page 21.).

East/West: Bearing long side within 250° and 300°, street on east or west side

North: Bearing of one long side within 340° and 30°, street on southern side.

South: Bearing of one long side within 340° and 30°, street on northern side, note that greater lot widths are to allow for car access to north.

Lot Width

Lot width is measured at right angles to the long boundary of the lot which falls within the acceptable orientation range. For east/west facing lots the required lot width is determined by taking into account:

- the minimum setback of buildings sited to the north,
- the distance between buildings required to achieve the rated solar access, and
- an allowance for a minimum building width and setback from the south boundary of the lot.

For north/south lots the required lot width is determined by taking into account:

- the amount of northern facing wall available for north facing windows, and
- the distance required between buildings to the east and the west to minimize their overshadowing of northern windows and to achieve the rated solar access.

Determining the Star Rating

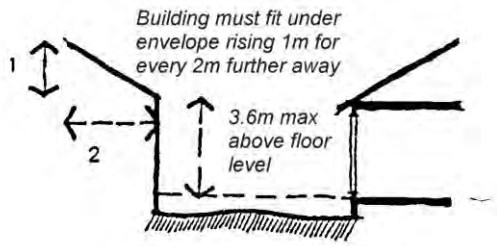
Lots are rated on their ability to accommodate a house with good solar access. The width of the lot is an indicator of its ability to provide sufficient open space to the north of the house to ensure that surrounding buildings will not block out the sun. The table below shows the minimum lot width required to achieve the various star ratings depending on the orientation of the street frontage.

Table 1 – Use this table if two storey houses are allowed on lots to the north

Lot Orientation	Lot width (metres) and Star Rating	
	★★★★★	★★★★
East/West	>16.3	16.2-15.0
North	>12.9	12.9-11.0
South	>14.9	14.9-13.0

The effect of limiting building height

If buildings to the north are less than two storeys lot width may be reduced. The table below shows rated lot widths assuming the height of buildings on the lot to the north are limited as shown in the diagram opposite. Note that the Armidale Dumaresq Council will not allow a rating based on Table 2 unless conditions are to be placed on the property titles to limit building height.



Heigh limits assumed for table 2

Table 2 – Use this table with height restriction on lots to the north

Lot Orientation	Lot width (metres) and Star Rating	
	★★★★★	★★★★
East/West	>12.1	12.0-11.0
North	>12.4	12.4-10.5
South	>14.4	14.4-12.5

Allowing for Easements, Public Open Space and Road Reserves

Where there is guaranteed open space to the north of the lot, the lot width and required setback (shown in Figure 1) may be reduced accordingly. For example if the lot to the north has a 3m easement on its south boundary the lot width and setback may be reduced by 2.1m, as a 0.9m setback has already been assumed.

Siting Your House to Achieve Solar Access

Setback from the North Boundary

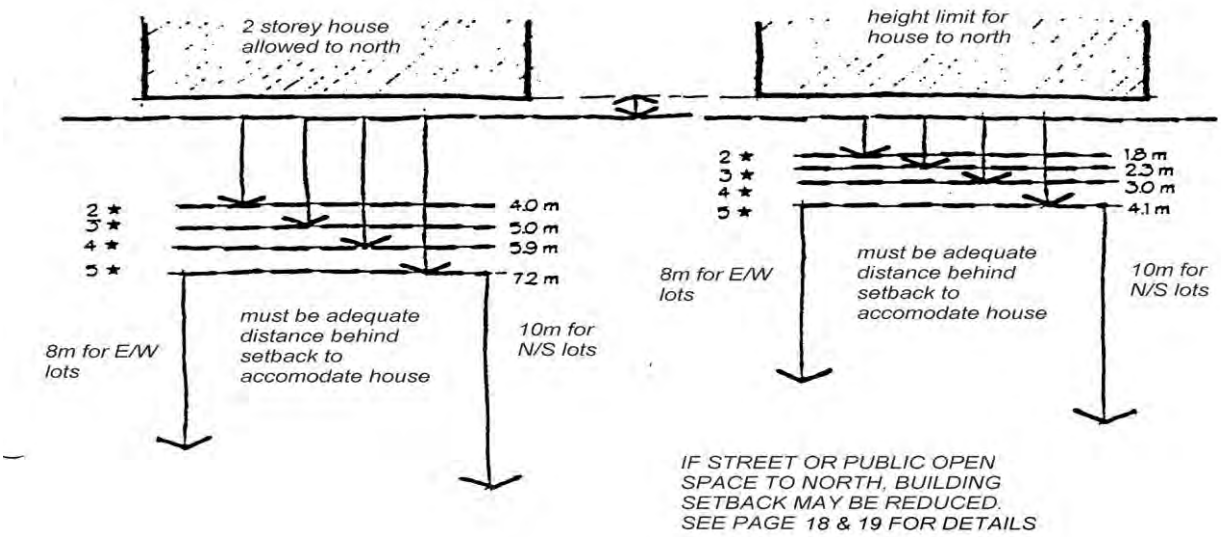
Having sufficient lot width alone will not guarantee solar access. A house must be sited so that it's north facing windows are sufficiently set back from the north boundary of the lot to ensure they will not be overshadowed by surrounding houses. The diagrams on the next page show the setbacks required to achieve solar access potential at each star rating given the height of buildings to the north. The minimum building size and setback of adjacent buildings and the minimum building dimensions assumed in the lot width tables are as shown.

Showing Setback Lines on Subdivision Plans

Subdivision plans shall show the setback line for the maximum rating obtainable given the building height on lots to the north, the after allowance for the minimum building width and setback from the south boundary. Note that only those heated areas of the house need be setback to this line.

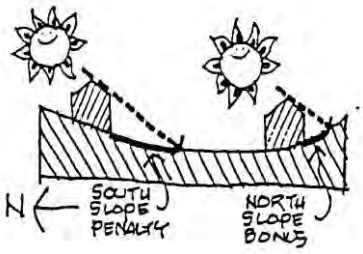
Figure 1

Building setback from south boundaries required to achieve various star ratings



What About Slope?

The setback (and lot width for east/west lots) required can be adjusted to allow for the slope of the land. South facing slopes will need larger setbacks to protect solar access while north facing slopes can have reduced setbacks. Add the figures below for south slopes and subtract for north slopes to obtain the appropriate setback from the north boundary.



Slope table adjustments to lot width (metres)

Rating	**5<10%**	**10<15%**	**15<20%**
	(1:20, 1:10)	**(1:10, 1:6.7)**	**(1:6.7, 1:5)**
★★★★★	±1.2	±2.0	±2.5
★★★★	±0.8	±1.5	±1.8
★★★	±0.8	±1.2	±1.5

East/west slopes reduce the amount of solar radiation available to north windows in the morning and afternoon. As the radiation is much less at these times such slopes are ignored. Note that with extreme east/west slopes this may not be true and detailed calculation would be required to determine actual solar access.

Height of Windows Above Ground

The information on setbacks and lot widths required to maintain solar access in these guidelines assume that the window sill is positioned at ground floor level. Overshadowing is greater on the portions of the window closest to the ground. The Solar Access of the house can be improved on poorly rated lots by raising the sill level to eliminate the most overshadowed sections of the windows. Clerestory windows and upper floor windows can be rated on the basis of single storey construction to the north where two storey construction is allowed on the lot to the north.

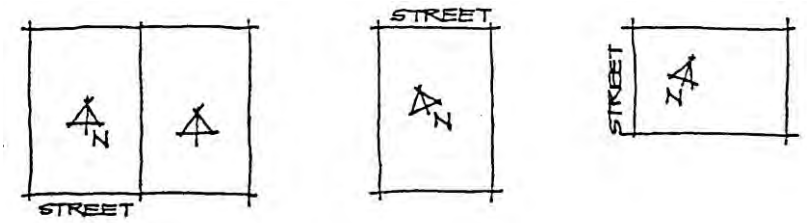
How to Use the System

NORTH-SOUTH LOT — NORTH SIDE OF STREET

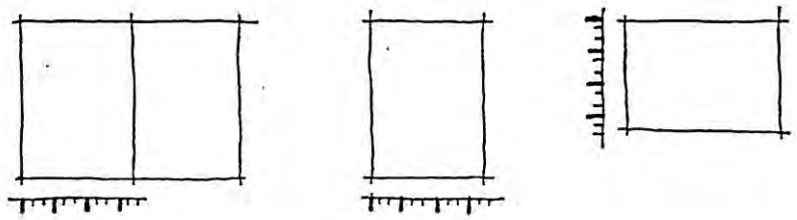
NORTH SOUTH LOT — SOUTH SIDE OF STREET

EAST WEST LOT

1. Check that long boundary is within permissible orientation (P.1)

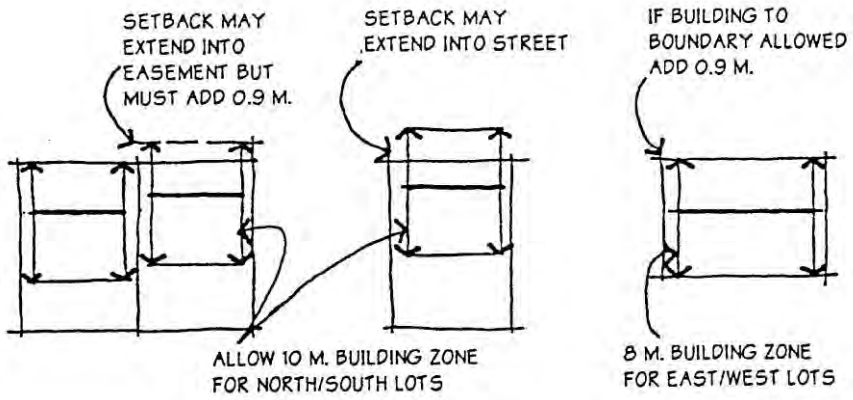


2. Measure lot width and determine rating (Table 1)

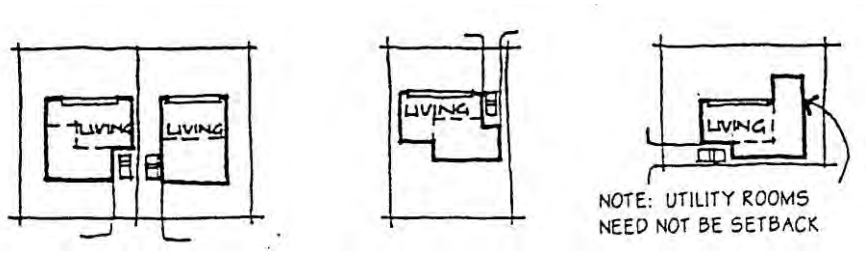


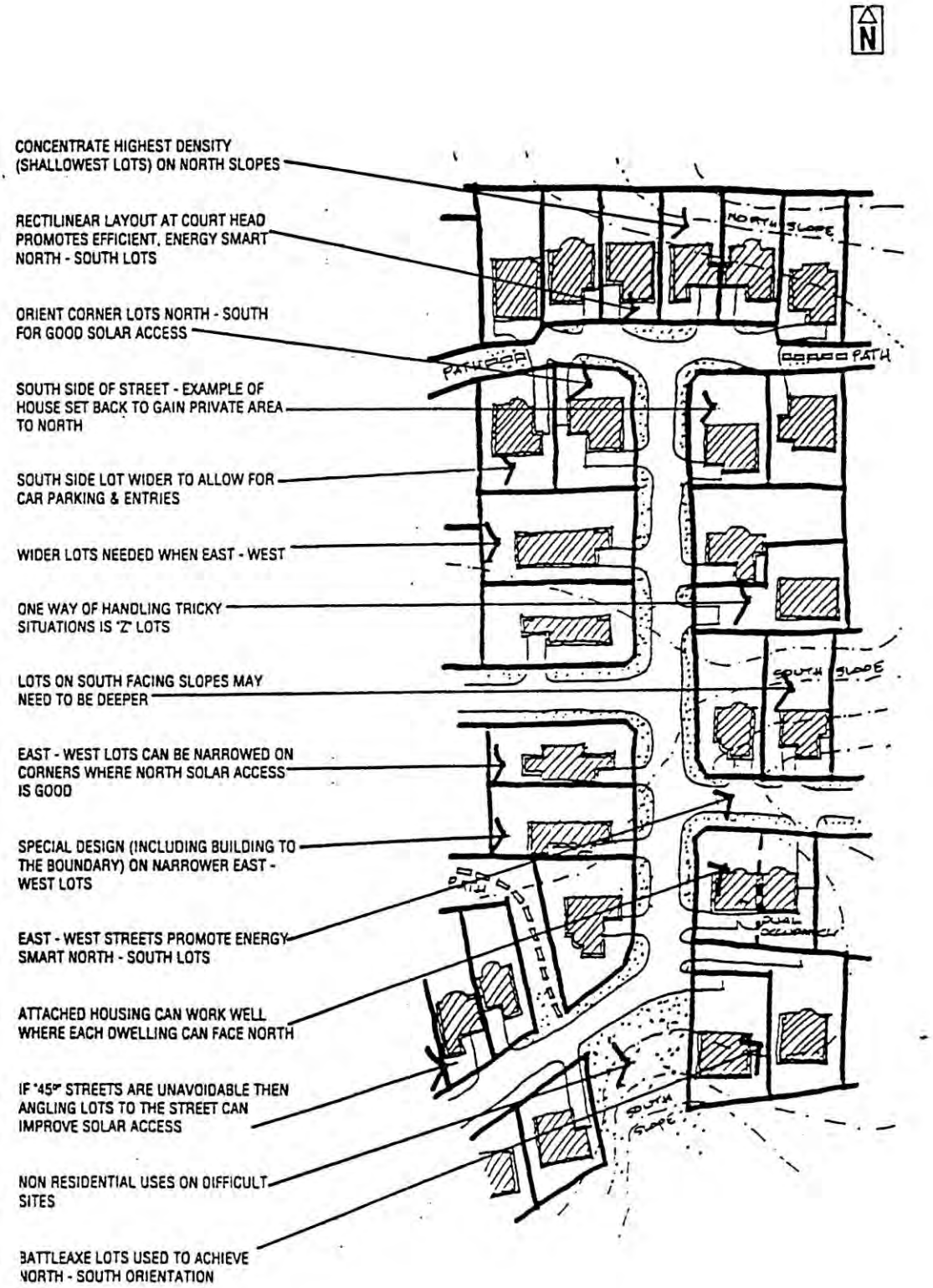
3. If desired, modify lot width or use height limit on lot to the north (Table 2) to improve rating

4. Show the setback required to achieve the rating on the plan of subdivision.



5. The setback can then be used as a starting point to siting and selection an energy efficient house.




N
CONCENTRATE HIGHEST DENSITY (SHALLOWEST LOTS) ON NORTH SLOPES
RECTILINEAR LAYOUT AT COURT HEAD PROMOTES EFFICIENT, ENERGY SMART NORTH - SOUTH LOTS
ORIENT CORNER LOTS NORTH - SOUTH FOR GOOD SOLAR ACCESS
SOUTH SIDE OF STREET - EXAMPLE OF HOUSE SET BACK TO GAIN PRIVATE AREA TO NORTH
SOUTH SIDE LOT WIDER TO ALLOW FOR CAR PARKING & ENTRIES
WIDER LOTS NEEDED WHEN EAST - WEST
ONE WAY OF HANDLING TRICKY SITUATIONS IS "Z" LOTS
LOTS ON SOUTH FACING SLOPES MAY NEED TO BE DEEPER
EAST - WEST LOTS CAN BE NARROWED ON CORNERS WHERE NORTH SOLAR ACCESS IS GOOD
SPECIAL DESIGN (INCLUDING BUILDING TO THE BOUNDARY) ON NARROWER EAST - WEST LOTS
EAST - WEST STREETS PROMOTE ENERGY SMART NORTH - SOUTH LOTS
ATTACHED HOUSING CAN WORK WELL WHERE EACH DWELLING CAN FACE NORTH
IF "45°" STREETS ARE UNAVOIDABLE THEN ANGLING LOTS TO THE STREET CAN IMPROVE SOLAR ACCESS
NON RESIDENTIAL USES ON DIFFICULT SITES
BATTLEAXE LOTS USED TO ACHIEVE NORTH - SOUTH ORIENTATION
NORTH SLOPE
PATH
PATH
SOUTH SLOPE
SOUTH SLOPE

Armidale Dumaresq
Development Control Plan 2012

Section 3 Subdivision Development Controls

Chapter 3.2 Rural and Environmental Protection Zone Residential Subdivision

Contact Details

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New South Wales 2350
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Email council@armidale.nsw.gov.au

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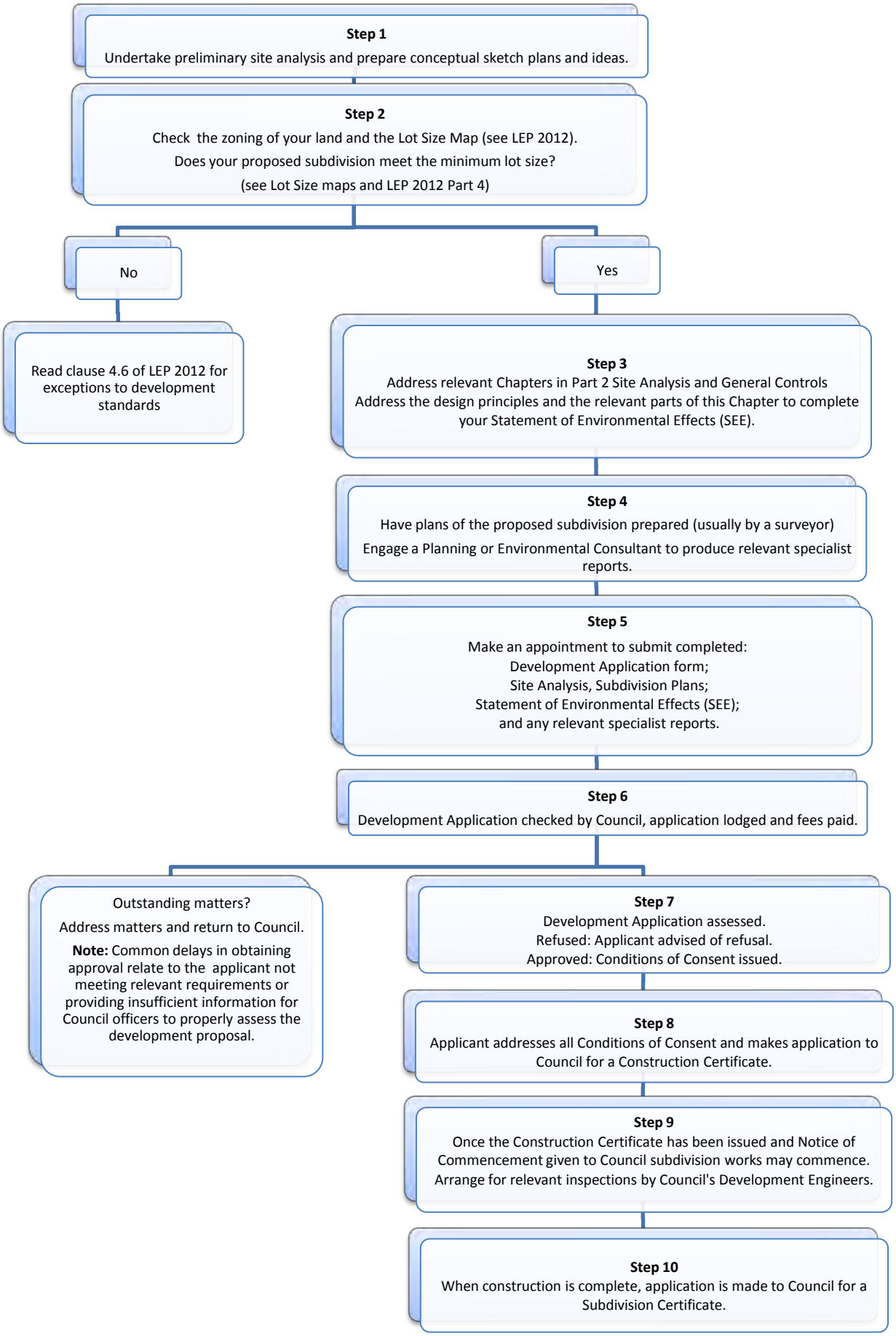
Step 1
Undertake preliminary site analysis and prepare conceptual sketch plans and ideas.
Step 2
Check the zoning of your land and the Lot Size Map (see LEP 2012).
Does your proposed subdivision meet the minimum lot size?
(see Lot Size maps and LEP 2012 Part 4)
No
Yes
Read clause 4.6 of LEP 2012 for exceptions to development standards
Step 3
Address relevant Chapters in Part 2 Site Analysis and General Controls
Address the design principles and the relevant parts of this Chapter to complete your Statement of Environmental Effects (SEE).
Step 4
Have plans of the proposed subdivision prepared (usually by a surveyor)
Engage a Planning or Environmental Consultant to produce relevant specialist reports.
Step 5
Make an appointment to submit completed:
Development Application form;
Site Analysis, Subdivision Plans;
Statement of Environmental Effects (SEE);
and any relevant specialist reports.
Step 6
Development Application checked by Council, application lodged and fees paid.
Outstanding matters?
Address matters and return to Council.
Note: Common delays in obtaining approval relate to the applicant not meeting relevant requirements or providing insufficient information for Council officers to properly assess the development proposal.
Step 7
Development Application assessed.
Refused: Applicant advised of refusal.
Approved: Conditions of Consent issued.
Step 8
Applicant addresses all Conditions of Consent and makes application to Council for a Construction Certificate.
Step 9
Once the Construction Certificate has been issued and Notice of Commencement given to Council subdivision works may commence.
Arrange for relevant inspections by Council's Development Engineers.
Step 10
When construction is complete, application is made to Council for a Subdivision Certificate.

Part 1 General provisions

1.1 Introduction

This chapter provides information about subdividing rural and environment protection zone land in the Armidale Dumaresq local government area.

The purpose of this chapter is to provide guidance to developers on planning and design principles at the subdivision stage of the design process, and to ensure that urban subdivision design maximises site opportunities and provides site layouts that create a safe, functional, energy efficient and attractive places to live.

This chapter is to be read in conjunction with all relevant chapters in Section 2 Site Analysis and General Controls. All relevant matters relating to the development must be addressed in the development application, the SEE and on site analysis plans and site plans. The site analysis process may highlight the requirement for specialist reports to be undertaken.

1.2 Background to Rural and Environmental Protection Zonings

Armidale is situated in the valley of Dumaresq Creek and is enclosed by hills and ridges covered by open woodland that create an attractive visual setting for the City and its immediate area. Rural residential areas have developed on land surrounding Armidale, particularly since the 1980s, and generally comprise either residential estates within a rural setting or larger 'hobby' farms. The rural residential zones in the LEP apply to land surrounding Armidale, extending up to 8 kilometres from the City boundary. The planning controls for rural residential development are largely based on the recommendations of the Armidale Dumaresq Rural Residential Study (EDGE Land Planning, November 2004).

Beyond Armidale lies a further series of prominent hills and ridges, including Mount Duval a visual landmark on the Armidale skyline. Other hills and ridges which have prominent scenic values when viewed from the approach roads to Armidale include Arthur's Seat and Knobs Hill to the south of the City and the ridge between Donald Road and Puddledock Road to the north east.

The Environment Protection Zones in Council's Local Environmental Plan (LEP) encompass elevated land which is both visually exposed to various vantage points and form an integral part of the skyline backdrop from these places. Whilst most of the land identified is clearly visible from different viewpoints within Armidale, hills and ridges which are visible as a skyline backdrop from the various approach roads to Armidale are also included to preserve the natural qualities of these elevated areas.

The Environment Protection Zones in the LEP are based on the scenic values of the land. These areas are predominantly covered by native vegetation and therefore may also have biodiversity values requiring conservation. Some of the areas identified in the Armidale Flora and Fauna Study (1996) as having actual or potential habitat value as well as several of the proposed fauna corridors identified in the Armidale Greening Plan (2003) lie within areas that have been identified as having scenic values. Consequently, the provisions for the Environment Protection Zones in the LEP and this Code seek to protect and enhance not only the scenic values but also native vegetation, fauna corridors and other wildlife habitat in these areas.

1.3 Objectives

The objectives of this chapter are:

O.1 To effectively manage the natural, environmental and cultural resources and values of rural land.

O.2 To protect and enhance the natural and built environment by ensuring that subdivision layout relates to site conditions.

O.3 To achieve visual integration and balance between natural and man made elements.

O.4 To facilitate restoration of indigenous plant communities areas on the periphery of Armidale.

O.5 To preserve and enhance the rural character and landscape values of the rural and rural residential areas.

O.6 To conserve and enhance the visual and biodiversity values of the hills and ridges around Armidale whilst allowing carefully managed development to occur.

O.7 To reduce the potential for land use conflict in rural and rural residential areas.

O.8 To provide for subdivision of land for a range of land uses, services and facilities that are associated with a rural village.

O.9 To ensure that street and pedestrian networks provide for safe and efficient travel for vehicles, bicycles and pedestrians.

O.10 To ensure that subdivision design provides for adequate and well designed road, stormwater drainage, and utility infrastructure.

1.4 Land to which this chapter applies

This chapter applies to the following zones:

RU1	Primary Production	E1	National Parks and Nature Reserves
RU3	Forestry	E3	Environmental Management
RU4	Primary Production Small Lots	E4	Environmental Living
RU5	Village		

1.5 Addressing the guidelines in this chapter

The guidelines for subdivision are set out in this chapter. These are expressed in the form of objectives that need to be addressed for each development proposal. For each objective (O), 'acceptable solutions' (S) are provided which, if met, will ensure compliance. Alternative approaches may be proposed, provided these adequately address the relevant objectives and comply with legislation.

1.6 Developer contributions

Infrastructure contributions will be levied on physical and social infrastructure in accordance with Council's *Water Supply and Sewerage Development Servicing Plan*; *Section 94 Contributions Plan* and any other adopted Contributions Plan relevant to the site. This contribution may be a financial contribution, dedication of land and/or provision of a material public benefit be made by a developer to provide for or upgrade public services or facilities for which the development is likely to create a demand. Contributions that apply to development in rural and rural residential zones are outlined in the Council's adopted Contributions Plan and Water Supply and Sewerage Development Servicing Plan.

Depending upon the likely demand for public services or facilities that a development proposal is likely to generate, Council may also require preparation of a specific Contributions Plan or enter into a Planning Agreement with the developer prior to determining a particular development proposal.

Part 2 Lot dimensions

Objectives

O.1 To ensure that lot shape and dimensions provide for adequate separation between adjoining rural and rural residential activities, having regard to the expected uses.

O.2 To ensure that all new lots are provided with adequate frontage to a public road for safe access and provision of utility services.

O.3 To ensure that lot shapes and dimensions provide for practical management of rural and rural residential land.

2.1 Minimum lot size

S.1 Refer to the relevant sections in Part 4 Principal Development Standards and the relevant Lot Size Maps in *Armidale Dumaresq LEP 2012*.

2.2 Minimum lot frontage to a public road

S.2 Any new lot created shall be provided with a minimum frontage to a public road in accordance with the following table:

LEP Zone	Minimum Public Road Frontage
RU1 Primary Production RU3 Forestry E1 National Parks and Nature Reserves	750 metres
RU4 Primary Production Small Lots	300 metres
E3 Environmental Management	100 metres
E4 Environmental Living	50 metres
RU5 Village	25 metres

S.3 Corner allotments are to provide the minimum frontage in the table above to each road.

S.4 Wedge shaped allotments shall be permitted with a lesser road frontage only at the head of a cul-de-sac on a no through road. Such lots shall have a minimum frontage of 20 metres to the public road.

S.5 Strata and community title lots may achieve the minimum frontage requirements in the above table via their common property.

2.3 Minimum lot frontage to a classified road

S.6 Any new lot created in the RU1, RU3, RU4, or E1 zones having frontage to a classified road shall be provided with a minimum frontage of 200 metres to that road.

S.7 No new lots will be permitted with direct access to a classified road where alternative access to a local road exists. Lots with frontage to such roads must also have a minimum frontage to a local road in accordance with the above table.

Part 3 Building envelopes

Objectives

O.1 To ensure that lots created from subdivision of land for residential purposes in the Environment Protection zones contain a building envelope free of major environmental and servicing constraints and have good solar access.

O.2 To ensure that the subdivision layout responds effectively to site constraints and adequately addresses the findings of the site analysis.

O.3 To protect existing vegetation and the scenic qualities of the locality.

3.1 Building envelopes for the E3 and E4 zones

S.1 Building envelopes within which a dwelling, garden, ancillary buildings, water tanks and the like could be located, shall not:

a) not be located in areas of identified ecological significance, including existing and proposed wildlife corridors;

b) have a slope not greater than 15%, unless the application is supported by a geotechnical investigation demonstrating that the land is suitable for the erection of a dwelling and associated infrastructure;

c) not be sited so as to limit the future subdivision potential of adjoining land;

d) be selected in the context of house sites on adjoining and nearby lots to maximise privacy and maintain the scenic character of the area;

e) have setbacks from road frontages, side and rear boundaries in accordance with this chapter;

f) be accessible by a driveway that:

i) does not have a grade exceeding 15% (unless it is proposed to be constructed and sealed by the applicant, in which case the grade must not exceed 20%);

ii) avoid crossing waterways, particularly major creek crossings.

S.2 The area of the nominated building envelope shall not exceed 2,000m^2.

3.2 Building envelopes for the RU1, RU3, RU4, RU5 and E1 zones

S.3 Building envelopes will not be required for subdivision of land in the above zones unless particular site constraints exist that would warrant restrictions on the location of future buildings.

Part 4 Vehicle access

Objectives

O.1 To ensure all development has legal and properly constructed access.

O.1 To prevent private access arrangements over adjoining land (rights-of-carriageway) for new lots.

O.2 To ensure that the standard of public roads is sufficient for traffic likely to be generated by a development.

O.3 To minimise future costs to the community associated with road maintenance and improvement.

O.4 To ensure that rural roads are located within public road reserves.

O.5 To ensure property access is located with safe sight distances on public roads.

O.6 To minimise the impacts of road construction on existing vegetation.

4.1 Access

S.1 All new lots created by a subdivision must have legal and properly constructed access. Depending on the circumstances, the following options are available for providing access:

a) Public Road as defined under the Roads Act 1993

b) Construction and dedication of a Crown Road as a Council public road.

S.2 Conflict with arterial and distributor roads is to be avoided. Direct access to a classified road will not be permitted where another practical option exists.

S.3 Where the subdivision proposes access to a classified road, the access will require concurrence from the RMS, and must be located and constructed in accordance with the relevant road authority requirements.

S.4 Dedication of a splay corner of minimum dimensions 5 metres x 5 metres will be required to improve/maintain safe sight distance at the intersection of roads associated with the subdivision. A greater splay dimension may be required at the intersection of major roads.

S.5 Each new lot created by a subdivision shall have public road access to the minimum road standard specified in Table 1.

Table 1: Minimum road access standards

All road construction shall comply with the requirements of Council's Engineering Code, and the relevant Australian Standards and Austroads Guidelines.

LEP Zone	Circumstances	Minimum Road Standard	
RU1 Primary Production RU3 Forestry E1 National Parks and Nature Reserves	Road will serve a maximum of 5 lots (including existing lots) and is not likely to be extended or to form part of a through road.	Single lane gravel road to nearest Council maintained and constructed public road.	Where the subdivision road is likely to be extended in the future to serve other development, the road shall be constructed to a minimum of 20 metres beyond the property access and provided with a temporary gravel turning area.
	All other subdivisions	Two lane sealed road to nearest Council maintained and constructed public road.	
RU4 Primary Production - Small Lots	Road will serve a maximum of 5 lots (including existing lots) and is not likely to be extended or to form part of a through road.	Single lane sealed road to nearest Council maintained and constructed public road.	
	All other subdivisions	Two lane sealed road to nearest Council maintained and constructed public road.	
E3 Environmental Management E4 Environmental Living	Road will serve a maximum of 5 lots (including existing lots) and is not likely to be extended or to form part of a through road.	Single lane sealed road to nearest two lane sealed road connection.	
	All other subdivisions	Two lane sealed road to nearest two lane sealed road connection.	
RU5 Village	All subdivisions	Where a sealed connecting road	

		exists: • Widen road to achieve full half road construction to the sealed two lane road standard.	
		For internal roads and connecting road: • Rural sealed two lane road (fully paved/sealed with gravel shoulder), and Each lot is to connect to a sealed road	

4.2	**Alignment of existing public roads**
S.6	Where the survey carried out for a subdivision determines that an existing road passing through the land is located outside the road reserves, the submitted title plan shall make provision for widening of the road reserve to accommodate the road and associated drainage and infrastructure.
4.3	**Right-of-Carriageway**
S.7	Access by right-of-carriageway is not encouraged and will only be permitted in cases where no other practical alternative exists.
S.8	The right-of-carriageway shall only serve one lot or holding and must not be located on a lot containing an existing right-of-carriageway.
S.9	The right-of-carriageway shall have a width of not less than 20 metres.
4.4	**Construction and dedication of a Crown Road as a Council Public Road**
S.10	Where access is proposed via a Crown Road, the road is to be constructed by the developer to Council's specification and dedicated as a Council public road.
S.11	The applicant is to provide written agreement from the responsible authority (currently NSW Crown Lands) for the use of the Crown Road for access.
4.5	**Undedicated roads**
Undedicated roads are roads that are not dedicated as Council or Crown Roads and include Forestry Roads, Rural Lands Protection Board reserves and Ministerial Roads.	
S.12	The applicant is to provide written agreement from the responsible authority for the use of the road for access.
4.6	**Driveways**
S.13	Provision of an adequate all weather access will generally require gravelling from the road shoulder to the boundary and in most cases will require the provision of a piped gutter crossing in accordance with Council's Engineering Code.
S.14	Where the land adjoins an existing sealed public road, the driveway crossover shall be sealed from the road shoulder to the boundary.
S.15	The driveway shall be located so as to minimise earthworks and removal of vegetation in the

road reserve.

S.16 Entrances shall be limited to one per lot unless approved otherwise by Council. The relocation of an existing entrance may require the complete removal of the existing entrance.

S.17 Direct driveway access to a classified road will not be permitted where another practical option exists.

S.18 Any new driveway on a local road shall have safe intersection sight distance in accordance with Table 3.2 of the *Austroads Guidelines*. The minimum required sight distances are specified in Table 2:

Table 2: Minimum sight distances

Design Speed	Minimum Safe Intersection Sight Distance
40 km/h	73 metres
50 km/h	97 metres
60 km/h	123 metres
70 km/h	151 metres
80 km/h	181 metres
90 km/h	214 metres
100 km/h	248 metres

S.19 Any new driveway on a classified road shall be located and constructed in accordance with the requirements of the relevant road authority.

Part 5 Landscaping in the E3 and E4 zones

Objectives

O.1 To facilitate restoration and protection of indigenous plant communities areas on the periphery of Armidale.

O.2 To ensure that landscaping of the site is carried out in a way that acknowledges and reinforces the scenic and biodiversity values of the land, including enhancement of wildlife corridors.

O.3 To provide benefits to residents by locating new landscaping for increased privacy, wind and sun protection, a pleasant outlook as well as attracting wildlife.

S.1 A landscaping plan is to be provided for all subdivision of land within the E3 and/or E4 zones.

S.2 The landscape plan is to include details of the location and scientific and common names of new plantings and any vegetation to be removed for roads and other subdivision works.

S.3 The landscaping plan is to include the location, type and materials of proposed fences on the property, including those that may be erected to protect native vegetation identified as being of significance in the flora and fauna assessment.

S.4 Landscaping is to retain or improve connectivity with habitat on adjoining properties.

S.5 New plantings should be indigenous species, except where specific recommendations have been made for new plantings in the relevant flora and fauna assessment.

Part 6 Fences in the RU1, RU3, RU4, E1, E3 and E4 zones

Objectives

O.1 To provide for fencing that is compatible with the rural landscape and scenic qualities of prominent hills and ridgelines.

O.2 To ensure that fencing in areas of identified ecological significance is of a style that does not inhibit the movement of native wildlife.

O.3 To ensure that livestock are prevented from gaining access to roads and public reserves.

S.1 Fencing shall be open form (wire, post and rail or similar). Post and rail fences are to remain natural timber or are to be painted or stained with colours which blend with the surrounding landform or vegetation.

S.2 Fencing along property boundaries is not to be metal panel fencing (of any height).

S.3 A stock proof fence is to be provided to all road frontages and public open space areas.

S.4 For staged subdivisions, the above standards are to be implemented for each stage of the development.

S.5 Stock proof fencing may also be required to protect any areas of significant vegetation (particularly in zones E3 and E4).

S.6 Where land is identified to be habitat for native fauna (eg koalas), fencing is to be of a style that does not inhibit movement within the site or the areas of habitat on adjoining properties.

Part 7 Road naming and lot numbering

O.1 To identify roads and individual premises to the public, the relevant authorities, and to emergency and essential services.

S.1 Where there is no existing road name, the application should provide a written proposal together with a plan indicating the location of the place to be named. This should include the names of new road(s).

S.2 Where more than one street exists within a subdivision, consideration should be given to a street naming 'theme' to help create a distinct identity for the area.

S.3 Street names are to be selected from a list in *'POL 071 Policy for Local Place Naming'*.

S.4 New street name signs are to be paid for by the developer.

S.5 All occupied properties shall be individually numbered.

S.6 Numbers shall be displayed adjacent to the entrance driveways.

Note: Council is responsible for the allocation of address numbering of lots. Address numbers are allocated at subdivision stage when the location of driveway entrances is determined. At the subdivision stage, property numbering shall be displayed on the street frontage.

Part 8 Public land

For the purpose of this clause, public land may include areas of public open space, riparian reserves, pedestrian access corridors or the like, but does not include formed public roads.

8.1 Access to public land

Direct vehicular access shall not be permitted from any significant development or newly created allotments on to areas of public land. Any significant development that has a common boundary with public land shall include a 'restriction to user' over the subject land prohibiting vehicular access

to the public land.

8.2 Development adjoining public land

Proposed developments adjoining or adjacent to areas of public land shall seek to minimise the number of lots/dwellings backing on to the public land.

Significant development proposals that adjoin, or create new allotments that adjoin areas of public land, shall include details of the proposed treatment of the common boundary (e.g. open wire fence 1200mm high, landscaping) to establish a clear relationship between the public land and the adjoining land use.

Part 9 Utility infrastructure

Objectives

O.1 To ensure that all development has an adequate water supply to meet domestic and commercial use and fire fighting purposes.

O.2 To ensure that satisfactory provision is made for the safe and nuisance free disposal of effluent.

O.3 To ensure that land within Council's Development Servicing Plan for Water and Sewerage is provided with services in accordance with that Plan.

O.1 To ensure that an adequate electricity supply is available for the intended use.

O.2 To ensure the design and construction of infrastructure services are provided to the standards outlined in the Council's Engineering Code; the relevant servicing authorities; and other relevant management plans and policies.

O.3 To ensure that the design and provision of utility services are cost effective and create minimal environmental impact over their life cycle.

O.4 To ensure that the location of services/future services minimise the use of land, are accessible for future repair work, and are positioned to protect future occupants health.

9.1 Infrastructure servicing for staged subdivision

S.1 Where development is staged, Council must authorise that each stage is fully serviced before any new area is released.

9.2 Common trenching and buffers for utility infrastructure

S.2 Compatible public utility services should be located in common trenching in order to minimise the costs and the land required for underground services.

S.3 Adequate buffers are to be maintained between utilities trenching and existing buildings to protect occupants amenity and health.

S.4 The lot size and shape design must allow for the location of services/future services in a position that minimises use of land, is accessible for future maintenance, and is positioned to protect the health of future occupants.

9.3 Water supply

Servicing Authority: Armidale Dumaresq Council

S.5 Each allotment created by subdivision of land within the 'Water DSP Development Area' in Council's Development Servicing Plan for Water and Sewerage must be provided with a connection to Council's reticulated water supply if the land is located within 225 metres of an existing water main.

S.6 Each allotment created by subdivision of land within the 'Water DSP Development Area' in Council's Development Servicing Plan for Water and Sewerage that is greater than 225 metres from an existing water main must be provided with a connection to Council's reticulated water supply, except where the applicant can justify, to Council's satisfaction, that a reticulated supply is not required based on the criteria below:

a) the type and scale of the development relative to its proximity to the existing reticulated water supply system.

b) the sequence of infrastructure provision identified under the development servicing plan for water and sewerage relative to the proposed development.

c) potential future development of nearby land, including type and timing of development(s).

d) the ability of on-site water supply to provide for domestic/commercial demands and a reliable fire fighting reserve.

e) the economic feasibility of connection to a reticulated water supply compared to providing on-site water storage. a cost benefit analysis is to be submitted, including the total cost to install, run and maintain an on-site water supply system compared to the cost of providing reticulated water supply over a substantial period being 20 years.

S.7 Where a reticulated water supply service is required, the service must be designed to the standards specified in Council's Engineering Code.

S.8 Water systems must be designed to be easily accessible and maintained.

S.9 All connections must meet the minimum standards for both domestic supply and fire fighting purposes.

9.4 Sewerage system requirements

Servicing Authority: Armidale Dumaresq Council

S.10 Each allotment created by subdivision of land within the 'Sewer DSP Development Area' in Council's Development Servicing Plan for Water and Sewerage must be provided with a connection to Council's reticulated sewerage system if the land is located within 75 metres of an existing sewer main.

S.11 Each allotment created by subdivision of land within the 'Sewer DSP Development Area' in Council's Development Servicing Plan for Water and Sewerage that is greater than 75 metres from an existing sewer main must be provided with a connection to Council's reticulated sewerage system, except where the applicant can justify, to Council's satisfaction, that connection to Council's sewerage system is not required based on the criteria below:

a) The proposed on-site sewerage management system(s) must be able to demonstrate that it can satisfy Council's Policy POL 225 – Regulatory: Local Approvals Policy - On-site Waste Water Systems.

b) The case for on-site waste management is consistent with the type and scale of the development relative to its proximity to the existing reticulated sewerage system.

c) The sequence of infrastructure provision identified under the Servicing Plan relative to the proposed development.

d) The case for on-site waste management considers potential future development of nearby land, including type and timing of development(s).

e) A case for on-site waste management is consistent with and accounts for future development on the subject land with respect to the area of the land parcels, type of

	development and sensitivity of the environment. f) The economic feasibility of connection to Council's sewer compared to providing an on-site sewerage management system. A cost benefit analysis is to be submitted, including the total cost to install, run and maintain an on-site system compared to the cost of connecting to the sewer over a substantial period being 20 years.
S.12	On all other land on-site effluent disposal is acceptable. It must be demonstrated that each lot created by the subdivision will be suitable for on-site effluent disposal in accordance with this Council's Policy POL 225 – Regulatory: Local Approvals Policy - On-site Waste Water Systems.
S.13	Where connection to the sewerage reticulation is required, it is to be designed to the standards in Council's Engineering Code, and allow for the whole of each new allotment to be serviced by gravity drainage.
S.14	Sewerage systems must be designed to be easily accessible and maintained.
S.15	The public sewer main is to be extended to each individual allotment.
9.5	**Stormwater drainage**
S.16	Stormwater drainage systems are to be designed in accordance with Chapter 2.7 Floodplain Protection and Stormwater Drainage.
9.6	**Electricity supply**
S.17	Electricity supply requirements are outlined in Chapter 2.1 Site Analysis.
Part 10	**Earthworks**
S.1	Where earthworks, including excavation, fill, retaining walls, batters and geotechnical investigations (including soil, slip and spring activity) are required, the relevant provisions in *LEP 2012* Clause 6.1 Earthworks and Chapter 2.6 – Earthworks and Geotechnical Assessment must be applied.

Armidale
Dumaresq Council

Armidale Dumaresq
Development Control Plan 2012

Section 4 Residential Development Controls

Chapter 4.1 Urban Residential Development
Single and Dual Occupancy Dwellings

Contact Details

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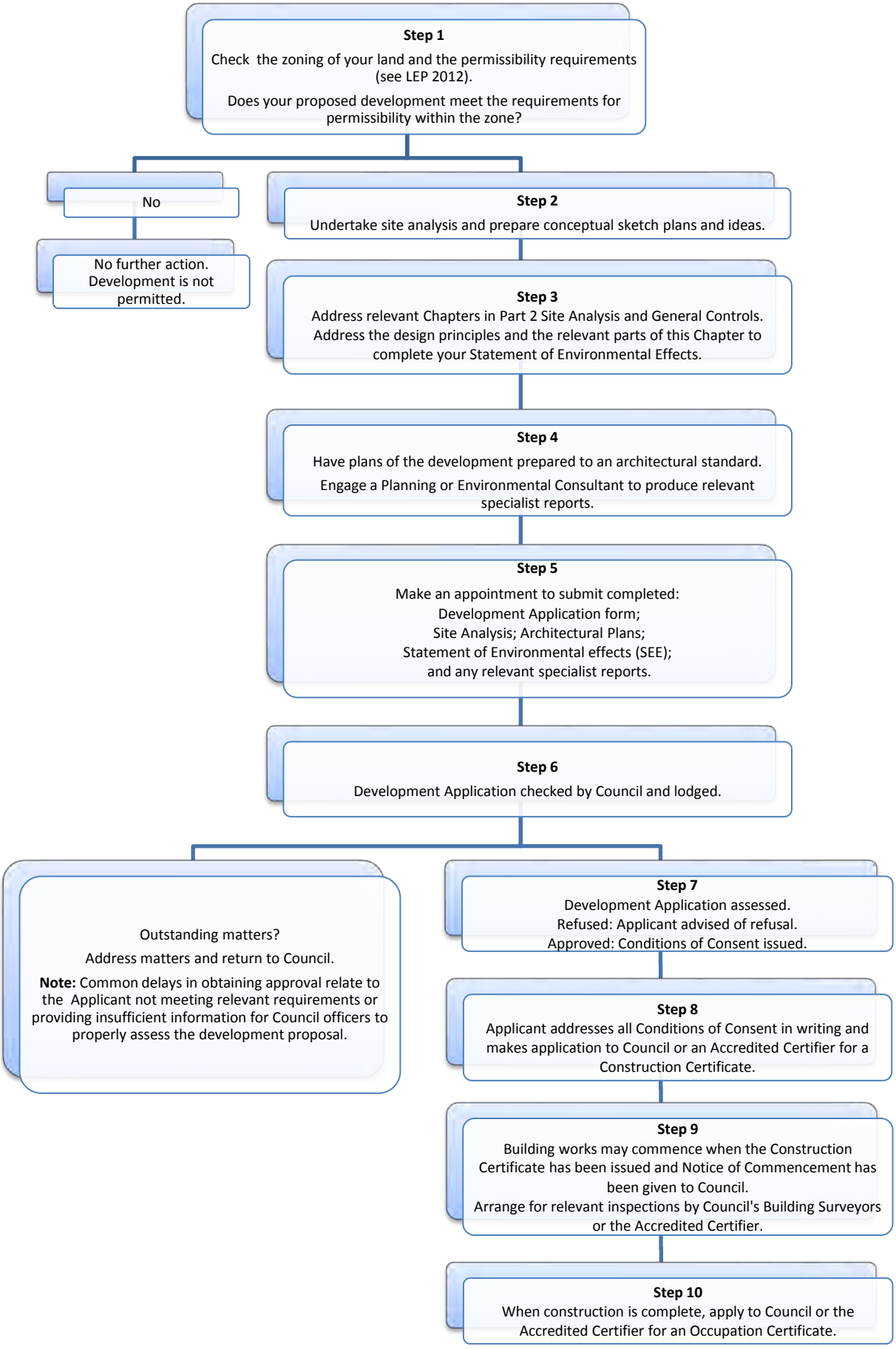

Step 1
Check the zoning of your land and the permissibility requirements (see LEP 2012).
Does your proposed development meet the requirements for permissibility within the zone?
No
No further action. Development is not permitted.
Step 2
Undertake site analysis and prepare conceptual sketch plans and ideas.
Step 3
Address relevant Chapters in Part 2 Site Analysis and General Controls. Address the design principles and the relevant parts of this Chapter to complete your Statement of Environmental Effects.
Step 4
Have plans of the development prepared to an architectural standard.
Engage a Planning or Environmental Consultant to produce relevant specialist reports.
Step 5
Make an appointment to submit completed:
Development Application form;
Site Analysis; Architectural Plans;
Statement of Environmental effects (SEE);
and any relevant specialist reports.
Step 6
Development Application checked by Council and lodged.
Outstanding matters?
Address matters and return to Council.
Note: Common delays in obtaining approval relate to the Applicant not meeting relevant requirements or providing insufficient information for Council officers to properly assess the development proposal.
Step 7
Development Application assessed.
Refused: Applicant advised of refusal.
Approved: Conditions of Consent issued.
Step 8
Applicant addresses all Conditions of Consent in writing and makes application to Council or an Accredited Certifier for a Construction Certificate.
Step 9
Building works may commence when the Construction Certificate has been issued and Notice of Commencement has been given to Council.
Arrange for relevant inspections by Council's Building Surveyors or the Accredited Certifier.
Step 10
When construction is complete, apply to Council or the Accredited Certifier for an Occupation Certificate.

Part 1 General provisions

1.1 Introduction

This chapter outlines the development controls for single dwellings, dual occupancy dwellings, secondary housing, and alterations and additions to these types of dwellings in the urban residential zones in the Armidale Dumaresq local government area.

The purpose of this chapter is to guide design and to promote innovative housing solutions that will provide a range of housing types and lot densities to meet a range of housing needs. In addition, this chapter includes development standards and controls that encourage housing design to improve solar access to buildings and energy efficiency over the long term. This is particularly relevant in designing dwellings to accommodate Armidale's cold climate.

This chapter is to be read in conjunction with all relevant chapters in Section 2 Site Analysis and General Controls. All relevant matters relating to the development must be addressed in the development application, the SEE and on site analysis plans and site plans. The site analysis process may highlight the requirement for specialist reports to be undertaken.

1.2 Objectives

The objectives of this chapter are:

O.1 To encourage thoughtful internal and external building design that addresses Armidale's climate and provides a functional and cost effective living environment.

O.2 To provide for a range housing styles and sizes that fit visually within the streetscape in relation to building alignments and proportions.

O.3 To ensure that all development maximises the use of the site by using layouts that address site opportunities and constraints.

O.4 To ensure buildings are positioned to provide maximum sunlight access and privacy to habitable rooms of dwellings and private open spaces, both within the lot and on adjacent developments.

O.5 To provide controls that minimise the impact of development on adjoining neighbours and the streetscape.

1.3 Land to which this chapter applies

This chapter applies to land in the following zones:

R1	General Residential
R2	Low Density Residential
R5	Large Lot Residential
B4	Mixed Use

1.4 Types of development to which this chapter applies

This chapter applies to the following types of development:

- The erection of a new single or two storey dwelling;
- Alterations or additions to an existing single storey or two storey dwelling or the addition of a second storey to an existing single storey dwelling;
- The erection of a dual occupancy (attached or detached).
- The erection of a basement, either as part of a new dwelling house or as an addition or

alteration to an existing dwelling house.

- The erection of a roof terrace on the topmost roof of an existing or a new dwelling house; or, on an existing or a new outbuilding that is detached from a dwelling house;
- The erection of new ancillary development, or alterations or additions to existing ancillary development, is development specified in this chapter if the development is ancillary to a dwelling house. Please see the definitions for ancillary development at the end of this chapter.
- The erection of new detached outbuildings, or alterations or additions to existing detached outbuildings.
- The use of a dwelling as an Exhibition Home.

1.5 Addressing the guidelines in this chapter

The guidelines for single dwellings and dual occupancies are set out in this chapter. These are expressed in the form of objectives that need to be addressed for each development proposal. For each objective (O), 'acceptable solutions' (S) are provided which, if met, will ensure compliance. Alternative approaches may be proposed, provided these adequately address the relevant objectives and comply with legislation.

1.6 Developer contributions

Infrastructure contributions will be levied on physical and social infrastructure in accordance with Council's *Water Supply and Sewerage Development Servicing Plan*; *Section 94 Contributions Plan* and any other adopted Contributions Plan relevant to the site. This contribution may be a financial contribution, dedication of land and/or provision of a material public benefit be made by a developer to provide for or upgrade public services or facilities for which the development is likely to create a demand. Contributions that apply to development in rural and rural residential zones are outlined in the Council's adopted Contributions Plan and Water Supply and Sewerage Development Servicing Plan.

Depending upon the likely demand for public services or facilities that a development proposal is likely to generate, Council may also require preparation of a specific Contributions Plan or enter into a Planning Agreement with the developer prior to determining a particular development proposal.

Part 2 Site requirements, lot size and floor area controls

Objectives

O.1 To provide sufficient area on the site to allow for a generous rear garden, a landscaped front garden, and space between neighbours.

O.2 To minimise hard surface areas to allow for greater absorption of stormwater; and reduce impact on stormwater systems.

2.1 Lot size requirements for dwellings and dual occupancies

S.1 There is no minimum lot size for the erection of a dwelling or a dual occupancy (attached or detached) in the zones specified in this chapter.

2.2 Floor area for dwellings

S.2 There are no maximum floor area requirements for a dwelling house or dual occupancy; however, the minimum landscaping and private open space requirements outlined in this chapter must be met.

2.3	**Maximum floor area for outbuildings in the R1 and R2 zones**
S.3	The floor area of an outbuilding on a lot in the R1 and R2 zones must not be more than the following: a) $40m^2$, if the lot has an area of less than $500m^2$; b) $50m^2$, if the lot has an area of at least $300m^2$ but less than $600m^2$; c) $65m^2$, if the lot has an area of at least $600m^2$ but less than $900m^2$; d) $100m^2$, if the lot has an area of at least $900m^2$.
2.4	**Maximum floor area for outbuildings in the R5 zone**
S.4	The floor area of an outbuilding on a lot in the R5 zone must not be more than the following: a) $500m^2$, if the only purpose of the outbuilding is for agricultural use only; or b) $100m^2$, in any other case.
Part 3	**Lot and building design and external appearance**
Objectives	
O.1	To ensure buildings blend, rather than interrupt or contrast, with the existing and planned-for scenic values of the locality.
O.2	To ensure design and siting of buildings provides adequate privacy and minimises overshadowing and overlooking for residents and other dwellings in the locality.
O.3	To maximise solar access and passive heating and cooling principles to buildings and private open space.
O.4	To encourage design that responds to the topographical features of the site.
S.1	The design of the building and slope of the roof are to reflect the topography of the site (eg. split level houses can be an appropriate design on sloping sites) to minimise the need for cut and fill associated with dwellings, landscape and driveway construction.
S.2	Buildings should be orientated for optimum sunlight to living rooms, ideally with living rooms to the north (living rooms include lounge, family, kitchen and dining rooms).
S.3	Main living areas should open directly onto the private open space via large door openings, to allow adequate sunlight, natural light and ventilation into the house.
S.4	Buildings should be designed to create cross ventilation, with well considered placement of windows to draw breezes through the house.
S.5	Natural colours that blend with the colours of surrounding streetscape and vegetation and are non-reflective shall be used for external building materials and other structures.
Part 4	**Building height, bulk and scale**
Objectives	
O.1	To ensure that the height, bulk and scale of new buildings and outbuildings are not a dominant in the streetscape and that outbuildings are in proportion to the dwelling.
O.2	To ensure the building design and materials contribute to the quality of the overall streetscape.
O.3	To maximise solar access and cross ventilation to buildings, and prevent overshadowing.
O.4	To reduce overlooking of open space areas.

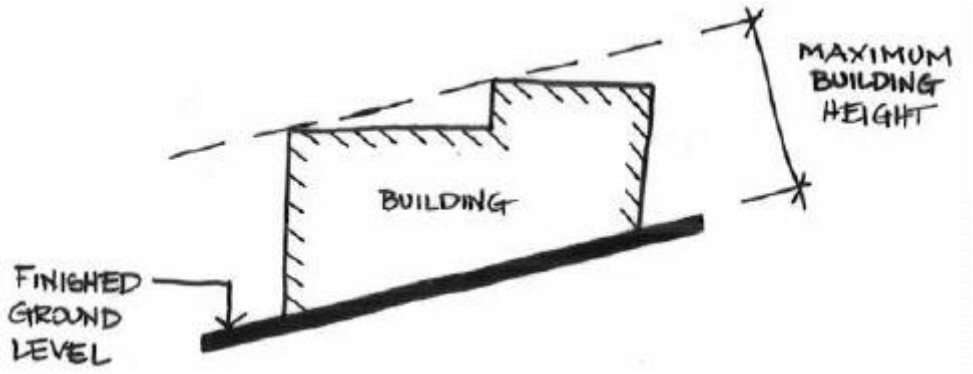
4.1	**Design of building height, bulk, scale and visual elements (including form, roofs and feature elements)**
S.1	The front facade of the dwelling should be articulated so that the height, bulk and scale are appropriate to the prevailing scale of the street and the surrounding buildings.
S.2	The character of the street must not be must not be detrimentally affected by buildings of a disproportionate size, bulk and scale, particularly in relation to adjacent dwellings.
S.3	The bulk and height of the building must be of an appropriate scale that suits the scale of the street and the surrounding buildings.
S.4	The height, bulk and scale of ancillary buildings or outbuildings must be proportional to the size of the dwelling.
S.5	Outbuildings are to be positioned so as not to be visible from the street or, if visible, not be more dominant than the dwelling.
S.6	In precincts undergoing a transition, proposed bulk and height must achieve the scale identified for the desired future character of the area.
S.7	The design achieves an appropriate built form for a site and the building's purpose, in terms of building alignments, proportions and building type.
S.8	Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook.
4.2	**Extension of building elements above the gutter line**
S.9	A building element on a dwelling (other than a pitched roof to an entry feature or portico that has the same pitch as the roof on the dwelling) must not extend above the gutter line of the eaves of a single or double storey house.
4.3	**Maximum height of dwellings and outbuildings**
4.3.1	**Relativity of height of building to ridgeline**
S.10	The highest point of a dwelling house, the alterations and additions to an existing dwelling house and any outbuilding must be at least 5m below the highest ridgeline of any hill within 100m of the dwelling or alteration or outbuilding.
4.3.2	**Building heights in the B4 zone**
S.11	The height of a building in the B4 zone is determined by the Height of Buildings Map of the *Armidale Dumaresq LEP 2012*.
4.3.3	**Building heights in the R1 and R2 zones**
S.12	The height of a dwelling house, or the alterations and additions to an existing dwelling house in the R1 and R2 zones must not measure more than 8.5m from existing ground level to the highest point on the building roof.
S.13	The height of an outbuilding or the alterations and additions to an existing outbuilding on a lot must not measure more than 4.8m from existing ground level to the highest point on the building roof.
4.3.4	**Building heights in the R5 zone**
S.14	The height of a dwelling house, or the alterations and additions to an existing dwelling

house in the R5 zone that has an area of less than 4000m^2 must not measure more than 8.5m from existing ground level to the highest point on the building roof.

S.15 The height of a dwelling house, or the alterations and additions to an existing dwelling house in the R5 zone that has an area of at least 4000m^2 must not measure more than 10m from existing ground level to the highest point on the building roof.

S.16 The height of an outbuilding or the alterations and additions to an existing outbuilding on a lot must not measure more than 4.8m from existing ground level to the highest point on the building roof.

Note: Existing ground level is measured vertically from the ground to the highest point on the roof line.



4.4 Building on a boundary and height of a boundary wall

S.17 The location of a building on a boundary may be considered by Council where the circumstances of the case warrant this design approach. A building setback of up to 150mm from a boundary is considered to be 'building on a boundary'.

S.18 Building on a boundary is not permitted within a Heritage Conservation Area or where this approach would be inconsistent with other relevant controls or guidelines.

S.19 The maximum height of a wall built on a boundary must not exceed an average of 3m in height with no part higher than 3.6m unless:

a) abutting a higher existing or simultaneously constructed wall; or

b) where it can be demonstrated that the bulk height and scale of the wall will not impact on the amenity, solar access and private open space of the adjoining dwelling.

Note: Building on a boundary requires consent from the owner of the adjoining land.

Part 5 Building setbacks

Objectives

O.1 To ensure buildings are positioned to provide maximum sunlight access and privacy to habitable rooms of dwellings and private open spaces, both within the lot and on adjacent developments.

O.2 To ensure that setbacks define the boundary between private and public space, and contribute to the character of the immediate streetscape.

O.3 To ensure buildings incorporate fire protection measures where setback requirements are reduced.

O.4 To provide setbacks that ensure the design of the dwelling façade is dominant, with the garage or carport a recessive element on the street elevation.

O.5 Where the dwelling is proximal to a classified road, to limit the impact of road noise on

	habitable rooms.
O.6	To reduce risks from potential fires in adjacent unmanaged vegetation.
5.1	**Setbacks for garages and carports in all zones**
S.1	A garage or carport is to be set back at least 1m behind the front façade of the dwelling.
5.2	**Setbacks in the R1 and R2 zones**
5.2.1	**Front facade setbacks in the R1 and R2 zones**
S.2	In the R1 zone, the front façade setback of the dwelling is to be a minimum of 4.5m, or
S.3	Where an adjoining front façade setback is less than 4.5m, the setback may be equal to or greater than that of an adjoining development.
S.4	In the R2 zone, the front façade setback of the dwelling is to be a minimum of 9m, or
S.5	Where an adjoining front façade setback is less than 9m, the setback may be equal to or greater than that of an adjoining development.
5.2.2	**Corner lot site setbacks in the R1 and R2 zones**
S.6	On the secondary street frontage, the setback is to be at least 4m from the side boundary.
S.7	Where an adjoining building setback is less than 4m, the setback is equal to or greater than that of the adjoining development.
5.2.3	**Side and rear setbacks in the R1 and R2 zones**
S.8	Any side or rear wall of a dwelling house, or any carport, garage, balcony, deck, patio, pergola, terrace or verandah that is attached to the dwelling house is to be setback a minimum of 0.9m from the boundary; or
S.9	Where side or rear setbacks are proposed to be less than 0.9m from the boundary, the relevant fire protection requirements of the BCA must be satisfied.
5.3	**Setbacks in the R5 zone**
5.3.1	**Front facade setbacks for dwellings in the R5 zone**
S.10	In the R5 zone, the front façade setback of any new building is to be a minimum of 20 metres from any public road.
S.11	A front façade setback greater than 20m may be required for land adjoining a classified road, if the noise assessment determines that this is necessary (See Chapter 2.1 Site Analysis and Land Constraints).
S.12	If any new dwelling is proposed to be constructed less than 50 metres from the boundary of an unsealed public road, the road shall be upgraded to a bitumen sealed road for a minimum distance of 100 metres.
5.3.2	**Side setbacks for dwellings in the R5 zone**
S.13	Where the lot has an area of less than 4000m^2, any side or rear wall of a dwelling house, or any carport, garage, balcony, deck, patio, pergola, terrace or verandah that is attached to the dwelling house is to be setback a minimum of 2.5m from the side boundary.
S.14	A dwelling house and all ancillary development must have a setback from a boundary with a secondary road that is not a classified road of at least the following:

a) if the lot has an area of less than 4000m^2 - 5m,

b) if the lot has an area of at least 4000m^2 - 10m.

S.15 A dwelling house and all ancillary development on a lot that has an area of less than 4000m^2 must have a setback from a boundary with a parallel road that is not a classified road of at least 10m.

S.16 Where the lot has an area of at least than 4000m^2, any side or rear wall of a dwelling house, or any carport, garage, balcony, deck, patio, pergola, terrace or verandah that is attached to the dwelling house is to be setback a minimum of 10m from the side boundary.

5.3.3 Rear setbacks for dwellings in the R5 zone

S.17 In the R5 zone, any dwelling house, or any carport, garage, balcony, deck, patio, pergola, terrace or verandah that is attached to the dwelling house is to be setback a minimum of 15m from the rear boundary.

5.3.4 Setbacks of outbuildings from side and rear boundaries in the R5 zone

An outbuilding, or alterations and additions to an existing outbuilding, must have a setback from a side or rear boundary of at least:

a) 10m, if the only purpose of the outbuilding is for agricultural use only; or

b) 5m, in any other case.

5.4 Allowable encroachments into setbacks

S.18 Verandahs, porches and pergolas may encroach into the front setback to a depth of 2.4m.

S.19 Terraces, landings, steps or ramps not more than 1m in height may project into the setback area.

S.20 Eaves, fascias, gutters, downpipes, masonry chimneys, flues, pipes, domestic fuel tanks, cooling or heating appliances or other services may project into the setback area provided that the distance to the boundary is greater than 0.5m. Such items may be located less than 0.5m from the boundary if relevant fire protection requirements of the BCA are satisfied.

S.21 Light fittings, electricity or gas meters, aerials or antennae, pergolas, screens or sun blinds may project into the setback area.

5.5 Setbacks from public reserves

S.22 A new dwelling house or outbuilding must have a setback of at least 3m from a boundary with a public reserve.

5.6 Setbacks from overhead electricity supply mains

S.23 Buildings must not be erected under existing overhead electricity supply mains. The minimum clearance measured horizontally from the vertical alignment of any overhead electricity supply conductor to the nearest part of the building shall be 15 metres. This requirement does not apply to an insulated overhead service which provides the electricity supply for the building.

5.7 Setbacks from unmanaged vegetation

S.24 Where land is not identified as bushfire prone, but is adjacent to unmanaged vegetation, a 10m asset protection zone is to be maintained in accordance with the requirements of the *Standards for Bushfire Protection 2006.*

S.25 Where an asset protection zone is required and cannot be provided between the proposed development and any unmanaged vegetation, additional fire protection measures shall be required, and may include:

a) Installation of a 1.8 metre high fence made of non-combustible materials between the development and any unmanaged vegetation. The bottom of the fence is to be in direct contact with the finished ground level or plinth; and

S.26 Flooring systems (including frame, supporting posts, columns, stumps, piers and poles), windows, external doors, vents, weepholes, eaves, verandahs and decks being constructed in accordance with the requirements for Level 1 construction in the current Australian Standards (*AS 3959 Construction of buildings in bushfire-prone areas).*

S.27 All developments on land that is designated as bush fire prone must meet the requirements of *Planning for Bush Fire Protection 2006* and *AS3959 Construction of buildings in bushfire-prone areas*.

Part 6 Articulation zones

Objectives

O.1 To ensure that building elements in the articulation zone define the boundary between private and public space, and contribute to the character of the dwelling and the immediate streetscape.

6.1 What is an articulation zone?

An articulation zone is an area within a lot where building elements may be located. The articulation zone is located is measured horizontally forward from the foremost edge of the front façade of the building.

6.2 Building elements within the articulation zone

S.1 The following building elements are permitted in the articulation zone:

a) an entry feature or portico;

b) a balcony, deck, patio, pergola, terrace or verandah;

c) a window box;

d) a bay window or similar feature;

e) an awning or other feature over a window,

f) a sun shading feature.

S.2 The maximum area of all building elements within the articulation zone, other than a building element listed in S.1 (e) or (f) above, must not be more than 30 per cent of the area of the articulation zone.

6.3 Verandahs and open porches within the articulation zone

S.3 Elements such as entry features, a balcony, deck, patio, pergola, terrace or verandah may extend beyond the front façade by a maximum of 2.4m.

6.4 Window features, awnings and shade features within the articulation zone

S.4 Feature elements such a window box; a bay window or similar feature; an awning or other feature over a window, or a sun shading feature may extend beyond the front façade by a maximum of 1.5m.

6.5	**Extension of building elements above the gutter line**
S.5	A building element on a dwelling (other than a pitched roof to an entry feature or portico that has the same pitch as the roof on the dwelling) must not extend above the gutter line of that section of the building.
Part 7	**Dwelling entry, privacy and surveillance**
Objectives	
O.1	To ensure the entry to a dwelling is clearly identifiable.
O.2	To provide privacy and security for residents, and passive surveillance from dwellings over adjacent streets and public spaces.
O.3	To prevent external lighting from being a nuisance to surrounding properties.
O.4	To design for accessibility for people with disabilities where possible.
7.1	**Dwelling entry**
S.1	Entries to dwellings should be clearly visible from the street where the lot has street frontage, or from the internal driveway on a battleaxe lot so that visitors can easily identify the dwelling entrance.
S.2	House numbering is to be provided in a visible place on or near the entrance for the convenience of visitors, emergency services and postal services.
S.3	Entries are, or can be easily be adapted to be accessible at ground-floor level to people with disabilities.
S.4	Adequate entrance lighting is to be provided and positioned so as not to radiate into neighbouring properties.
7.2	**Mail boxes**
S.5	One mail box per dwelling is required.
S.6	Mail boxes are to be accessible and located at the front of the property, as close to the footpath as possible.
S.7	Mailboxes must be constructed from durable materials and be designed to blend in with the predominant style of the front fencing and the dwelling.
S.8	Mail boxes should be large enough to cater for A4 size envelopes, newspapers and other general mail.
7.3	**Security and surveillance**
S.9	The design of the dwelling shall provide for at least one habitable room overlooking the street so that general surveillance of the site and approaches to entries is possible from inside dwellings.
S.10	A window or peephole in the main door should allow visitors to be seen from inside the dwelling without requiring the resident to open a door.
7.4	**Privacy**
S.11	Outlook from windows, balconies, stairs, landings, terraces, and decks or other private areas within a development should be screened or obscured where a direct view is available into the private open space of an adjoining dwelling.
S.12	Where screening is used, the view of the area overlooked must be obscured within 9m and

beyond a 45° angle from the plane of the wall containing the opening, measured from a height of 1.6m above floor level.

S.13 No screening is required if windows are to:

a) bathrooms, toilets, laundries, storage rooms or other non-habitable rooms and have translucent glazing or sill heights of at least 1.5m; or

b) habitable rooms and have sill heights 1.5m or greater above floor level or translucent glazing to any window less than 1.5m above floor level; or

c) habitable rooms facing a property boundary where there is a visual barrier at least 1.5m high and the floor level of the room is less than 0.6m above the level of the ground at the boundary.

S.14 A balcony, deck, patio, pergola, terrace or verandah (or any alterations to such) that overlooks a private open space area (except its own private space area) must have a privacy screen if:

a) it has a setback of less than 3m from a side or rear boundary; and

d) it has a floor area more than $3m^2$; and

e) has a floor level more than 1 metre above ground level (existing).

Part 8 Private open space and landscaping

Objectives

O.1 To create a street and landscape character by constructing well defined front gardens, street trees and the visibility of backyard trees beyond the dwelling.

O.2 To ensure that private open space is designed and located to receive maximum sunlight and integrates with the living area(s) of a dwelling.

O.3 To ensure the principal private open space areas are not overlooked by neighbouring properties.

O.4 To provide adequate outdoor private open space for recreational, service and storage needs.

O.5 For dual occupancies, to ensure that any communal areas are of benefit to all residents, and can be effectively maintained.

8.1 Private open space areas

S.1 Each dwelling on a lot is to be provided with a principal private open space area that is:

a) a minimum of $60m^2$;

b) is at least 6m wide;

c) is not steeper than 1:50 gradient; and

d) is directly accessible from, and adjacent to, one or more habitable rooms (other than a bedroom).

S.2 A two storey dwelling must provide its principal private open space area at ground level.

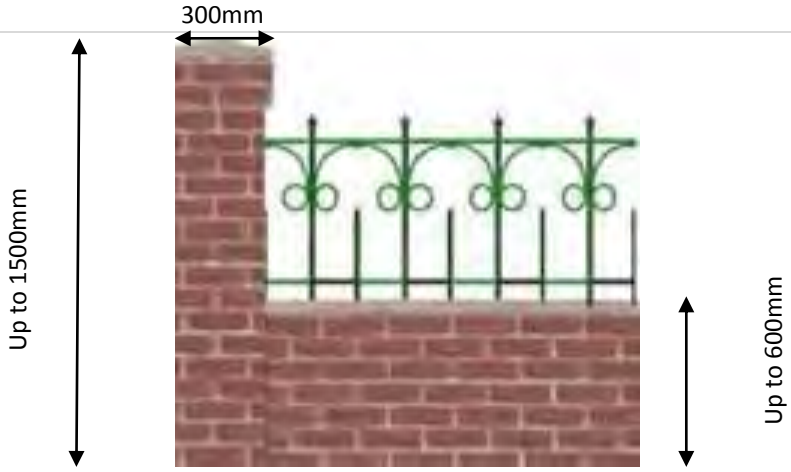
S.3 Private open space areas should be designed to have amenity, slope and dimensions that will make them functional and will be suited to likely residents.

S.4 Any communal open space (dual occupancies) is to be appropriate for use by residents, cost-effective to manage, and designed to ensure the safety and security of residents.

S.5 Outdoor spaces should be generously designed, rather than them being 'left over' spaces around the dwelling.

S.6 Service spaces for rubbish and storage are to be screened or positioned to the side or rear of

	the building.
8.2	**Sunlight to private open space**
S.7	Buildings should be designed and positions so that they do not significantly overshadow main private open space areas, including main private open space areas on neighbouring properties.
S.8	At least half of the principle private open space should receive 3 hours or more of sunlight between 10am and 2pm on June 21 (winter solstice);
S.9	Overshadowing to the private open space on an adjoining property between the hours of 9.00am and 3.00pm on 21 June is to be no more than that caused by a 1.8 metre boundary fence or other existing obstructions (including trees).
8.3	**Landscaping forward of the building line**
S.10	If the lot has a width, measured at the building line, of at least 18m, at least 50% of the area forward of the building line to the primary road must be landscaped.
S.11	If the lot has a width, measured at the building line, of less than 18m, at least 25% of the area forward of the building line to the primary road must be landscaped.
S.12	Where the lot does not front a primary road (ie. a battleaxe lot), the area forward of the front façade of the dwelling must be landscaped as outlined above.
Part 9	**Fences and retaining walls**
Objectives	
O.1	To provide front fencing that compliments the dwelling design and is attractive in the streetscape.
O.2	To regulate the height of a front fence to encourage the use of the front garden, and increase surveillance and activation of the street.
9.1	**Front fences in the R1, R2 and B4 zones**
S.1	A front fence and any associated retaining wall must be located within the front setback area.
S.2	Front fences may be: a) be up to 1.2m above existing ground level, or 1.5m high if more than 50% transparent; b) be of open appearance; c) any brick or other solid portion of the fence above 600mm should not be more than 350mm wide and the remaining fence must be of open design.
S.3	Consideration of articulation of the fence, including insertions of plantings in the articulated space should be considered as a design alternative, especially on wide frontages.
S.4	Facilities in the frontage area such as gates, letter boxes, and garbage bin enclosures are to be compatible in design with the front fence, and the overall character and design of the development.
S.5	Front fencing, should be designed to look like part of the street, rather than an extension of the dwelling.



9.2	**Fences in the R5 zone**
S.6	A stock proof fence must be constructed on all public road frontages and public open space areas in the R5 zone.
S.7	To maintain the landscape values and rural residential character of the locality, such fencing is not to be metal panel fencing (of any height).
9.3	**Fences on Heritage Items and/or in Heritage Conservation Areas**
S.8	In a Heritage Conservation Area, or on a Heritage Item, front fences must be designed and located in accordance with the provisions in Chapter 2.3 European Heritage.
S.9	These provisions provide information on the materials, height, styles and streetscape considerations for heritage fence design and construction.
9.4	**Fencing on corner lots**
S.10	On corner lots the front fence style and height should continue around the corner to the secondary street to a point level with the front facade of the dwelling.
S.11	Fencing shall not be of a height that compromises sight distances, vehicle or pedestrian safety.
S.12	Side fences on a corner lot are to be tapered from the height of the front boundary fence to a maximum height of 1.8m at the point level with the front facade of the dwelling.
9.5	**Stepped front fencing on sloping sites**
S.13	The fence, or the fence and associated retaining wall, on a sloping site may be stepped.
S.14	The height of each step must not be more than: a) 1.5m above ground level (existing) if it is located within a setback area from a primary road, or b) 2.2m above existing ground level in any other case.
9.6	**Construction and materials**
S.15	Solid panel fencing (eg. Colorbond®)and metal mesh fencing is not permitted for front fences.
S.16	Barbed wire, jagged edging of sharp materials, and electric fencing is not permitted.
S.17	Metal used in the construction of a fence must be low reflective and factory pre-coloured.
S.18	Fencing materials shall compliment the dwelling and streetscape/landscape.

S.19	If the land is bush fire prone, the fence and any retaining wall must be constructed from non-combustible materials.
9.7	**Surface water flow**
S.20	A fence or retaining wall must not be constructed so that it redirects the overland flow of surface water onto any adjoining property.

Part 10 Car parking

Objectives

O.1 To provide adequate and convenient parking for residents.

O.2 To ensure a change of use of a garage or carport to a habitable room meets the BCA requirements.

10.1	**Car parking spaces per dwelling**
S.1	Each dwelling on the lot is to be provided with a minimum of one covered car space (garage or fixed carport).
S.2	At least one covered car parking space per dwelling must be retained or provided in an alternative location where alterations and/or additions are proposed that remove the use of an existing car parking space/garage/carport for that purpose.
S.3	Detached garages and carport parking spaces should be positioned to provide convenient access to the dwelling.

Note: Compliance with the Building Code of Australia is required where alterations and/or additions to an existing garage or carport create a habitable room(s) within a dwelling.

10.2	**Car parking space size and design**		
S.4	Size of car spaces within garages	Car spaces within garages or contained by walls must have minimum dimensions (measured internally) of:	
		Single garage space	***Double garage space***
		6.0m x 3.0m	6.0m x 5.5m
S.5	Size of car spaces for carports or uncovered	Car space sizes for carports or uncovered hard stand areas:	
		Single carport space	***Double carport space***
		5.4m x 2.6m	5.4m x 3.2m
		Car space sizes for carports or uncovered hard stand areas where access is from the side (parallel parking):	
		Single car space	***Minimum access lane width***
		at least 6.3m long and 2.1m wide	3.2m
10.3	**Projection of buildings into car spaces**		
S.6	An adjoining building may project into the space if the projection is at least 2.1m above the car space.		

Part 11 Garages and carports

Objectives

O.1 To ensure the design of the dwelling façade is dominant, with the garage or carport a recessive element on the street elevation.

O.2 To ensure that the position of the garage or carport on a lot allow the maximum solar access possible to the private open space and internal living areas of the dwelling.

11.1 Garage positioning to maximise solar access to dwelling

S.1 Where site conditions allow, garages should be located on the southern side of east-west facing lots, and the western side of north-south facing lots.

11.2 Garage setbacks from the front façade of the building

S.2 Garages must be set back at least 1m from the front façade of the dwelling.

S.3 Where there are reduced setbacks, garages must be set back at least 5.5m from the front boundary.

11.3 Permitted number of garages for a single dwelling

S.4 Single garages are permitted.

S.5 Single fronted tandem garages (with one space behind the other) are permitted.

S.6 Double garages are permitted on lots 12m wide or greater.

S.7 Garages for three or more vehicles are not permitted except where:

a) they are constructed as an outbuilding;

b) the area of the garages do not exceed the maximum floor area for outbuildings; and,

c) the outbuilding is constructed so it is of minimum visibility from the street.

11.4 Garage door widths (external)

S.8 The total external width of garage door openings must:

a) not exceed 50% of the width of the dwelling;

b) each be no wider than 6m.

Part 12 Vehicle access and driveways

Objectives

O.1 To ensure all development has legal and properly constructed access.

O.2 To ensure property access is located with safe sight distances and adequate distances from corners.

O.3 To minimise the extent of private access arrangements over adjoining land (rights-of-carriageway).

O.4 To ensure that the standard of public roads is sufficient for traffic likely to be generated by a development.

O.5 To minimise future costs to the community associated with road improvement and maintenance.

O.6 To ensure that internal access roads are sited to minimise impacts on the environment and are constructed to a standard suitable to provide safe access for residents, employees and emergency services.

O.7	To encourage design that responds to the topographical features of the site, and reduces the requirement for excavation and/or fill.
Note: All road and pavement construction, including roads, driveways, and kerb and gutter profiles are to comply with the requirements of Council's Engineering Code.	
12.1	**Road access in all zones**
S.1	A dwelling house or dual occupancy dwelling must have legally and properly constructed access to a public road.
S.2	Land having frontage to an existing dedicated Public Road that is maintained by Council may obtain access from the road. Where the development is for a new dwelling, dual occupancy or the alterations and additions to an existing dwelling house or dual occupancy in the R5 zone, improvements to the existing public road will not be required.
S.3	Where the lot or holding on which the development is proposed to be carried out has frontage to an existing Public Road that is unconstructed or is not maintained by Council, the full cost of upgrading that road to Council's specification is to be borne by the developer.
S.4	Developments expected to generate significant traffic may require existing public roads to be upgraded to a suitable and safe standard for the use.
12.2	**Access and roads in the R1 and R2 zones**
12.2.1	**Road standards in the R1 and R2 zones**
S.5	For new dwellings and dual occupancies in the R1 and R2 zones, a two lane sealed road is required in accordance with Council's Engineering Code.
S.6	For unconstructed roads, a half road width of a sealed two lane road is required.
12.2.2	**Driveways in the R1 and R2 zones**
S.7	Driveways are not to be less than 3m wide.
S.8	At changes of direction or at intersections, the internal radius of the driveway must be at least 4m.
S.9	Where the driveway is longer than 50m (eg battle-axe handles) provision for passing must be provided.
S.10	The driveway should not be located within 6m of a road intersection.
S.11	The driveway access point should be via the minor street where the site is bounded by a major and a minor road.
S.12	The driveway access points should not to conflict with existing vehicle or pedestrian generators.
S.13	The driveway must provide flood free vehicle access.
S.14	Where the land adjoins an existing sealed public road, the driveway shall be sealed from the road shoulder to the boundary.
S.15	Direct access to a classified road will not be permitted where another practical option exists.
S.16	Driveway position must consider the location of utilities in road reserves and the position of street trees. Street trees may only be removed if no other options exist. For street tree provisions, including valuation of street trees, see the Urban Streetscape (Street Vegetation) Policy POL120 Urban Streetscape Plan.
S.17	The driveway shall be located so as to minimise earthworks and removal of vegetation/street trees in the road reserve.

S.18 Entrances shall be limited to one per lot unless approved otherwise by Council. The relocation of an existing entrance may require the complete removal of the existing entrance.

S.19 Any new driveway on a classified road shall be located and constructed in accordance with the requirements of the relevant road authority.

S.20 Lot design enables driveways on major collector streets and streets which carry more than 3000 vpd to be designed to promote forward movement of vehicles across the verge.

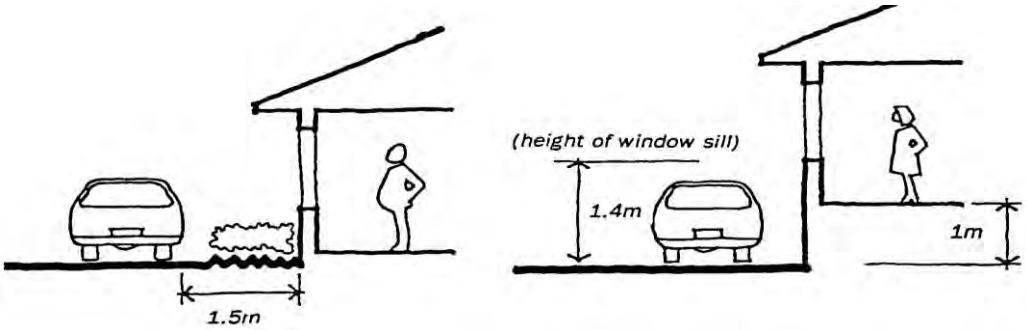
S.21 Any new driveway on a local road shall have safe intersection sight distance in accordance with Table 3.2 of *Austroads 2010*.

12.2.3 Shared driveways in the R1 and R2 zones

S.22 Shared driveways, access ways and car parks of other dwellings should be set back a minimum of 1.5m from windows to habitable rooms of dwellings, unless the floor level of the dwelling is at least 1m above the driveway.

S.23 The setback may be reduced to 1m when the driveway is bounded by a minimum fence height of 1.5m height.

S.24 Where a dual occupancy is accessed via a shared driveway, the driveway is to be designed for vehicles to leave and enter the site in a forward direction.



12.2.4 Right-of-Carriageway in the R1 and R2 zones

S.25 Access by right-of-carriageway is not allowed in the R1 and R2 zones.

12.3 Surface treatment of driveways

S.26 To reduce the amount of hard surface and increase on-site stormwater infiltration, the amount of paved surface may be modified as follows:

a) the paved length of 90° car spaces may be reduced from 5.4m to 5.1m where the additional 0.3m is provided as lawn or garden bed suitable for the overhang of vehicles

b) the paved width of access lanes for 90° parking may be reduced from 6.0m to 5.7m, provided that the accessway is at least 0.3m from a wall, fence or other solid barrier greater than 100mm high

c) paved widths in 3m wide driveways may be reduced to 2.6m, provided 0.2m either side remains unobstructed.

S.27 Car spaces, accessways and driveways are to be formed, defined and drained to a Council drainage system, and surfaced with an all-weather seal such as concrete, coloured concrete, asphalt or mortared pavers; or a stable, smooth, semi-porous paving material (such as brick, stone or concrete pavers) laid to the paving standard for light vehicle use

12.4	**Kerb or barrier in the R1 and R2 zones**
S.28	A kerb 150mm high by at least 150mm wide or a barrier is to be provided where appropriate to prevent vehicles having access to the street other than by a crossover, or to prevent vehicles protruding beyond the site boundary.
12.5	**Access and Roads in the R5 zone**
12.5.1	**Road standards in the R5 zone**
S.29	A single lane sealed road to the nearest Council maintained public road is required.
12.5.2	**Driveway location in the R5 zone**
S.30	Provision of an adequate all weather access will generally require gravelling from the road shoulder to the boundary and in most cases will require the provision of a piped gutter crossing in accordance with Council's Engineering Code.
S.31	Where the land adjoins an existing sealed public road, the driveway crossover shall be sealed from the road shoulder to the boundary.
S.32	The driveway shall be located so as to minimise earthworks and removal of vegetation in the road reserve.
S.33	Entrances shall be limited to one per lot unless approved otherwise by Council. The relocation of an existing entrance may require the complete removal of the existing entrance.
S.34	Direct access to a classified road will not be permitted where another practical option exists.
S.35	Any new driveway on a classified road shall be located and constructed in accordance with the requirements of the relevant road authority.
S.36	Any new driveway on a local road shall have safe intersection sight distance in accordance with Table 3.2 of *Austroads 2010*.
12.6	**Right-of-Carriageway in the R5 zone**
S.37	Access by right-of-carriageway is not encouraged and will only be permitted in cases where no other practical alternative exists.
S.38	The right-of-carriageway shall only serve one lot or holding and must not be located on a lot containing an existing right-of-carriageway.
S.39	The right-of-carriageway shall have a width of not less than 20 metres.
12.7	**Construction and dedication of a Crown Road as a Council Public Road**
S.40	Where access is proposed via a Crown Road, the road is to be constructed by the developer to Council's specification and dedicated as a Council public road.
S.41	The applicant is to provide written agreement from the responsible authority (currently NSW Crown Lands) for the use of the Crown Road for access.
12.8	**Undedicated roads**
Undedicated roads are roads that are not dedicated as Council or Crown Roads and include Forestry Roads, Rural Lands Protection Board reserves and Ministerial Roads.	
S.42	The applicant is to provide written agreement from the responsible authority for the use of the road for access.

Part 13 Utility infrastructure

Objectives

O.1 To ensure that land within Council's Development Servicing Plan for Water and Sewerage is provided with services in accordance with that Plan.

O.2 To ensure internal services are positioned for effective use of land and access by servicing authorities.

O.3 To ensure that all development has adequate water supply to meet domestic/commercial, and fire fighting demands.

O.4 To ensure that satisfactory provision is made for the safe and nuisance free disposal of effluent.

O.5 To ensure that an adequate electricity supply is available for the intended use.

13.1 Water supply in the R1, R2 and B4 zones

S.1 Development on land in the R1, R2 and B4 zones must connect to Council's reticulated water supply.

13.2 Water supply in the R5 zone

S.2 Development on land in the R5 zone within the 'Water DSP Development Area' must connect to Council's reticulated water supply if the land is located within 225 metres of an existing water main.

S.3 Development on land that is greater than 225 metres from an existing water main must connect to Council's reticulated water supply, except where the applicant can justify, to Council's satisfaction, that a reticulated supply is not required based on the criteria below:

a) the type and scale of the development relative to its proximity to the existing reticulated water supply system.

b) the sequence of infrastructure provision identified under the Development Servicing Plan for Water and Sewerage relative to the proposed development.

c) potential future development of nearby land, including type and timing of development(s).

d) the ability of on-site water supply to provide for domestic/commercial demands and a reliable fire fighting reserve.

e) the economic feasibility of connection to a reticulated water supply compared to providing on-site water storage. A cost benefit analysis is to be submitted, including the total cost to install, run and maintain an on-site water supply system compared to the cost of providing reticulated water supply over a substantial period being 20 years.

S.4 Where the development will not be connected to Council's reticulated water supply, it will be required to have not less than 70,000 litres of domestic water storage per dwelling. Although not specifically required by Council, it is recommended that landowners consider providing a greater storage capacity.

S.5 In addition to the minimum quantities of domestic water storage required above, a dedicated reserve for fire fighting purposes of not less than 20,000 litres shall be provided. For development on bush fire prone land as identified on Council's Bush Fire Prone Land Map certified by the Rural Fire Service, additional storage capacity may be required.

S.6 The dedicated fire fighting water supply tank shall:

a) include a 65mm Storz fitting and ball or gate valve, or if the tank is in ground, it shall

be fitted with a 200mm x 200mm child proof access hole.

b) provide for fire fighting appliances (i.e. trucks and tankers) to gain access to within 4 metres of the tank.

c) include a minimum 3kW (5hp) petrol, diesel or generator powered pump, including appropriate fittings.

13.3 Sewerage systems in the R1, R2 and B4 zones

S.7 Development on land within the R1, R2 and B4 zones must connect to Council's reticulated sewerage system.

13.4 Sewerage systems in the R5 zone

S.8 Development on land within the R5 zone and within the 'Sewer DSP Development Area' must connect to Council's reticulated sewerage system if the land is located within 75 metres of an existing sewer main.

S.9 Development on land within the R5 zone that is greater than 75 metres from an existing sewer main must connect to Council's reticulated sewerage system, except where the applicant can justify to Council's satisfaction, that connection to Council's sewerage system is not required based on the criteria below:

a) The proposed on-site sewerage management system(s) must be able to demonstrate that it can satisfy Council's Policy POL 225 – Regulatory: Local Approvals Policy - On-site Waste Water Systems.

b) The case for on-site waste management is consistent with the type and scale of the development relative to its proximity to the existing reticulated sewerage system.

c) The sequence of infrastructure provision identified under the Servicing Plan relative to the proposed development.

d) The case for on-site waste management considers potential future development of nearby land, including type and timing of development(s).

e) A case for on-site waste management is consistent with and accounts for future development on the subject land with respect to the area of the land parcels, type of development and sensitivity of the environment.

f) The economic feasibility of connection to Council's sewer compared to providing an on-site sewerage management system. A cost benefit analysis is to be submitted, including the total cost to install, run and maintain an on-site system compared to the cost of connecting to the sewer over a substantial period being 20 years.

13.5 Stormwater drainage

S.10 Stormwater drainage systems are to be designed in accordance with Chapter 2.7 Floodplain Protection and Stormwater Drainage.

13.6 Electricity supply

S.11 Electricity supply requirements are outlined in Chapter 2.1 Site Analysis.

13.7 Solar panels and solar heat pumps

S.12 Location and installation of all solar panels and solar heat pumps must comply with the provisions of the *State Environmental Planning Policy (Infrastructure) 2007.*

S.13 In a Heritage Conservation Area, or on a Heritage Item, solar panels must be designed and

located in accordance with the 'Solar and Wind Energy Installations' provisions in Chapter 2.4 European Heritage. These heritage provisions provide information on the materials, colour, height and streetscape considerations for solar installations.

Part 14 Earthworks

S.1 Where earthworks are required, including excavation, fill, retaining walls, batters and geotechnical investigations (including soil, slip and spring activity), the relevant provisions in *LEP 2012* Clause 6.1 Earthworks and Chapter 2.6 – Earthworks and Geotechnical Assessment must be applied.

Part 15 Open fireplaces

O.1 To protect the amenity and air quality of the region.

S.1 Open fire places are not permitted in any zone.

Part 16 Exhibition homes

Application may be made for the temporary use as an exhibition home for display purposes. Exhibition homes may be used to display and promote well designed housing and to market innovative housing solutions, technologies and construction methods and design materials.

Objectives

O.1 To allow dwellings to be used temporarily for exhibition or display purposes.

Where a dwelling is constructed or renovated with the intent of being temporarily used as an exhibition home, the following controls will be applicable:

S.1 The term of the use as an exhibition home is to be a maximum of two years, after which time the premises must revert to use as a dwelling.

S.2 The exhibition home hours of operation are restricted to 8.30am to 6.00pm.

S.3 The exhibition home must include a room or suite of rooms that are capable of being occupied or used as a separate domicile.

S.4 At least 2 onsite parking spaces must be provided. These parking spaces must meet the parking space requirements outlined in this chapter.

S.5 Persons must not reside in the exhibition home during the period of its operation as an exhibition home.

S.6 Access for persons with disabilities should be considered for the period of the use as an exhibition home.

S.7 The use of signage and logos must comply with any relevant signage and advertising provisions. Signage will be permitted during the agreed term of use as an exhibition home only.

S.8 The exhibition home must comply with all of the requirements for a dwelling as outlined in this chapter.

Part 17 Definitions

The following definitions are found in LEP 2012 Dictionary.

basement means the space of a building where the floor level of that space is predominantly below ground level (existing) and where the floor level of the storey immediately above is less than 1 metre above ground level (existing).

dual occupancy (attached) means 2 dwellings on one lot of land that are attached to each other, but does not include a secondary dwelling.

dual occupancy (detached) means 2 detached dwellings on one lot of land, but does not include a secondary dwelling.

dwelling means a room or suite of rooms occupied or used or so constructed or adapted as to be capable of being occupied or used as a separate domicile.

The following definitions are found in SEPP (Exempt and Complying Development Codes (2008).

ancillary development means any of the following:

a) access ramp;

b) awning, blind or canopy;

c) balcony, deck, patio, pergola, terrace or verandah that is attached to a dwelling house;

d) carport that is attached to a dwelling house;

e) detached studio;

f) driveway, pathway or paving;

g) fence or screen;

h) garage that is attached to a dwelling house;

i) outbuilding;

j) rainwater tank that is attached to a dwelling house;

k) retaining wall;

l) swimming pool or spa pool and child-resistant barrier.

outbuilding means any of the following:

m) balcony, deck, patio, pergola, terrace or verandah that is detached from a dwelling house;

n) cabana, cubby house, fernery, garden shed, gazebo or greenhouse;

o) carport that is detached from a dwelling house;

p) farm building;

q) garage that is detached from a dwelling house;

r) rainwater tank (above ground) that is detached from a dwelling house;

s) shade structure that is detached from a dwelling house;

t) a shed.

principal private open space means an area an area directly accessible from, and adjacent to, a habitable room (other than a bedroom); and, is not steeper than 1:50 gradient. Principal private open space may include an area of land, a terrace, a balcony or deck.

Armidale
Dumaresq Council

Armidale Dumaresq
Development Control Plan 2012

Part 4 Residential Development Controls

Chapter 4.2 Urban Residential Development for:

- Multi-Unit Housing
- Residential Flat Buildings
- Attached Dwellings
- Semi-detached Dwellings
- Shop Top Housing

Contact Details

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New South Wales 2350
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Email council@armidale.nsw.gov.au

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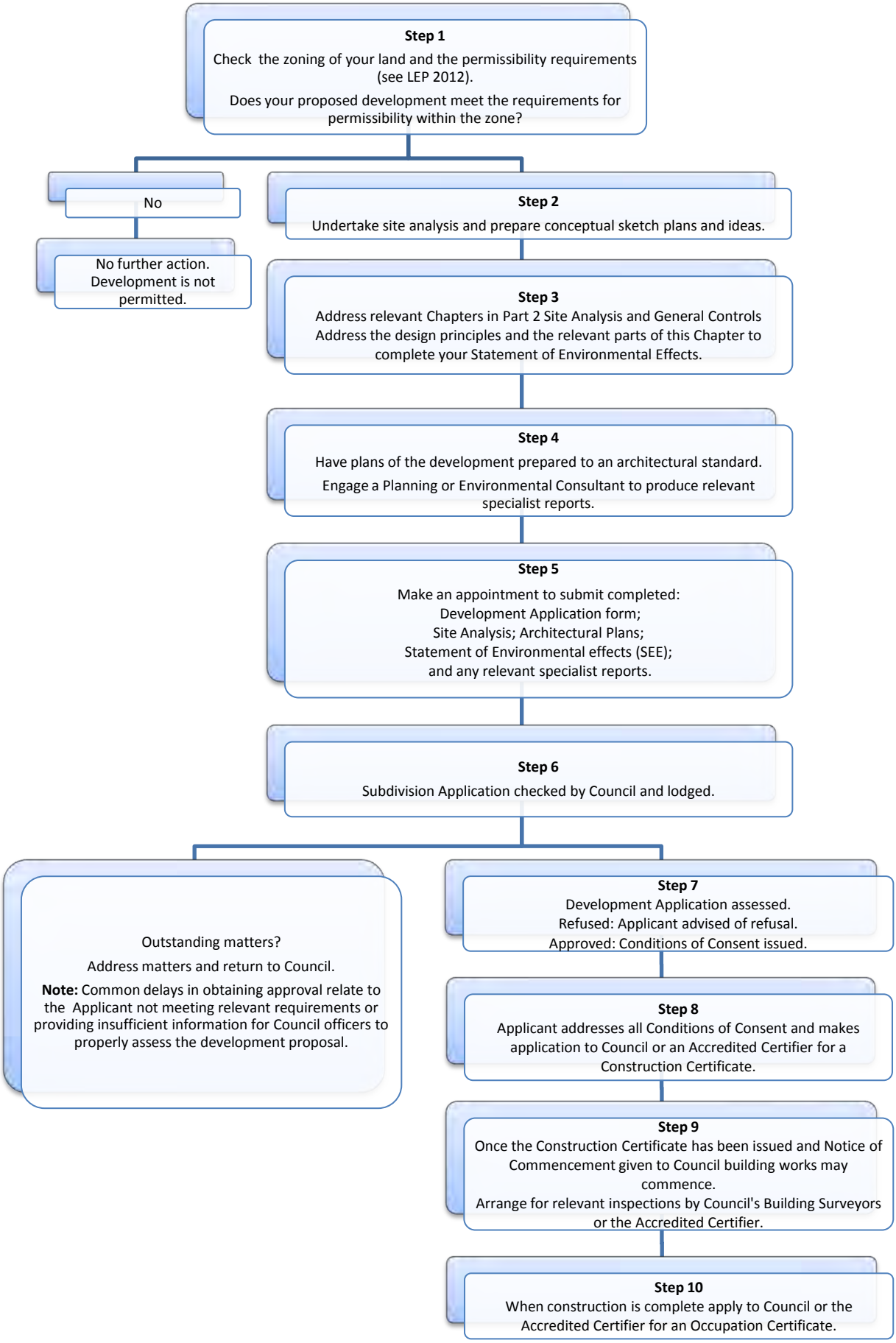

Step 1
Check the zoning of your land and the permissibility requirements (see LEP 2012).
Does your proposed development meet the requirements for permissibility within the zone?
No
No further action. Development is not permitted.
Step 2
Undertake site analysis and prepare conceptual sketch plans and ideas.
Step 3
Address relevant Chapters in Part 2 Site Analysis and General Controls
Address the design principles and the relevant parts of this Chapter to complete your Statement of Environmental Effects.
Step 4
Have plans of the development prepared to an architectural standard.
Engage a Planning or Environmental Consultant to produce relevant specialist reports.
Step 5
Make an appointment to submit completed:
Development Application form;
Site Analysis; Architectural Plans;
Statement of Environmental effects (SEE);
and any relevant specialist reports.
Step 6
Subdivision Application checked by Council and lodged.
Outstanding matters?
Address matters and return to Council.
Note: Common delays in obtaining approval relate to the Applicant not meeting relevant requirements or providing insufficient information for Council officers to properly assess the development proposal.
Step 7
Development Application assessed.
Refused: Applicant advised of refusal.
Approved: Conditions of Consent issued.
Step 8
Applicant addresses all Conditions of Consent and makes application to Council or an Accredited Certifier for a Construction Certificate.
Step 9
Once the Construction Certificate has been issued and Notice of Commencement given to Council building works may commence.
Arrange for relevant inspections by Council's Building Surveyors or the Accredited Certifier.
Step 10
When construction is complete apply to Council or the Accredited Certifier for an Occupation Certificate.

Part 1 General provisions

1.1 Introduction

This chapter outlines the development controls for construction and alterations or additions to multi-unit housing, residential flat buildings, attached dwellings and shop top housing in the urban residential zones in the Armidale Dumaresq local government area.

The purpose of this chapter is to guide design and to promote innovative housing solutions that will provide a range of housing types and lot densities to meet a range of housing needs. In addition, this chapter includes development standards and controls that encourage housing design to improve solar access to buildings and energy efficiency over the long term. This is particularly relevant in designing dwellings to accommodate Armidale's cold climate.

This chapter is to be read in conjunction with all relevant chapters in Section 2 Site Analysis and General Controls. All relevant matters relating to the development must be addressed in the development application, the SEE and on site analysis plans and site plans. The site analysis process may highlight the requirement for specialist reports to be undertaken.

1.2 Objectives

The objectives of this chapter are:

O.1 To encourage high design standards for internal and external building design that addresses Armidale's climate and provides a functional and cost effective living environment.

O.2 To provide for a range housing styles and sizes that fit visually within the streetscape in relation to building alignments and proportions.

O.3 To promote urban consolidation by providing dwelling types that maximise lot yields.

O.4 To enable residential developments to maximise the use of available physical and social infrastructure.

O.5 To increase the density of housing to meet existing and future community needs.

O.6 To ensure that all development maximises the use of the site by using layouts that address site opportunities and constraints.

O.7 To provide controls that minimise the impact of development on adjoining neighbours and the streetscape.

1.3 Land and types of development to which this chapter applies

This chapter applies to the following zones and types of development in those zones:

R1	General Residential	Multi-unit housing Residential flat buildings Attached dwellings Semi-detached dwellings Shop top housing
R5	Large Lot Residential	Attached dwellings
B4	Mixed Use	Multi-unit housing Residential flat buildings Attached dwellings Semi-detached dwellings Shop top housing
RU5	Village	Multi-unit housing Residential flat buildings Attached dwellings Semi-detached dwellings Shop top housing

1.4 Types of development to which this chapter applies

This chapter applies to the following types of development where they are permissible in the above zones (please see the definitions for these types of development at the end of this chapter):

- multi-unit housing, residential flat buildings, attached dwellings, semi-detached dwellings.
- shop top housing.
- alterations or additions to an existing multi-unit housing, residential flat buildings and shop top housing or the addition of a second storey to an existing single storey multi-unit housing block or residential flat buildings.
- the construction of a basement, either as part of new multi-unit housing or residential flat buildings or as an addition or alteration to an existing multi-unit housing or residential flat buildings.
- the construction of a roof terrace on the topmost roof of an existing or a new multi-unit housing or residential flat building.
- the construction of new ancillary development, or alterations or additions to existing ancillary development, is development specified in this chapter if the development is ancillary to multi-unit housing, residential flat buildings, attached dwellings, semi-detached dwellings, shop top housing.
- the construction of new detached outbuildings, or alterations or additions to existing detached outbuildings.
- the use of a single unit in a multi-unit housing unit complex or a single unit in a residential flat building as an Exhibition Home.

1.5 Addressing the guidelines in this chapter

The guidelines for multi-unit dwellings are set out in this chapter. These are expressed in the form of objectives that need to be addressed for each development proposal. For each objective (O), 'acceptable solutions' (S) are provided which, if met, will ensure compliance. Alternative approaches may be proposed, provided these adequately address the relevant objectives and comply with legislation.

1.6 Developer contributions

Infrastructure contributions will be levied on physical and social infrastructure in accordance with Council's *Water Supply and Sewerage Development Servicing Plan*, *Section 94 Contributions Plan* and any other adopted Contributions Plan relevant to the site. This contribution may be a financial contribution, dedication of land and/or provision of a material public benefit be made by a developer to provide for or upgrade public services or facilities for which the development is likely to create a demand. Contributions that apply to development in rural and rural residential zones are outlined in the Council's adopted Contributions Plan and Water Supply and Sewerage Development Servicing Plan.

Depending upon the likely demand for public services or facilities that a development proposal is likely to generate, Council may also require preparation of a specific Contributions Plan or enter into a Planning Agreement with the developer prior to determining a particular development proposal.

Part 2 Site requirements, lot size and floor area controls

Objectives

O.1 To provide sufficient area on the site to allow for an accessible and useable outdoor living space, a landscaped front garden, and space between neighbours.

O.2 To ensure the lot layout takes into account the best orientation to ensure maximum sunlight access to main living rooms and private open space.

O.3 To provide sufficient area in the least visible position for car parking, rubbish bins, clothes drying areas, garden sheds and other service requirements.

O.4 To minimise hard surface areas to allow for greater absorption of stormwater; and reduce impact on stormwater systems.

2.1 Lot size requirements for multi-unit housing, residential flat buildings, shop top housing, attached dwellings and semi-detached dwellings

S.1 There is no minimum lot size for the construction of the above listed dwelling types in the zones specified in this chapter.

S.2 The minimum landscaping and private open space requirements outlined in this chapter must be met.

2.2 Floor area for multi-unit housing, residential flat buildings, shop top housing, attached dwellings and semi-detached dwellings

S.3 There is no maximum floor area requirement for multi-unit housing, residential flat buildings, shop top housing, attached dwellings and semi-detached dwellings; however, the minimum landscaping and private open space requirements outlined in this chapter must be met.

Part 3 Lot and building design and external appearance

Objectives

O.1 To ensure buildings blend, rather than interrupt or contrast, with the existing and planned-for scenic values of the locality.

O.2 To ensure design and siting of buildings provides adequate privacy and minimises overshadowing and overlooking for residents and other dwellings in the locality.

O.3 To maximise solar access and passive heating and cooling principles to buildings and private open space.

O.4 To encourage design that responds to the topographical features of the site.

S.1 The design of the building and slope of the roof are to reflect the topography of the site (eg. split level houses can be an appropriate design on sloping sites) to minimise the need for cut and fill associated with dwellings, landscape and driveway construction.

S.2 Buildings should be orientated for optimum sunlight to living rooms, ideally with living rooms to the north (living rooms include lounge, family, kitchen and dining rooms).

S.3 Main living areas should open directly onto the private open space via large door openings, to allow adequate sunlight, natural light and ventilation into the house.

S.4 Buildings should be designed to create cross ventilation, with well considered placement of windows to draw breezes through the house.

S.5 Natural colours that blend with the colours of surrounding streetscape and vegetation and are non-reflective shall be used for external building materials and other structures.

Part 4 Building height, bulk and scale

Objectives

O.1 To ensure that the height, bulk and scale of new buildings and outbuildings are not a dominant in the streetscape and that outbuildings are in proportion to the building.

O.2 To ensure the building design and materials contribute to the quality of the overall streetscape.

O.3 To maximise solar access and cross ventilation to buildings, and prevent overshadowing.

O.4 To reduce overlooking of open space areas.

4.1 Building height, bulk and scale of buildings and outbuildings

S.1 The front facade of the dwelling should be articulated so that the height, bulk and scale are appropriate to the prevailing scale of the street and the surrounding buildings.

S.2 The character of the street must not be must not be detrimentally affected by buildings of a disproportionate size, bulk and scale, particularly in relation to adjacent dwellings.

S.3 The bulk and height of the building must be of an appropriate scale that suits the scale of the street and the surrounding buildings.

S.4 The height, bulk and scale of ancillary buildings or outbuildings must be proportional to the size of the dwelling.

S.5 Outbuildings are to be positioned so as not to be visible from the street or, if visible, not be more dominant than the dwelling.

S.6 In precincts undergoing a transition, proposed bulk and height must achieve the scale identified for the desired future character of the area.

S.7 The design achieves an appropriate built form for a site and the building's purpose, in terms of building alignments, proportions and building type.

S.8 Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook.

4.2 Extension of building elements above the gutter line

S.9 A building element on a dwelling (other than a pitched roof to an entry feature or portico that has the same pitch as the roof on the house) must not extend above the gutter line of the eaves of a single or double storey house.

4.3 Maximum height of dwellings and outbuildings

4.3.1 Relativity of height of building to ridgeline

S.10 The highest point of a dwelling house, the alterations and additions to an existing dwelling house and any outbuilding must be at least 5m below the highest ridgeline of any hill within 100m of the dwelling or alteration or outbuilding.

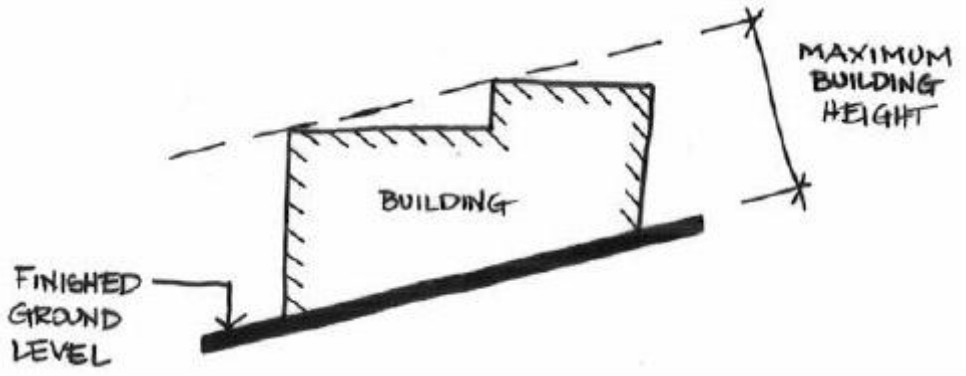
4.3.2 Building heights for multi-unit housing, residential flat buildings, attached dwellings, semi-detached buildings and shop top housing in the B4 zone

S.11 The height of buildings in the B4 zone is prescribed by the LEP 2012 HOB (Height of Buildings) Map.

4.3.3 Building heights for multi-unit housing, residential flat buildings, attached dwellings, semi-detached buildings and shop top housing for all other zones

S.12 The height of buildings for the above types of development for all other zones must not exceed 8.5m from existing ground level to the highest point on the building roof.

S.13 The height of an outbuilding or the alterations and additions to an existing outbuilding on a lot must not measure more than 4.8m from existing ground level to the highest point on the building roof.



4.4 Building on a boundary in the R1 and RU5 zone

S.14 The location of a building on a boundary in a residential zone (but not in the R5 zone) may be considered by Council where the circumstances of the case warrant this design approach.

S.15 A building on a boundary includes a building setback only up to 150mm from a boundary.

S.16 This design approach is not applicable within a Heritage Conservation Area where this approach would be inconsistent with other relevant controls or guidelines.

Note: Building on a boundary requires consent from the owner of the adjoining land. The BCA imposes additional provisions for building on a boundary.

4.5 Building on a boundary in the B4 zone

Council will consider buildings on boundaries in the B4 zone in accordance with the following requirements. Buildings located on side and rear boundaries as follows:

S.17 The maximum length of new boundary walls is 25% or 10m (whichever is the greater) of the length of any adjacent residential boundary; or

S.18 Where a wall of an existing dwelling or out building on an adjacent lot abuts the boundary, the maximum length of new boundary walls is that abutting the existing walls plus 25% of the length of the remaining boundary; or

S.19 Where slope and retaining walls or fences would result in the effective height of a wall built to the boundary being less than 2m on the adjacent property boundary.

4.6 Heights of boundary walls

S.20 The maximum height of a wall built on a boundary must not exceed an average of 3m in height with no part higher than 3.6m unless:

a) abutting a higher existing wall; or

b) where it can be demonstrated that the bulk height and scale of the wall will not impact on the amenity, solar access and private open space of an adjoining dwelling.

Part 5 Building setbacks

Objectives

O.1 To ensure buildings are positioned to provide maximum sunlight access and privacy to habitable rooms of dwellings and private open spaces, both within the lot and on adjacent developments.

O.2 To ensure that setbacks define the boundary between private and public space, and contribute to the character of the immediate streetscape.

O.3 To ensure buildings incorporate fire protection measures where setback requirements are reduced.

O.4 To provide setbacks that ensure the design of the dwelling façade is dominant, with the garage or carport a recessive element on the street elevation.

O.5 Where the dwelling is proximal to a classified road, to limit the impact of road noise on habitable rooms.

O.6 To reduce the potential risk from fires in adjacent unmanaged vegetation.

5.1 Setbacks for garages and carports in all zones

S.1 Where garage or carport openings are positioned facing the street frontage, the garage or carport is to be set back at least 1m behind the front façade of the dwellings.

S.2 Where garage or carport openings are positioned on the side of the dwellings, the garage or carport may be constructed in alignment with the side building line of the dwellings.

S.3 Where there are multiple garages to be located on the site, the layout must design car parking spaces and garages that do not dominate the development or street frontage.

5.2 Setbacks for multi-unit housing, residential flat buildings, attached dwellings, semi-detached buildings and shop top housing in the R1 zone

5.2.1 Front facade setbacks in the R1 zone

S.4 In the R1 zone, the front façade setback of the dwelling is to be a minimum of 4.5m, or

S.5 Where an adjoining front façade setback is less than 4.5m, the setback may be equal to or greater than that of an adjoining development.

S.6 Where the site adjoins a classified road, noise buffer requirements (including greater setbacks) may apply.

5.2.2 Corner lot site setbacks in the R1 zone

S.7 On the secondary street frontage, the setback is to be at least 4m from the side boundary;

S.8 Where an adjoining building setback is less than 4m, the setback is equal to or greater than that of the adjoining development.

5.2.3 Side and rear setbacks in the R1 zone

S.9 Any side or rear wall of a dwelling house, or any carport, garage, balcony, deck, patio, pergola, terrace or verandah that is attached to the dwelling house is to be setback a minimum of 0.9m from the boundary; or

S.10 Where side or rear setbacks are proposed to be less than 0.9m from the boundary, the relevant fire protection requirements of the BCA must be satisfied.

5.3	**Setbacks for shop-top housing in the B4 zone**
5.3.1	**Setbacks for shop-top housing in the B4 zone**
S.11	Where residential development is 'shop-top housing', setbacks may be consistent with the setbacks of the commercial or business development where it can be demonstrated that there is an acceptable design treatment of potential impacts such as overshadowing, privacy or view loss.
S.12	The front façade of the 'shop-top housing' should be recessed in part or wholly to maximise privacy of viewing from street level, to mitigate noise impacts on the dwelling, and to ensure that balconies are not visible from the public domain and the street (where possible).
S.13	No part of a building or above ground structure may encroach within a setback except for awnings, bay windows and balconies.
5.4	**Setbacks for attached dwellings in the R5 zone**
5.4.1	**Front facade setbacks for dwellings in the R5 zone**
S.14	In the R5 zone, the front façade setback of any new building is to be a minimum of 20 metres from any public road; or,
S.15	A greater front façade setback may be required for land adjoining a classified road, if the noise assessment determines that this is necessary (see Chapter 2.1 Site Analysis).
S.16	If any new dwelling is proposed to be constructed less than 50 metres from the boundary of an unsealed public road, the road shall be upgraded to a bitumen sealed road for a minimum distance of 100 metres.
5.4.2	**Side and rear setbacks for attached dwellings in the R5 zone**
S.17	Where the lot has an area of less than 4000m^2, any side or rear wall of an attached dwelling, or any carport, garage, balcony, deck, patio, pergola, terrace or verandah that is attached to the attached dwelling is to be setback a minimum of 2.5m from the side boundary.
S.18	An attached dwelling and all ancillary development must have a setback from a boundary with a secondary road that is not a classified road of at least the following: a) if the lot has an area of less than 4000m^2 - 5m, b) if the lot has an area of at least 4000m^2 - 10m.
S.19	An attached dwelling and all ancillary development on a lot that has an area of less than 4000m^2 must have a setback from a boundary with a parallel road that is not a classified road of at least 10m.
S.20	Where the lot has an area of at least than 4000m^2, any side or rear wall of an attached dwelling, or any carport, garage, balcony, deck, patio, pergola, terrace or verandah that is attached to the dwelling house is to be setback a minimum of 10m from the side boundary.
S.21	An attached dwelling, or any carport, garage, balcony, deck, patio, pergola, terrace or verandah that is attached to the dwelling house is to be setback a minimum of 15m from the rear boundary.
5.5	**Allowable encroachments into setbacks**
S.22	Verandahs, porches and pergolas may encroach into the front setback to a depth of 2.4m.
S.23	Terraces, landings, steps or ramps not more than 1m in height may project into the setback area.

S.24 Eaves, fascias, gutters, downpipes, masonry chimneys, flues, pipes, domestic fuel tanks, cooling or heating appliances or other services may project into the setback area provided that the distance to the boundary is greater than 0.5m. Such items may be located less than 0.5m from the boundary if relevant fire protection requirements of the BCA are satisfied.

S.25 Light fittings, electricity or gas meters, aerials or antennae, pergolas, screens or sun blinds may project into the setback area.

5.6 Setbacks from public reserves

S.26 A new building or outbuilding must have a setback of at least 3m from a boundary with a public reserve.

5.7 Setbacks from overhead electricity supply mains

S.27 Buildings must not be erected under existing overhead electricity supply mains. The minimum clearance measured horizontally from the vertical alignment of any overhead electricity supply conductor to the nearest part of the building shall be 15 metres. This requirement does not apply to an insulated overhead service which provides the electricity supply for the building.

5.8 Setbacks from unmanaged vegetation

S.28 Where land is not identified as bushfire prone, but is adjacent to unmanaged vegetation, a 10m asset protection zone is to be maintained in accordance with the requirements of the *Standards for Bushfire Protection 2006.*

S.29 Where an asset protection zone is required and cannot be provided between the proposed development and any unmanaged vegetation, additional fire protection measures shall be required, and may include:

a) Installation of a 1.8 metre high fence made of non-combustible materials between the development and any unmanaged vegetation. The bottom of the fence is to be in direct contact with the finished ground level or plinth; and

b) Flooring systems (including frame, supporting posts, columns, stumps, piers and poles), windows, external doors, vents, weepholes, eaves, verandahs and decks being constructed in accordance with the requirements for Level 1 construction in the current Australian Standards (*AS 3959-Construction of Buildings in Bush Fire Prone Areas)*.

Note: All developments on land that is designated as bush fire prone must meet the requirements of *Planning for Bush Fire Protection 2006* and *AS3959 Construction of buildings in bushfire-prone areas*. See Chapter 2.1 Site Analysis and Constraints for construction in a bushfire prone area.

Part 6 Articulation zones

Objectives

O.1 To control the type and size of structures and building elements in the articulation zone.

O.2 To ensure that building elements in the articulation zone define the boundary between private and public space, and contribute to the character of the immediate streetscape.

6.1 What is an articulation zone?

An articulation zone is an area within a lot where building elements may be located. The articulation zone is measured horizontally forward from the foremost edge of the front façade of the building.

6.2	**Building elements within the articulation zone**
S.1	The following building elements are permitted in the articulation zone: a) an entry feature or portico; a) a balcony, deck, patio, pergola, terrace or verandah; b) a window box; c) a bay window or similar feature; d) an awning or other feature over a window, e) a sun shading feature.
S.2	The maximum area of all building elements within the articulation zone, other than a building element listed in S.1 (e) or (f) above, must not be more than 30 per cent of the area of the articulation zone.
6.3	**Verandahs and open porches within the articulation zone**
S.3	Elements such as entry features, a balcony, deck, patio, pergola, terrace or verandah may extend beyond the front façade by a maximum of 2.4m.
6.4	**Window features, awnings and shade features within the articulation zone**
S.4	Feature elements such a window box; a bay window or similar feature; an awning or other feature over a window, or a sun shading feature may extend beyond the front façade by a maximum of 1.5m.
6.5	**Extension of building elements above the gutter line**
S.5	A building element on a dwelling (other than a pitched roof to an entry feature or portico that has the same pitch as the roof on the dwelling) must not extend above the gutter line of that section of the building.
Part 7	**Dwelling entry, privacy and surveillance**
Objectives	
O.1	To ensure the entry to a dwelling is clearly identifiable.
O.2	To provide privacy and security for residents, and passive surveillance from dwellings over adjacent streets and public spaces.
O.3	To design for accessibility for people with disabilities where possible.
O.4	To prevent external lighting from being a nuisance to surrounding properties.
7.1	**Dwelling entry**
S.1	Entries to dwellings should be clearly visible from the street where the lot has street frontage, or from the internal driveway so that visitors can easily identify the dwelling entrance.
S.2	House numbering is to be provided in a visible place on or near the entrance for the convenience of visitors, emergency services and postal services.
S.3	Entries are, or can be easily be adapted to be accessible at ground-floor level to people with disabilities.
S.4	Adequate entrance lighting is to be provided and positioned so as not to radiate into neighbouring properties.

7.2	**Security and surveillance**
S.5	The design of the dwelling shall provide for at least one habitable room overlooking the street so that general surveillance of the site and approaches to entries is possible from inside dwellings.
S.6	A window or peephole in the main door should allow visitors to be seen from inside the dwelling without requiring the resident to open a door.
7.3	**Privacy**
S.7	A window in a new dwelling or a new window in any alterations or additions to an existing dwelling must have a privacy screen if: a) it is a window in a habitable room, other than a bedroom, that has a floor level of more than 1m above ground level (existing), and b) the wall in which the window is located has a setback of less than 3 metres from a side or rear boundary, and c) the window has a sill height of less than 1.5m.
S.8	A new balcony, deck, patio, pergola, terrace or verandah and any alterations to an existing balcony, deck, patio, pergola, terrace or verandah must have a privacy screen if it: a) has a setback of less than 3m from a side or rear boundary, and b) has a floor area more than $3m^2$, and c) has a floor level more than 1 metre above ground level (existing).
S.9	A detached deck, patio, pergola or terrace or any alterations or additions to an existing deck, patio, pergola or terrace must not have a floor level that is more than 600mm above ground level (existing).
S.10	A balcony, deck, patio, pergola, terrace or verandah (or any alterations to such) that overlooks a private open space area (except its own private space area) must have a privacy screen if: a) it has a setback of less than 3m from a side or rear boundary; and d) it has a floor area more than $3m^2$; and e) has a floor level more than 1 metre above ground level (existing).
Part 8	**Private open space and landscaping**
Objectives	
O.1	To create a street and landscape character by constructing well defined front gardens, street trees and the visibility of backyard trees beyond the buildings.
O.2	To ensure that private open space is designed and located to receive maximum sunlight and integrates with the living area(s) of a dwelling.
O.3	To ensure the principal private open space areas are not overlooked by neighbouring properties.
O.4	To provide adequate outdoor private open space for recreational, service and storage needs.
O.5	To ensure that communal open space is of benefit to all residents, and can be accessed and effectively maintained.
8.1	**Private open space areas**
S.1	Each dwelling at ground level is to be provided with a principal private open space area that

is:

a) a minimum of $40m^2$, comprising of one section that is at least $25m^2$, and has a minimum width of 4m; or alternatively, an area of 4m x 4m that is not directly overlooked;

b) is not steeper than 1:50 gradient; and

c) is directly accessible through a doorway from, and adjacent to, one or more habitable rooms (other than a bedroom).

S.2 For dwellings not at ground level, the principal private open space area is to be provided that:

a) is a balcony conveniently accessible from a living room (not a bedroom) of the dwelling;

b) has a minimum area of $8m^2$ with a minimum width of 1.6m; and/or

c) is a roof top area directly connected to the dwelling, having a minimum area of $10m^2$ with a minimum width of 2m; and

d) a communal open space area of $40m^2$, comprising one section with an area of $25m^2$ being 5m x 5m.

S.3 Private open space areas should be designed to have amenity, slope and dimensions that will make them functional and will be suited to likely residents.

S.4 Any communal open space provided is to be appropriate for use by residents, cost-effective to manage, and designed to ensure the safety and security of residents.

S.5 Outdoor spaces should be generously designed, rather than them being 'left over' spaces around the dwelling.

S.6 Service spaces for rubbish and storage are to be screened or positioned to the side or rear of the building.

8.2 Sunlight to private open space

S.7 Buildings should be designed and positions so that they do not significantly overshadow main private open space areas, including main private open space areas on neighbouring properties.

S.8 At least half of the principle private open space should receive 2 hours or more of sunlight between 10am and 2pm on June 21 (winter solstice);

S.9 Overshadowing to the private open space on an adjoining property between the hours of 9.00am and 3.00pm on 21 June is to be no more than that caused by a 1.8 metre boundary fence or other existing obstructions (including trees).

8.3 Landscaping forward of the building line

S.10 If the lot has a width, measured at the building line, of at least 18m, at least 30% of the area forward of the building line should be landscaped.

S.11 If the lot has a width, measured at the building line, of less than 18m, at least 25% of the area forward of the building line to the primary road should be landscaped.

S.12 Proposed landscaping should be shown on site plans.

Part 9 Fences

Objectives

O.1 To provide front fencing that compliments the dwelling design and is attractive in the streetscape.

O.2 To regulate the height of a front fence to encourage the use of the front garden, and increase surveillance and activation of the street.

9.1 Fences on Heritage Items and/or in Heritage Conservation Areas

S.1 In a Heritage Conservation Area, or on a Heritage Item, front fences must be designed and located in accordance with the provisions in Chapter 2.4 European Heritage. These provisions provide information on the materials, height, styles and streetscape considerations for complimentary fence design and construction.

9.2 Front fences

S.2 A front fence and any associated retaining wall must be located within the front setback area.

S.3 Front fences may be:

a) be up to 1.2m above existing ground level, or 1.5m high if more than 50% transparent;

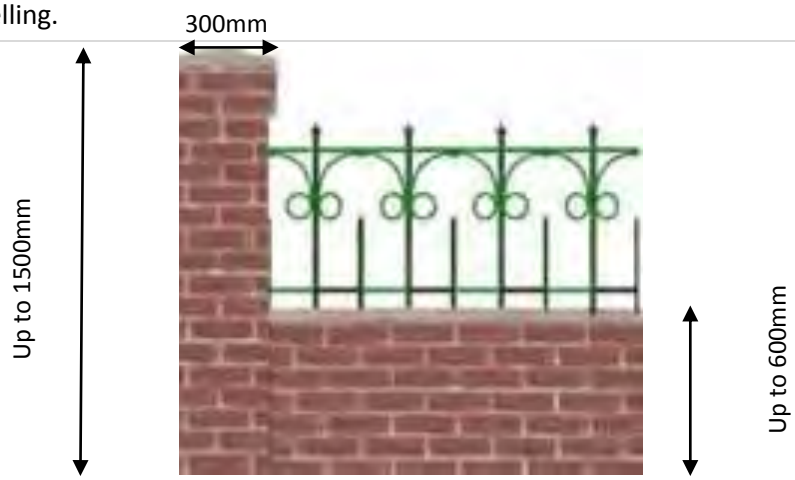
b) be of open appearance;

c) any brick or other solid portion of the fence above 600mm should not be more than 250mm wide and the remaining fence must be of open design.

S.4 Consideration of articulation of the fence, including insertions of plantings in the articulated space should be considered as a design alternative, especially on wide frontages.

S.5 Facilities in the frontage area such as gates, letter boxes, and garbage bin enclosures are to be compatible in design with the front fence, and the overall character and design of the development.

S.6 Front fencing, should be designed to look like part of the street, rather than an extension of the dwelling.



9.3 Fencing on corner lots

S.7 On corner lots the front fence style and height should continue around the corner to the secondary street to a point level with the front facade of the dwelling.

S.8 Fencing shall not be of a height that compromises sight distances, vehicle or pedestrian

safety.

S.9 Side fences on a corner lot are to be tapered from the height of the front boundary fence to a maximum height of 1.8m at the point level with the front facade of the dwelling.

9.4 Stepped fencing on sloping sites

S.10 The fence, or the fence and associated retaining wall, on a sloping site may be stepped.

S.11 The height of each step must not be more than:

a) 1.6m above ground level (existing) if it is located within a setback area from a primary road, or

b) 2.2m above existing ground level in any other case.

9.5 Construction and materials

S.12 Solid panel fencing (eg. Colorbond®) and metal mesh fencing is not permitted for front fences.

S.13 Barbed wire, jagged edging of sharp materials, and electric fencing is not permitted.

S.14 Metal used in the construction of a fence must be low reflective and factory pre-coloured.

S.15 Fencing materials shall compliment the dwelling and streetscape/landscape.

S.16 If the land is bush fire prone, the fence and any retaining wall must be constructed from non-combustible materials.

9.6 Surface water flow

S.17 A fence or retaining wall must not be constructed so that it redirects the overland flow of surface water onto any adjoining property.

Part 10 Car parking

Objectives

O.1 To provide adequate and convenient parking for residents and visitors.

10.1 Car parking spaces

S.1 Each dwelling within the development is to be provided with a minimum of one covered car space (garage or fixed carport).

S.2 For dwellings with 4 or more living areas, two car spaces per dwelling is to be provided (one of which must be covered).

S.3 Tandem parking may be used where two spaces are provided for a specific dwelling

In this chapter, the term 'living area' includes all bedrooms, living rooms, dining rooms, studies, sunrooms and the like, but does not include kitchens, bathrooms, laundries and the like.

10.2 Visitor car parking spaces

S.4 Visitor parking spaces for residential developments are to be calculated on the basis of one space per three dwellings (to the nearest whole number).

S.5 Visitor spaces should be provided on site and clearly marked for use by visitors.

S.6 Visitor parking and service vehicle access may be provided on existing streets or on new streets within the development where:

a) unrestricted on-street parking is available adjacent to the site;

b) the development is within walking distance (400 metres) of a bus stop;

c) there is sufficient width within road reserve.

10.3 Car parking space size and design

S.7	Size of car spaces within garages	Car spaces within garages or contained by walls must have minimum dimensions (measured internally) of:	
		Single garage space	***Double garage space***
		6.0m x 3.0m	6.0m x 5.5m
S.8	Size of car spaces for carports or uncovered	Car space sizes for carports or uncovered hard stand areas:	
		Single carport space	***Double carport space***
		5.4m x 2.6m	5.4m x 3.2m
		Car space sizes for carports or uncovered hard stand areas where access is from the side (parallel parking):	
		Single car space	***Minimum access lane width***
		at least 6.3m long and 2.1m wide	3.2m

10.4 Projection of buildings into car spaces

S.9 An adjoining building may project into the space if the projection is at least 2.1 metres above the car space.

Part 11 Garages and carports

Objectives

O.1 To ensure the design of the dwelling façade is dominant, with the garage or carport a recessive element on the street elevation.

O.2 To ensure that the position of the garage or carport on a lot allow the maximum solar access possible to the private open space and internal living areas of the dwelling.

11.2 Garage positioning to maximise solar access to dwellings

S.1 Where site conditions allow, garages should be located on the southern side of east-west facing lots, and the western side of north-south facing lots.

S.2 Garages must not be located in a position where they limit the maximum solar access possible to the private open space and internal living areas of the dwelling.

11.3 Garage setbacks from the front façade of the building

S.3 Garages must be set back at least 1m from the front façade of the dwelling.

S.4 Where there are reduced setbacks, garages must be set back at least 5.5m from the front boundary.

11.4 Garage door widths (external)

S.5 The total external width of garage door openings must:

a) not exceed 50% of the width of frontage of the building;

b) each be no wider than 6m.

11.5	**Garage and car parking design**
S.6	Garages and carports should be: a) positioned to provide convenient access to the associated dwelling; b) separated from habitable room windows to minimise noise and fumes entering dwellings; c) well ventilated if enclosed; d) not obscure the view between the street and front windows.
S.7	Visitor parking should be: a) clearly defined and signposted (where relevant); b) positioned towards the rear of the development where possible.

Part 12 Vehicle access and driveways

Objectives

O.1 To ensure all development has legal and properly constructed access.

O.2 To ensure property access is located with safe sight distances and adequate distances from corners.

O.3 To minimise the extent of private access arrangements over adjoining land (rights-of-carriageway).

O.4 To ensure that the standard of public roads is sufficient for traffic likely to be generated by a development.

O.5 To minimise future costs to the community associated with road improvement and maintenance.

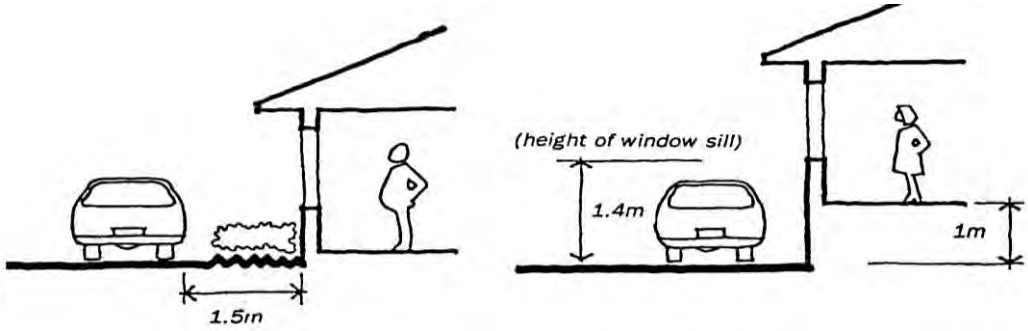
O.6 To ensure that internal access roads are sited to minimise impacts on the environment and are constructed to a standard suitable to provide safe access for residents, employees and emergency services.

O.7 To encourage design that responds to the topographical features of the site, and reduces the requirement for excavation and/or fill.

Note: All road and pavement construction, including roads, driveways, and kerb and gutter profiles are to comply with the requirements of Council's Engineering Code.

12.1	**Road access in all zones**
S.1	All dwellings must have legally and properly constructed access to a public road.
S.2	Where the lot or holding on which the development is proposed to be carried out has frontage to an existing Public Road that is unconstructed or is not maintained by Council, the full cost of upgrading that road to Council's specification is to be borne by the developer.
S.3	Developments expected to generate significant traffic may require existing public roads to be upgraded to a suitable and safe standard for the use.
12.1.1	**Road standards in the R1 and B4 zones**
S.4	For new dwellings in the R1 and B4 zone, a two lane sealed road is required in accordance with Council's Engineering Code.
12.1.2	**Road standards in the RU5 zones**
S.5	Half width construction of a two lane sealed road is required.

12.2	**Driveways**
S.6	Driveways are not to be less than 3m wide.
S.7	At changes of direction or at intersections, the internal radius of the driveway must be at least 4m.
S.8	Where the driveway is longer than 50m (eg battle-axe handles) provision for passing must be provided.
S.9	The driveway should not be located within 6m of a road intersection.
S.10	The driveway access point should be via the minor street where the site is bounded by a major and a minor road.
S.11	The driveway access points should not to conflict with existing vehicle or pedestrian generators.
S.12	The internal driveway should be designed so that vehicles can exit developments in a forward direction.
S.13	The driveway must provide flood free vehicle access.
S.14	Where the land adjoins an existing sealed public road, the driveway shall be sealed from the road shoulder to the boundary.
S.15	Direct access to a classified road will not be permitted where another practical option exists.
S.16	Driveway position must consider the location of utilities in road reserves and the position of street trees. Street trees may only be removed if no other options exist. For street tree provisions, including valuation of street trees, see the Urban Streetscape (Street Vegetation) Policy POL120 Urban Streetscape Plan.
S.17	The driveway shall be located so as to minimise earthworks and removal of vegetation/street trees in the road reserve.
S.18	Entrances shall be limited to one per lot unless approved otherwise by Council. The relocation of an existing entrance may require the complete removal of the existing entrance.
S.19	Any new driveway on a classified road shall be located and constructed in accordance with the requirements of the relevant road authority.
S.20	Lot design enables driveways on major collector streets and streets which carry more than 3000 vpd to be designed to promote forward movement of vehicles across the verge.
S.21	Any new driveway on a local road shall have safe intersection sight distance in accordance with Table 3.2 of *Austroads 2010*.
12.3	**Shared driveways**
S.22	Shared driveways, access ways and car parks of other dwellings should be set back a minimum of 1.5m from windows to habitable rooms of dwellings, unless the floor level of the dwelling is at least 1m above the driveway.
S.23	The setback may be reduced to 1m when the driveway is bounded by a minimum fence height of 1.5m height.



12.3.1 Right-of-Carriageway in the R1 and R2 zones

S.24 Access by right-of-carriageway is not allowed in the R1 and R2 zones.

12.4 Surface treatment of driveways

S.25 To reduce the amount of hard surface and increase on-site stormwater infiltration, the amount of paved surface may be modified as follows:

a) the paved length of 90° car spaces may be reduced from 5.4m to 5.1m where the additional 0.3m is provided as lawn or garden bed suitable for the overhang of vehicles

b) the paved width of access lanes for 90° parking may be reduced from 6.0m to 5.7m, provided that the accessway is at least 0.3m from a wall, fence or other solid barrier greater than 100mm high

c) paved widths in 3m wide driveways may be reduced to 2.6m, provided 0.2m either side remains unobstructed.

S.26 Car spaces, accessways and driveways are to be formed, defined and drained to a Council drainage system, and surfaced with an all-weather seal such as concrete, coloured concrete, asphalt or mortared pavers; or a stable, smooth, semi-porous paving material (such as brick, stone or concrete pavers) laid to the paving standard for light vehicle use

12.5 Kerb or barrier in the R1 zone

S.27 A kerb 150mm high by at least 150mm wide or a barrier is to be provided where appropriate to prevent vehicles having access to the street other than by a crossover, or to prevent vehicles protruding beyond the site boundary.

Part 13 External Facilities

Objectives

O.1 To ensure that facilities are designed to be conveniently located and visually attractive, and blend with the development and established street character.

O.2 To provide adequate storage for residents.

13.1 Mail boxes

S.1 One mail box per dwelling is required.

S.2 Mail boxes are to be accessible and located at the front of the property, as close to the footpath as possible.

S.3 Mailboxes must be constructed from durable materials and be designed to blend in with the predominant style of the front fencing and the dwelling.

S.4 Mail boxes should be large enough to cater for A4 size envelopes, newspapers and other

	general mail.
13.2	**Garbage and recycling storage**
S.5	Permanent garbage and recycling bin storage areas should be identified in a location that is concealed from view from the street.
13.3	**External storage**
S.6	A minimum of $5m^3$ of accessible, secure and weatherproof external storage is to be provided for each dwelling.
S.7	External storage may be located in a garage or carport, or outbuilding.
S.8	Storage for bicycles should be considered.
13.4	**Clothes drying areas**
S.9	All dwellings should provide an external clothes drying area.
S.10	Clothes drying facilities should be positioned behind in the building line and be concealed when viewed from the street.
13.5	**Television antennae, transmitters and receivers on roofs**
S.11	Television antennae and pay TV equipment should be kept to a minimum, and not be positioned on the street frontage roof section.
Part 14	**Utility infrastructure**
Objectives	
O.1	To ensure that land within Council's Development Servicing Plan for Water and Sewerage is provided with services in accordance with that Plan.
O.2	To ensure internal services are positioned for effective use of land and access by servicing authorities.
O.3	To ensure that all development has adequate water supply to meet domestic/commercial, and fire fighting demands.
O.4	To ensure that satisfactory provision is made for the safe and nuisance free disposal of effluent.
O.5	To ensure that an adequate electricity supply is available for the intended use.
14.1	**Water supply in the R1 and B4 zones**
S.1	Development on land in the R1 and B4 zones must connect to Council's reticulated water supply.
14.2	**Water supply in the R5 zone**
S.2	Development on land in the R5 zone within the 'Water DSP Development Area' must connect to Council's reticulated water supply if the land is located within 225 metres of an existing water main.
S.3	Development on land that is greater than 225 metres from an existing water main must connect to Council's reticulated water supply, except where the applicant can justify, to Council's satisfaction, that a reticulated supply is not required based on the criteria below: a) the type and scale of the development relative to its proximity to the existing reticulated water supply system.

b) the sequence of infrastructure provision identified under the Development Servicing Plan for Water and Sewerage relative to the proposed development.

c) potential future development of nearby land, including type and timing of development(s).

d) the ability of on-site water supply to provide for domestic/commercial demands and a reliable fire fighting reserve.

e) the economic feasibility of connection to a reticulated water supply compared to providing on-site water storage. A cost benefit analysis is to be submitted, including the total cost to install, run and maintain an on-site water supply system compared to the cost of providing reticulated water supply over a substantial period being 20 years.

S.4 Where the development will not be connected to Council's reticulated water supply, it will be required to have not less than 70,000 litres of domestic water storage per dwelling. Although not specifically required by Council, it is recommended that landowners consider providing a greater storage capacity.

S.5 In addition to the minimum quantities of domestic water storage required above, a dedicated reserve for fire fighting purposes of not less than 20,000 litres shall be provided. This may be reduced to 10,000 litres for development in the R5 zone on land having an area of less than 1 hectare. For development on bush fire prone land as identified on Council's Bush Fire Prone Land Map certified by the Rural Fire Service, additional storage capacity may be required.

S.6 The dedicated fire fighting water supply tank shall:

a) include a 65mm Storz fitting and ball or gate valve, or if the tank is in ground, it shall be fitted with a 200mm x 200mm child proof access hole.

b) provide for fire fighting appliances (i.e. trucks and tankers) to gain access to within 4 metres of the tank.

c) include a minimum 3kW (5hp) petrol, diesel or generator powered pump, including appropriate fittings.

S.7 Water supply and fire fighting measures for development other than residential development will be assessed on its merits in each case having regard to the above objectives.

14.3 Water supply in the RU5 zone

S.8 In the RU5 zone, development will be required to have not less than 70,000 litres of domestic water storage per dwelling. Although not specifically required by Council, it is recommended that landowners consider providing a greater storage capacity.

S.9 In addition to the minimum quantities of domestic water storage required above, a dedicated reserve for fire fighting purposes of not less than 20,000 litres shall be provided. For development on bush fire prone land as identified on Council's Bush Fire Prone Land Map certified by the Rural Fire Service, additional storage capacity may be required.

S.10 The dedicated fire fighting water supply tank shall:

a) include a 65mm Storz fitting and ball or gate valve, or if the tank is in ground, it shall be fitted with a 200mm x 200mm child proof access hole.

b) provide for fire fighting appliances (i.e. trucks and tankers) to gain access to within 4 metres of the tank.

c) include a minimum 3kW (5hp) petrol, diesel or generator powered pump, including appropriate fittings.

S.11	Water supply and fire fighting measures for development other than residential development will be assessed on its merits in each case having regard to the above objectives.
14.4	**Sewerage systems in the R1 and B4 zones**
S.12	Development on land within the R1 and B4 zones must connect to Council's reticulated sewerage system.
14.5	**Sewerage systems in the R5 zone**
S.13	Development on land within the R5 zone and within the 'Sewer DSP Development Area' must connect to Council's reticulated sewerage system if the land is located within 75 metres of an existing sewer main.
S.14	Development on land within the R5 zone that is greater than 75 metres from an existing sewer main must connect to Council's reticulated sewerage system, except where the applicant can justify to Council's satisfaction, that connection to Council's sewerage system is not required based on the criteria below: a) The proposed on-site sewerage management system(s) must be able to demonstrate that it can satisfy Council's Policy POL 225 – Regulatory: Local Approvals Policy - On-site Waste Water Systems. b) The case for on-site waste management is consistent with the type and scale of the development relative to its proximity to the existing reticulated sewerage system. c) The sequence of infrastructure provision identified under the Servicing Plan relative to the proposed development. d) The case for on-site waste management considers potential future development of nearby land, including type and timing of development(s). e) A case for on-site waste management is consistent with and accounts for future development on the subject land with respect to the area of the land parcels, type of development and sensitivity of the environment. f) The economic feasibility of connection to Council's sewer compared to providing an on-site sewerage management system. A cost benefit analysis is to be submitted, including the total cost to install, run and maintain an on-site system compared to the cost of connecting to the sewer over a substantial period being 20 years.
14.6	**Sewerage systems in the RU5 zone**
S.15	Development on land in the RU5 zone may install an on-site sewerage management system(s) that complies with Council's Policy POL 225 – Regulatory: Local Approvals Policy - On-site Waste Water Systems.
14.7	**Stormwater drainage**
S.16	Stormwater drainage systems are to be designed in accordance with Chapter 2.7 Floodplain Protection and Stormwater Drainage.
14.8	**Electricity supply**
S.17	Electricity supply requirements are outlined in Chapter 2.1 Site Analysis.
14.9	**Solar panels and solar heat pumps**
S.18	Location and installation of all solar panels and solar heat pumps must comply with the

provisions of the *State Environmental Planning Policy (Infrastructure) 2007.*

S.19 In a Heritage Conservation Area, or on a Heritage Item, solar panels must be designed and located in accordance with the 'Solar and Wind Energy Installations' provisions in Chapter 2.4 European Heritage. These heritage provisions provide information on the materials, colour, height and streetscape considerations for solar installations.

Part 15 Earthworks

S.1 Where earthworks are required, including excavation, fill, retaining walls, batters and geotechnical investigations (including soil, slip and spring activity), the relevant provisions in *LEP 2012* Clause 6.1 Earthworks and Chapter 2.6 – Earthworks and Geotechnical Assessment must be applied.

Part 16 Exhibition Dwellings

Application may be made for the temporary use of a single unit in a multi-unit complex or residential flat building as an exhibition home for display purposes. Exhibition dwellings may be used to display and promote well designed housing and to market innovative housing solutions, technologies and construction methods and design materials.

Objectives

O.1 To allow a single unit in a multi-unit housing unit complex or residential flat building to be used temporarily for exhibition or display purposes.

Where a dwelling is constructed or renovated with the intent of being temporarily used as an exhibition home, the following controls will be applicable:

S.1 The term of the use as an exhibition home is to be a maximum of one year, after which time the premises must revert to use as a dwelling.

S.2 The exhibition home hours of operation are restricted to 8.30am to 5.00pm.

S.3 The exhibition home must include a room or suite of rooms that are capable of being occupied or used as a separate domicile.

S.4 At least 2 onsite parking spaces must be provided. These parking spaces must meet the parking space requirements outlined in this chapter.

S.5 Persons must not reside in the exhibition home during the period of its operation as an exhibition home.

S.6 Access for persons with disabilities should be considered for the period of the use as an exhibition home.

S.7 The use of signage and logos must comply with any relevant signage and advertising provisions. Signage will be permitted during the agreed term of use as an exhibition home only.

S.8 The exhibition home must comply with all of the requirements for a dwelling as outlined in this chapter.

Part 17 Definitions

ancillary development means any of the following:

a) access ramp;

b) awning, blind or canopy;

c) balcony, deck, patio, pergola, terrace or verandah that is attached to a dwelling house;

d) carport that is attached to a dwelling house;

e) detached studio;

f) driveway, pathway or paving;

g) fence or screen;

h) garage that is attached to a dwelling house;

i) outbuilding;

j) rainwater tank that is attached to a dwelling house;

k) retaining wall;

l) swimming pool or spa pool and child-resistant barrier.

attached dwelling means a building containing 3 or more dwellings, where:

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

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

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

exhibition home means a dwelling built for the purposes of the public exhibition and marketing of new dwellings whether or not it is intended to be sold as a private dwelling after its use for those purposes is completed and includes any associated sales or home finance office or place used for displays.

multi dwelling housing means 3 or more dwellings (whether attached or detached) on one lot of land, each with access at ground level, but does not include a residential flat building. Multi-dwelling housing includes a row house, terrace house, town house or villa unit.

outbuilding means any of the following:

a) balcony, deck, patio, pergola, terrace or verandah that is detached from a dwelling house;

b) cabana, cubby house, fernery, garden shed, gazebo or greenhouse;

c) carport that is detached from a dwelling house;

d) farm building;

e) garage that is detached from a dwelling house;

f) rainwater tank (above ground) that is detached from a dwelling house;

g) shade structure that is detached from a dwelling house;

h) a shed.

principal private open space means an area an area directly accessible from, and adjacent to, a habitable room (other than a bedroom); and, is not steeper than 1:50 gradient. Principal private open space may include an area of land, a terrace, a balcony or deck.

residential flat building means a building containing 3 or more dwellings, but does not include an attached dwelling or multi dwelling housing.

semi-detached dwelling means a dwelling that is on its own lot of land and is attached to only one other dwelling.

shop top housing means one or more dwellings located above ground floor retail premises or business premises.

Armidale
Dumaresq Council

Armidale Dumaresq
Development Control Plan 2012

Section 4 Residential Development Controls

Chapter 4.3 Development in Rural and Environment Protection Zones

Contact Details

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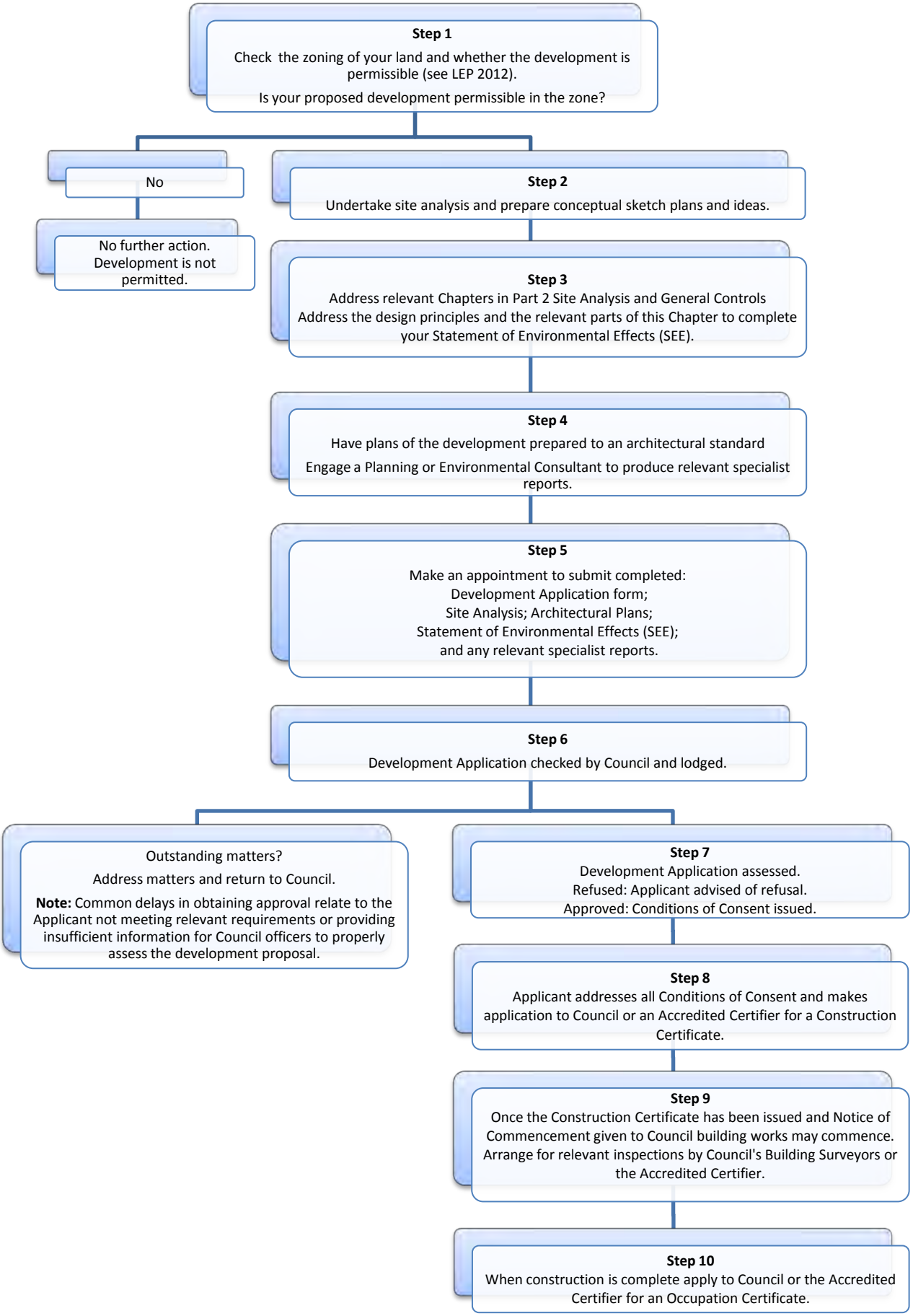

Step 1
Check the zoning of your land and whether the development is permissible (see LEP 2012).
Is your proposed development permissible in the zone?
No
No further action. Development is not permitted.
Step 2
Undertake site analysis and prepare conceptual sketch plans and ideas.
Step 3
Address relevant Chapters in Part 2 Site Analysis and General Controls
Address the design principles and the relevant parts of this Chapter to complete your Statement of Environmental Effects (SEE).
Step 4
Have plans of the development prepared to an architectural standard
Engage a Planning or Environmental Consultant to produce relevant specialist reports.
Step 5
Make an appointment to submit completed:
Development Application form;
Site Analysis; Architectural Plans;
Statement of Environmental Effects (SEE);
and any relevant specialist reports.
Step 6
Development Application checked by Council and lodged.
Outstanding matters?
Address matters and return to Council.
Note: Common delays in obtaining approval relate to the Applicant not meeting relevant requirements or providing insufficient information for Council officers to properly assess the development proposal.
Step 7
Development Application assessed.
Refused: Applicant advised of refusal.
Approved: Conditions of Consent issued.
Step 8
Applicant addresses all Conditions of Consent and makes application to Council or an Accredited Certifier for a Construction Certificate.
Step 9
Once the Construction Certificate has been issued and Notice of Commencement given to Council building works may commence.
Arrange for relevant inspections by Council's Building Surveyors or the Accredited Certifier.
Step 10
When construction is complete apply to Council or the Accredited Certifier for an Occupation Certificate.

Part 1 General provisions

1.1 Introduction

Armidale Dumaresq has an area of 4,235 square kilometres, of which over 75% is rural land. The sparsely settled rural areas are predominantly made up of larger holdings used for wool and beef production. There are also some intensive agricultural enterprises such as piggeries and horticulture.

Aside from agriculture, land uses on rural lands include forestry, mining, extractive industries and tourist accommodation. National Parks estate accounts for over 10% of Armidale Dumaresq. Most National Parks are located along the eastern parts of the Great Dividing Range and adjoin rural properties or State Forest estate.

Rural residential areas have developed on land surrounding Armidale, particularly since the 1980's, and generally comprise either residential estates within a rural setting or larger 'hobby' farms. Rural residential living has become increasingly popular, offering the benefits of a rural lifestyle while maintaining easy access to employment and social and cultural activities in Armidale. The rural residential zones in the LEP apply to land surrounding Armidale, extending up to 8 kilometres from the city boundary. The planning controls for rural residential development are largely based on the recommendations of the Armidale Dumaresq Rural Residential Study (EDGE Land Planning, November 2004).

Armidale is situated in the valley of Dumaresq Creek and is enclosed by hills and ridges covered by open woodland that create an attractive visual setting for the City and its immediate area.

Beyond Armidale lies a further series of prominent hills and ridges, including Mount Duval a visual landmark on the Armidale skyline. Other hills and ridges which have prominent scenic values when viewed from the approach roads to Armidale include Arthur's Seat and Knobs Hill to the south of the City and the ridge between Donald Road and Puddledock Road to the north east.

The Environment Protection Zones in Council's Local Environmental Plan (LEP) encompass elevated land which is both visually exposed to various vantage points and form an integral part of the skyline backdrop from these places. Whilst most of the land identified is clearly visible from different viewpoints within Armidale, hills and ridges which are visible as a skyline backdrop from the various approach roads to Armidale are also included to preserve the natural qualities of these elevated areas.

The Environment Protection Zones in the LEP are based on the scenic values of the land. However, the areas are predominantly covered by native vegetation and therefore may also have biodiversity values requiring conservation. Some of the areas identified in the Armidale Flora and Fauna Study (1996) as having actual or potential habitat value as well as several of the proposed fauna corridors identified in the Armidale Greening Plan (2003) lie within areas that have been identified as having scenic values. Consequently, the provisions for the Environment Protection Zones in the LEP and this Code seek to protect and enhance not only the scenic values but also native vegetation, fauna corridors and other wildlife habitat in these areas.

This chapter is to be read in conjunction with all relevant chapters in Section 2 Site Analysis and General Controls. All relevant matters relating to the development must be addressed in the development application, the SEE and on site analysis plans and site plans. The site analysis process may highlight the requirement for specialist reports to be undertaken.

1.2 Objectives

The objectives of this chapter are:

O.1 To effectively manage the natural, environmental and cultural resources and values of rural land.

O.2 To protect and enhance the natural and built environment by ensuring that proposed developments relate to site conditions.

O.3 To achieve visual integration and balance between natural and man made elements.

O.4 To facilitate restoration of indigenous plant communities areas on the periphery of Armidale.

O.5 To preserve and enhance the rural character and landscape values of the rural and rural residential areas.

O.6 To conserve and enhance the visual and biodiversity values of the hills and ridges around Armidale whilst allowing carefully managed development to occur.

O.7 To reduce the potential for land use conflict in rural and rural residential areas.

O.8 To provide for a range of land uses, services and facilities that are associated with a rural village.

O.9 To promote businesses and neighbourhood activities that serve the needs of the local community.

1.3 Land to which this chapter applies

This chapter applies to land in LEP 2012 zoned:

RU1	Primary Production	E1	National Parks and Nature Reserves
RU3	Forestry	E3	Environmental Management
RU4	Primary Production Small Lots	E4	Environmental Living
RU5	Village		

1.4 Types of development to which this chapter applies

This chapter outlines the development controls for development in the Rural and Environment Protection Zones. The development controls focus on single dwellings, dual occupancy dwellings, alterations and additions to dwellings, and ancillary structures, being the most common type of development. In addition, this chapter also includes development standards for other types of development in these zones.

1.5 Addressing the guidelines in this chapter

The guidelines for development in rural and environmental protection zones are set out in this chapter. These are expressed in the form of objectives that need to be addressed for each development proposal. For each objective (O), 'acceptable solutions' (S) are provided which, if met, will ensure compliance. Alternative approaches may be proposed, provided these adequately address the relevant objectives and comply with legislation.

1.6 Developer contributions

Council may require, as a condition of development consent, that a financial contribution or dedication of land or provision of a material public benefit be made by a developer to provide for or upgrade

public services or facilities for which the development is likely to create a demand.

Developer contributions that apply to development in the rural and rural residential zones are contained within the Armidale Dumaresq Contributions Plan and the Armidale Dumaresq Water Supply and Sewerage Development Servicing Plan. Depending upon the likely demand for public services or facilities that a development proposal is likely to generate, Council may also require preparation of a specific Contributions Plan or enter into a Planning Agreement with the developer prior to determining a particular development proposal.

Part 2 Building design and external appearance

Objectives

O.1 To ensure buildings blend, rather than contrast, with the existing and planned scenic values of the locality.

O.2 To ensure design and siting of buildings provides adequate privacy and minimises overshadowing and overlooking for residents and other dwellings in the locality.

O.3 To maximise solar access and passive heating and cooling principles to buildings and private open space.

O.4 To encourage design that responds to the topographical features of the site.

S.1 The design of the building and slope of the roof are to reflect the topography of the site (eg. split level houses can be an appropriate design on sloping sites) to minimise the need for cut and fill associated with dwellings, landscape and driveway construction.

S.2 Natural colours that blend with the colours of surrounding land and vegetation and are non-reflective shall be used for external building materials and other structures. Zincalume, white or silver coloured materials are not to be used as external materials for buildings and other structures, including above ground water storage tanks in the E3 and/or E4 zones.

S.3 Buildings should be orientated for optimum sunlight to living rooms, ideally with living rooms to the north (living rooms include lounge, family, kitchen and dining rooms).

S.4 Main living areas should open directly onto the private open space via large door openings, to allow adequate sunlight, natural light and ventilation into the house.

S.5 Buildings should be designed to create cross ventilation, with well considered placement of windows to draw breezes through the house.

Part 3 Building height, bulk and scale

Objectives

O.1 To ensure that the height, bulk and scale of new buildings does not make them prominent in the landscape.

3.1 Maximum height of dwellings and outbuildings

3.1.1 Building heights in the RU1, RU3 and RU4 zones

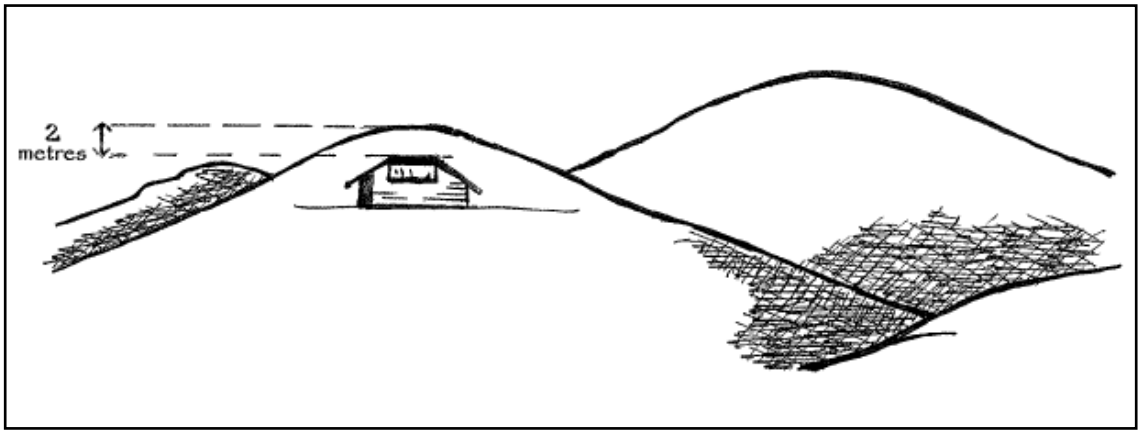
S.1 The height of a dwelling house, or the alterations and additions to an existing dwelling house must not exceed 10 metres from existing ground level to the highest point on the building roof.

S.2 The height of an outbuilding or the alterations and additions to an existing outbuilding on a lot in the RU1 or RU3 zone must not exceed 12 metres from existing ground level to the highest point on the building roof.

S.3 The height of an outbuilding or the alterations and additions to an existing outbuilding on a lot in the RU4 zone must not exceed 10 metres from existing ground level to the highest

point on the building roof.

S.4 The highest point of a dwelling house or outbuilding referred to above must be at least 2m below the highest ridgeline of the hill on which the building is proposed to be erected.



Note: Existing ground level is measured vertically from the ground to the highest point on the roof line.

3.1.2 Building heights in the RU5 zone

S.5 The height of a dwelling house, or the alterations and additions to an existing dwelling house must not exceed 8.5 metres from existing ground level to the highest point on the building roof.

S.6 The height of an outbuilding or the alterations and additions to an existing outbuilding on a lot must not exceed 7 metres from existing ground level to the highest point on the building roof.

3.1.3 Building heights in the E1, E3 and E4 zones

S.7 The height of a dwelling house, or the alterations and additions to an existing dwelling house must not exceed 8.5 metres from existing ground level to the highest point on the building roof.

S.8 The height of an outbuilding or the alterations and additions to an existing outbuilding on a lot must not exceed 7 metres from existing ground level to the highest point on the building roof.

S.9 The highest point of a dwelling house or outbuilding referred to above must be at least 2m below the highest ridgeline of the hill on which the building is proposed to be erected.

Part 4 Building setbacks

Objectives

O.1 To ensure adequate separation is provided between dwellings and agricultural or other activities likely to cause land use conflict.

O.2 To protect the privacy of residents.

O.3 To protect residents from the impact of noise and dust from nearby public roads.

O.4 To reduce risks from potential fires in adjacent unmanaged vegetation.

O.5 To promote consistent and attractive streetscapes in village areas.

O.6 To protect electricity infrastructure and reduce the risks associated with construction near overhead electricity lines.

4.1	**Front facade setbacks in all zones**
S.1	The front façade setback of any new dwelling in the RU4, E3 and E4 zones is to be a minimum of 20 metres from any public road.
S.2	The front façade setback of any new dwelling in the RU1, RU3 and E1 zones is to be a minimum of 40 metres from any public road.
S.3	A greater front façade setback may be required for land adjoining a classified road, if the noise assessment determines that this is necessary (see Chapter 2.7 Noise).
S.4	If any new dwelling is proposed to be constructed less than 50 metres from the boundary of an unsealed public road, the road shall be upgraded to a bitumen sealed road for a minimum distance of 100 metres.
4.2	**Front facade setbacks in the RU5 zone**
S.5	The front façade setback of any new dwelling, dual occupancy or the alterations and additions to an existing dwelling house is to be a minimum of 4.5 metres from any public road.
S.6	The front façade of any outbuilding is to be setback a minimum of 1 metre behind the front façade of the associated dwelling.
S.7	If any new dwelling is proposed to be constructed less than 50 metres from the boundary of an unsealed public road, the road shall be upgraded to a bitumen sealed road for a minimum distance of 100 metres.
4.3	**Side and rear setbacks**
S.8	The wall of any new building or alterations and additions to an existing building shall be setback a minimum of 10 metres from a side boundary.
S.9	The wall of any new building or alterations and additions to an existing building shall be setback a minimum of 15 metres from the rear boundary.
S.10	Greater setbacks from side and rear boundaries may be necessary to avoid potential nuisance from existing activities on adjoining property, such as dust, spray drift or odour.
4.4	**Setbacks from overhead electricity supply mains**
S.11	Buildings must not be erected under existing overhead electricity supply mains. The minimum clearance measured horizontally from the vertical alignment of any overhead electricity supply conductor to the nearest part of the building shall be 15 metres. This requirement does not apply to an insulated overhead service which provides the electricity supply for the building.
4.5	**Setbacks from unmanaged vegetation**
S.12	Where land is not identified as bushfire prone, but is adjacent to unmanaged vegetation, a 10m asset protection zone is to be maintained in accordance with the requirements of the *NSW Rural Fire Service's publication Standards for Asset Protection Zones..*
S.13	Where an asset protection zone is required and cannot be provided between the proposed development and any unmanaged vegetation, additional fire protection measures shall be required, and may include: a) Installation of a 1.8 metre high fence made of non-combustible materials between the development and any unmanaged vegetation. The bottom of the fence is to be in direct contact with the finished ground level or plinth; and

b) Flooring systems (including frame, supporting posts, columns, stumps, piers and poles), windows, external doors, vents, weepholes, eaves, verandahs and decks being constructed in accordance with the requirements for Level 1 construction in the current Australian Standards (*AS 3959- Construction of buildings in bushfire-prone areas).*

All developments on land that is designated as bush fire prone must meet the requirements of *Planning for Bush Fire Protection 2006* and *AS3959 Construction of buildings in bushfire-prone areas*.

Part 5 Landscaping in the E3 and E4 zones

Objectives

O.1 To facilitate restoration and protection of indigenous plant communities areas on the periphery of Armidale.

O.2 To ensure that landscaping of the site is carried out in a way that acknowledges and reinforces the scenic and biodiversity values of the land, including enhancement of habitat corridors.

O.3 To provide benefits to residents by locating new landscaping for increased privacy, wind and sun protection, a pleasant outlook as well as attracting wildlife.

S.1 A landscaping plan is to be provided for all development on land within the E3 and/or E4 zones, other than alterations and additions to an existing dwelling.

S.2 Driveways are to be tree-lined in order to reduce the prominence of the work and to screen the passage of motor vehicles.

S.3 New plantings of native vegetation are to be provided to screen or reduce the visual impact of rural structures, such as large sheds and shade houses, when viewed from public roads or nearby dwellings.

S.4 The landscape plan is to include details of the location and scientific and common names of new plantings and vegetation to be removed within the building envelope and for access roads.

S.5 The landscaping plan is to include the location, type and materials of proposed fences on the property, including those that may be erected to protect native vegetation identified as being of significance in the flora and fauna assessment.

S.6 Landscaping is to retain or improve connectivity with habitat on adjoining property.

S.7 New plantings should be indigenous species, except where specific recommendations have been made for new plantings in the relevant flora and fauna assessment.

Part 6 Fences

Objectives

O.1 To provide for fencing that is compatible with the rural landscape and scenic qualities of prominent hills and ridgelines.

O.2 To allow fencing that is suitable for a variety of activities permitted in rural and environment protection zones.

O.3 To ensure that fencing in areas of identified ecological significance is of a style that does not inhibit the movement of native wildlife.

O.4

6.1 Fences in the RU1, RU3, RU4, E1, E3 and E4 zones

S.1 Fencing shall be open form (wire, post and rail or similar). Post and rail fences are to remain

natural timber or are to be painted or stained with colours which blend with the surrounding landform or vegetation.

S.2 A stock proof fence is to be provided to all road frontages and public open space areas.

S.3 Fencing along property boundaries is not to be metal panel fencing (of any height).

S.4 Stock proof fencing may also be required to protect any areas of significant vegetation (particularly in zones E3 and E4).

S.5 Where land is identified to be habitat for native fauna (eg koalas), fencing is to be of a style that does not inhibit movement within the site or the areas of habitat on adjoining properties.

6.2 Fences in the RU5 zone

S.6 A front fence and any associated retaining wall must be located within the front setback area.

S.7 Front fences shall be:

a) up to 1.2m above existing ground level, or up to 1.5m high if more than 50% transparent;

b) any brick or other solid portion of the fence above 600mm should not be more than 250mm wide and the remaining fence must be of open design.

S.8 On corner lots the front fence style and height should continue around the corner to the secondary street to a point level with the front facade of the dwelling.

S.9 Side fences on a corner lot are to be tapered from the height of the front boundary fence to a maximum height of 1.8m at the point level with the front facade of the dwelling.

6.3 Gates and entrance structures

S.10 Entrance gates and/or structures along road frontages shall be constructed using materials and designs that are in keeping with a rural landscape.

Part 7 Vehicle access and driveways

Objectives

O.1 To ensure all development has legal and properly constructed access.

O.2 To minimise the extent of private access arrangements over adjoining land (e.g. rights-of-carriageway).

O.3 To ensure that the standard of public roads is sufficient for traffic likely to be generated by a development.

O.4 To minimise future costs to the community associated with road improvement and maintenance.

O.5 To ensure property access is located with safe sight distances on public roads.

O.6 To ensure that internal access roads are sited to minimise impacts on the environment and are constructed to a standard suitable to provide safe access for residents, employees and emergency services.

7.1 Access

Land upon which a development is to be carried out must have legal and properly constructed access. Depending on the circumstances, the following options are available for providing access:

- Public Road as defined under the Roads Act 1993
- Construction and dedication of a Crown Road as a Council public road

- Right-of-Carriageway
- Undedicated Roads (eg Ministerial or Forestry Road)

The circumstances under which the above options are acceptable to Council, as well as the requirements for each option, are provided below.

7.1.1 Public road

S.1 Land having frontage to an existing dedicated Public Road that is maintained by Council for the purpose of a public road may obtain access from the road, subject to compliance with the Driveways section below. Where the development is for a new dwelling, dual occupancy or the alterations and additions to an existing dwelling house or dual occupancy, improvements to the existing public road will not be required.

S.2 If any new dwelling is proposed to be constructed less than 50 metres from the boundary of an unsealed public road, the road shall be upgraded to a bitumen sealed road for a minimum distance of 100 metres.

S.3 Developments expected to generate significant traffic may require existing public roads to be upgraded to a suitable and safe standard for the use.

S.4 Where the lot or holding on which the development is proposed to be carried out has frontage to an existing Public Road that is unconstructed or is not maintained by Council for the purpose of a public road, the full cost of upgrading that road to Council's specification is to be borne by the developer. Council's minimum standard for new rural roads is specified in the table below:

Table 1: Minimum road access standards

All road construction shall comply with the requirements of Council's Engineering Code, and the relevant Australian Standards and Austroads Guidelines.

LEP Zone	Minimum Road Standard
RU1, RU3, RU4 and E1	Single lane gravel road nearest Council maintained and constructed public road.
E3 and E4	Single lane sealed road to nearest sealed Council maintained and constructed public road.
RU5	Half width construction of a two lane sealed road.

7.1.2 Construction and dedication of a Crown Road as a Council Public Road

S.5 Where access is proposed via a Crown Road, the road is to be constructed by the developer to Council's Engineering Code specifications and dedicated as a Council public road.

S.6 The applicant is to provide written agreement from the responsible authority (currently NSW Crown Lands) for the use of the Crown Road for access.

7.1.3 Right-of-Carriageway

S.7 Access by right-of-carriageway is not encouraged and will only be permitted in cases where no other practical alternative exists.

S.8 The right-of-carriageway shall only serve one lot or holding and must not be located on a lot containing an existing right-of-carriageway.

S.9 The right-of-carriageway shall have a width of not less than 20 metres.

7.1.4 Undedicated roads

Undedicated roads are roads that are not dedicated as Council or Crown Roads and include Forestry Roads, Rural Lands Protection Board reserves and Ministerial Roads.

S.10 The applicant is to provide written agreement from the responsible authority for the use of the road for access.

7.2 Driveways

S.11 Provision of an adequate all weather access will generally require gravelling from the road shoulder to the boundary and in most cases will require the provision of a piped gutter crossing in accordance with Council's Engineering Code.

S.12 Where the land adjoins an existing sealed public road, the driveway shall be sealed from the road shoulder to the boundary.

S.13 The driveway shall be located so as to minimise earthworks and removal of vegetation in the road reserve.

S.14 Entrances shall be limited to one per lot unless approved otherwise by Council. The relocation of an existing entrance may require the complete removal of the existing entrance.

S.15 Direct access to a classified road will not be permitted where another practical option exists.

S.16 Any new driveway on a classified road shall be located and constructed in accordance with the requirements of the relevant road authority.

S.17 Any new driveway on a local road shall have safe intersection sight distance in accordance with Table 3.2 of *Austroads 2010*. The minimum required sight distances are specified below:

Design Speed	Minimum Safe Intersection Sight Distance
40 km/h	73 metres
50 km/h	97 metres
60 km/h	123 metres
70 km/h	151 metres
80 km/h	181 metres
90 km/h	214 metres
100 km/h	248 metres

7.3 Internal access roads

S.18 Internal access roads shall be designed to avoid the need for large areas of cut and fill or the removal of significant native vegetation.

S.19 Internal access roads shall not have a grade exceeding 15%, unless it is proposed to be constructed and sealed by the Applicant, in which case the grade must not exceed 20%.

S.20 Internal access roads shall be constructed to provide all weather access to provide safe access for residents, employees and emergency services.

S.21 Internal access roads shall avoid crossing waterways, particularly major creeks/rivers. Any

bridges and pavements shall be capable of carrying a load of 15 tonnes with load ratings to be clearly indicated on the structure.

S.22 To reduce their visual impact, internal access roads are to follow contours wherever practicable and in the E3 and E4 zones are to be landscaped (refer to Part 9 Landscaping).

S.23 Internal access roads shall have a minimum carriageway width of 4 metres and a minimum vertical clearance of 4 metres. Curves shall have a minimum inner radius of 6 metres and a minimum distance of 6 metres between inner and outer curves.

S.24 For dwellings where the furthest external part of the proposed dwelling is greater than 70 metres (unobstructed) to the nearest hydrant, a loop road around the dwelling or a turning circle with minimum 12 metre outer radius shall be provided.

S.25 Internal access roads shall not be located on prominent hilltops or ridgelines.

Part 8 Utility infrastructure

Objectives

O.1 To ensure that land within Council's Development Servicing Plan for Water and Sewerage is provided with services in accordance with that Plan.

O.2 To ensure internal services are positioned for effective use of land and access by servicing authorities.

O.3 To ensure that all development has adequate water supply to meet domestic/commercial, and fire fighting demands.

O.4 To ensure that satisfactory provision is made for the safe and nuisance free disposal of effluent.

O.5 To ensure that an adequate electricity supply is available for the intended use.

8.1 Water supply

S.1 Development (other than alterations and additions to an existing dwelling) on land in the 'Water DSP Development Area' in Council's Development Servicing Plan for Water and Sewerage must connect to Council's reticulated water supply if the land is located within 225 metres of an existing water main.

S.2 Development (other than alterations and additions to an existing dwelling) on land in the 'Water DSP Development Area' in Council's Development Servicing Plan for Water and Sewerage that is greater than 225 metres from an existing water main must connect to Council's reticulated water supply, except where the applicant can justify, to Council's satisfaction, that a reticulated supply is not required based on the criteria below:

a) the type and scale of the development relative to its proximity to the existing reticulated water supply system.

b) the sequence of infrastructure provision identified under the Development Servicing Plan for Water and Sewerage relative to the proposed development.

c) potential future development of nearby land, including type and timing of development(s).

d) the ability of on-site water supply to provide for domestic/commercial demands and a reliable fire fighting reserve.

e) the economic feasibility of connection to a reticulated water supply compared to providing on-site water storage. A cost benefit analysis is to be submitted, including the total cost to install, run and maintain an on-site water supply system compared to the cost of providing reticulated water supply over a substantial period being 20 years.

S.3 Where the development will not be connected to Council's reticulated water supply, it will be required to have not less than 70,000 litres of domestic water storage per dwelling. Although not specifically required by Council, it is recommended that landowners consider providing a greater storage capacity.

S.4 In addition to the minimum quantities of domestic water storage required above, a dedicated reserve for fire fighting purposes of not less than 20,000 litres shall be provided. This may be reduced to 10,000 litres for development in the RU5 zone on land having an area of less than 1 hectare. For development on bush fire prone land as identified on Council's Bush Fire Prone Land Map certified by the Rural Fire Service, additional storage capacity may be required.

S.5 The dedicated fire fighting water supply tank shall:

a) include a 65mm Storz fitting and ball or gate valve, or if the tank is in ground, it shall be fitted with a 200mm x 200mm child proof access hole.

b) provide for fire fighting appliances (i.e. trucks and tankers) to gain access to within 4 metres of the tank.

c) include a minimum 3kW (5hp) petrol, diesel or generator powered pump, including appropriate fittings.

S.6 Water supply and fire fighting measures for development other than residential development will be assessed on its merits in each case having regard to the above objectives.

8.2 Sewerage systems

S.7 Development (other than alterations and additions to an existing dwelling) on land within the 'Sewer DSP Development Area' in Council's Development Servicing Plan for Water and Sewerage must connect to Council's reticulated sewerage system if the land is located within 75 metres of an existing sewer main.

S.8 Development (other than alterations and additions to an existing dwelling) on land within the 'Sewer DSP Development Area' in Council's Development Servicing Plan for Water and Sewerage that is greater than 75 metres from an existing sewer main must connect to Council's reticulated sewerage system, except where the applicant can justify, to Council's satisfaction, that connection to Council's sewerage system is not required based on the criteria below:

a) The proposed on-site sewerage management system(s) must be able to demonstrate that it can satisfy Council's Policy POL 225 – Regulatory: Local Approvals Policy - On-site Waste Water Systems.

b) The case for on-site waste management is consistent with the type and scale of the development relative to its proximity to the existing reticulated sewerage system.

c) The sequence of infrastructure provision identified under the Servicing Plan relative to the proposed development.

d) The case for on-site waste management considers potential future development of nearby land, including type and timing of development(s).

e) A case for on-site waste management is consistent with and accounts for future development on the subject land with respect to the area of the land parcels, type of development and sensitivity of the environment.

f) The economic feasibility of connection to Council's sewer compared to providing an on-site sewerage management system. A cost benefit analysis is to be submitted, including the total cost to install, run and maintain an on-site system compared to the

	cost of connecting to the sewer over a substantial period being 20 years.
S.9	On all other land on-site effluent disposal is acceptable subject to satisfying Council's Policy POL 225 – Regulatory: Local Approvals Policy - On-site Waste Water Systems.
8.3	**Stormwater drainage**
S.10	Stormwater drainage systems are to be designed in accordance with Chapter 2.7 Floodplain Protection and Stormwater Drainage.
8.4	**Electricity supply**
S.11	Electricity supply requirements are outlined in Chapter 2.1 Site Analysis.
8.5	**Solar panels and solar heat pumps**
S.12	Location and installation of all solar panels and solar heat pumps must comply with the provisions of the *State Environmental Planning Policy (Infrastructure) 2007.*
S.13	Where solar panels are installed on a heritage item, they must be designed and located in accordance with the 'Solar and Wind Energy Installations' provisions in Chapter 2.4 European Heritage. These heritage provisions provide information on the materials, colour, height and streetscape considerations for solar installations.
Part 9	**Earthworks**
S.1	Where earthworks are required, including excavation, fill, retaining walls, batters and geotechnical investigations (including soil, slip and spring activity), the relevant provisions in *LEP 2012* Clause 6.1 Earthworks and Chapter 2.6 – Earthworks and Geotechnical Assessment must be applied.
Part 10	**Open fireplaces**
O.1	To protect the amenity and air quality of the region.
S.1	Open fire places are not permitted in any zone.
Part 11	**Definitions**
For definitions of terms used in this chapter, see the LEP 2012 Dictionary.	

Armidale
Dumaresq Council

Armidale Dumaresq
Development Control Plan 2012

Section 5 Commercial and Industrial Development Controls

Chapter 5.1 Development in the Business Zones

Contact Details

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Email council@armidale.nsw.gov.au

Table of Contents

Part 1 General Provisions

1.1 Introduction

Armidale is served by a single Central Business District (CBD) supported by business areas outside the CBD and a number of smaller neighbourhood centres and corner stores.

This chapter provides a guide for commercial and residential development in the business zones that preserves and enhances the character of each locality and outlines the matters that should be taken into account when considering development proposals.

This chapter is to be read in conjunction with all relevant chapters in Section 2 Site Analysis and General Controls. All relevant matters relating to the development must be addressed in the development application, the SEE and on site analysis plans and site plans. The site analysis process may highlight the requirement for specialist reports to be undertaken.

1.2 Objectives

The objectives of this chapter are:

O.1 To provide quality urban design solutions to establish, complement or enhance the attraction or unique character of an area.

O.2 To protect the natural, cultural and heritage significance of a locality by ensuring that new development is compatible with its surroundings and the broader urban context.

O.3 To provide guidelines for future development that will strengthen the character of the CBD and surrounding business areas within Armidale.

O.4 To ensure harmonious and attractive living environments for residents and visitors by ensuring that development does not result in unacceptable amenity impacts on adjoining development.

O.5 To provide for safe and efficient traffic movements and a pedestrian and cycle system that provides effective access within and to business areas.

1.3 Land to which this chapter applies

This chapter applies to land in LEP 2012 zoned:

B3	Commercial Core	B5	Business Development
B4	Mixed Use	B7	Business Park

1.4 Addressing the guidelines in this chapter

The guidelines for development in the business zones are set out in this chapter. These are expressed in the form of objectives which need to be addressed for each development proposal. For each objective (O), 'acceptable solutions' (S) are provided which, if met, will ensure compliance. Alternative approaches may be proposed, provided these adequately address the relevant objectives and comply with legislation.

1.5 Developer contributions

Council may require as a condition of development consent that a financial contribution or dedication of land or provision of a material public benefit be made by a developer to provide for or upgrade public services or facilities for which the development is likely to create a demand.

Developer contributions that apply to development in the residential zones are contained within the Armidale Dumaresq Contributions Plan and the Armidale Dumaresq Water Supply and Sewerage Development Servicing Plan. Depending upon the likely demand for public services or facilities that a development proposal is likely to generate, Council may also require preparation of a specific

Contributions Plan or enter into a Planning Agreement with the developer prior to determining a particular development proposal.

Part 2 General design principles

The character and distinguishing elements within the CBD of Armidale have been substantially established over many years and consequently new proposals will predominantly be for redevelopment of existing sites and infill development. New development should seek to complement or enhance these features and characteristics.

Development should contribute to the local context and this involves identifying the desirable elements of the current character of an area or the key aspects of character that are important to its future.

Part 3 Landmarks and heritage

Landmarks provide a positive contribution to Armidale's architectural landscape. The Armidale town centre has a number of heritage buildings including cathedrals and churches, banks, hotels, retail and government buildings. These buildings are located at prominent sites, often at road intersections. The location of existing and proposed landmark sites identified by the CBD Outline Plan and intersections recommended by the Armidale Streetscape Design Project – Masterplan Report (Environmental Partnerships, 2003) for threshold type entrance treatments are shown in Appendix 1. In addition, the Armidale CBD includes many heritage items and a heritage conservation area. LEP 2012 lists the heritage items and shows the extent of the heritage conservation area. Additional guidelines for development affecting heritage items or in the heritage conservation area are in Chapter 2.3 European Heritage of this DCP.

Redevelopment of sites in the vicinity of landmarks should complement these buildings while making their own architectural statement. Landmark sites require particular attention to street presentation. Incorporation of a landmark feature may be appropriate to create interest and provide the building with a recognisable identity.

The broad objectives for landmark sites are that:

a) they 'fit in' with the heritage character of the CBD and surrounding Precincts; and

b) they have human scale building design in pedestrian locations.

Part 4 Community safety

Objectives

O.1 To reduce the opportunity for crime to occur through the effective planning, design and place management.

O.2 To ensure building design considers casual surveillance, territorial reinforcement, access control, space management and effective lighting.

4.1 Crime Prevention Through Environmental Design (CPTED)

- *Surveillance* - refers to the ability to see and be seen by others by maximising visibility. The three types of surveillance that may be employed are natural, formal and technical.
- *Access control* - uses physical and symbolic barriers to restrict, encourage and channel pedestrian and vehicle movement.
- *Territorial reinforcement* - uses features and strategies that encourage or enhance a community's sense of responsibility for places and facilities.
- *Space management* - involves the formal supervision, control and maintenance of urban

space.

4.2 CPTED assessment

S.1 A CPTED assessment must be provided for the following types of development:

a) Multiple units, townhouse/villa developments (20 or more dwellings);
b) Mix use developments, (with 20 or more dwellings);
c) New or upgraded commercial/retail developments (major works);
d) New industrial complexes with multiple industrial units;
e) New or upgraded schools (major works);
f) Large sports and community facilities;
g) Clubs/hotels (ie upgrades, extended hours, gaming rooms etc);
h) Service stations/convenience stores/installation of ATM's;
i) Hospitals;
j) Unusual developments (ie arcades, brothels, adult shops, amusement centres, upgrade of Department of Housing properties).

4.3 Lighting assessment

S.2 The required level of lighting will vary according to the level of night-time activity and the perceived risk of crime. The *Australian Standard AS1158.3.1 Pedestrian area (Category P) lighting – Performance and installation design requirements* give recommended illumination levels for spaces with a variety of functions and local requirements.

Part 5 Development in the Armidale CBD

This Part applies specifically to development within the Armidale CBD that is zoned B3 Commercial Core or B4 Mixed Use.

The CBD contains the traditional core of retail and commercial activity in Armidale. The intent is to retain the core retail and commercial activity within this locality and enhancing its role in providing tourist and entertainment facilities. The following objectives include an emphasis on a mix of retail, commercial and residential development. In multi-storey, mixed use developments retail uses are preferred on the ground floor with office and/or residential development at the first floor level and above.

The future character for the CBD core and the framework for future development in this area are represented in *Appendix 1.*

Objectives

O.1 To encourage landmark developments and redevelopments at selected sites.

O.2 To encourage a mix of retail (supermarkets, specialty shops and services) and office uses to maintain a strong trading function.

O.3 To create integrated public transport, vehicle and pedestrian networks.

O.4 To promote good design that provides functional and attractive buildings and spaces which improve the character of the area.

O.5 To integrate residential accommodation and business uses in the CBD to create a dynamic business precinct.

O.6 To create linkages and unity in the streetscape by consideration of important design cues such as height, shape, external materials and proportion of neighbouring buildings.

5.1	**Design**
S.1	The colours and external building materials used are to be selected to ensure that all buildings blend with the surrounding streetscape/landscape and any other business development in the locality.
S.2	Building layouts should encourage continuous street frontages.
S.3	Street level interfaces should promote all weather activity by providing solar and rain protection.
S.4	Monotonous facades that provide little relief or detail by use of architectural features/decoration should be avoided.
S.5	The design should not mimic other buildings but make its own architectural statement and is aesthetically sympathetic to the existing streetscape.
S.6	Buildings should address the street frontage to ensure building facades do not detract from the existing streetscape character.
S.7	Roof structures including plant rooms, air conditioning units, rooftop recreational facilities and the like should be designed and incorporated into the building in a way that is attractive and screened from view from a public place or road.
S.8	Overshadowing should avoid an unreasonable reduction in sunlight access to the open space of surrounding properties and public spaces regularly used by pedestrians.
S.9	Design should have regard to the concept of view sharing and the degree to which a proposed development interrupts existing and critical view corridors.
5.2	**Building height, bulk and scale**
Objectives	
O.1	To ensure the bulk, height and scale of the development are compatible with the existing streetscape to prevent any adverse impacts on the amenity, solar access and private open space of adjoining development and public spaces.
O.2	To provide a visual transition between the business zones and adjoining residential zones.
O.3	To enhance the streetscape character through landscaping elements to visually integrate the development with the environment.
O.4	To allow residential activity that is compatible with and supports business and retail development in the CBD and at neighbourhood shopping centres.
S.10	Building facades should be designed so that the height, bulk and scale is appropriate and in proportion to the prevailing scale of the street and the surrounding buildings.
S.11	The maximum height of a building located on land to which this chapter applies must not exceed: a) the maximum height shown for the land on the Height of Buildings Map for LEP 2012; b) if there is no such applicable maximum height specified - 12 metres (measured from ground level to the highest point on the building's roof).
5.3	**Building setbacks**
Objectives	
O.1	To ensure that setbacks define the boundary between private and public space, complement the existing setbacks of surrounding buildings, and contribute to the character of the immediate streetscape.

O.2	To provide a visual transition between the business zones and adjoining residential zones.
O.3	To ensure buildings incorporate fire protection measures where setback requirements are reduced.
S.12	A zero front setback is acceptable in the B3 and B4 zones where the height of the building does not exceed 10 metres.
S.13	Where the height of the building exceeds 10 metres, that part of the building exceeding 10 metres is to be setback 1 metre from the street boundary for each metre by which the building exceeds 10 metres in height. For the purposes of this control, the height of a building refers to the greatest vertical distance between the footpath level abutting the frontage of the site to the topmost point of that building.
S.14	Where zero side and rear setbacks are proposed, the building must demonstrate compliance with the relevant provisions of the Building Code of Australia (BCA) for the specific class of building.
S.15	Where residential development is 'shop-top housing' setbacks may be consistent with the setbacks of the commercial or business development where it can be demonstrated that there is an acceptable design treatment of potential impacts such as overshadowing, privacy or view loss.
S.16	No part of a building or above ground structure may encroach within a setback except for awnings, bay windows and balconies.
S.17	Where a proposal is for a mixed use comprising commercial and/or retail premises with residential development, the retail and commercial components are to be located: a) for single storey developments, towards the street frontage with residences to the rear; b) for multi storey development, at ground level with residences above or to the rear.
5.4	**Traffic flow and carparking**
S.18	No direct vehicular access to carparks from Beardy Street, between Marsh and Jessie Streets is permitted.
S.19	On-site parking, loading and service areas should be provided behind the building line.
5.5	**Pedestrian access**
S.20	Link car parking areas to the Mall via internal and external pedestrian walkways.
S.21	Link areas of new development within the CBD to the Central Mall through arcades, where possible, through the extended use of quality pavements and themed street tree planting.
S.22	Arcade links are to provide quality pavements for pedestrian access, partial glazing to arcade roofs to allow maximum light, and landscape elements where applicable.
S.23	Provision of full width paved footpaths is required on all street frontages and side streets.
5.6	**Landscaping**
Objectives	
O.1	To ensure that sites are landscaped in order to improve air quality, and provide shade, vertical elements and visual amenity.
O.2	To reduce the impact of the bulk height and scale of buildings and large, hard surfaced areas.
O.3	To ensure that planting and site preparation is planned and undertaken to optimise

prospects for the survival and good health of the landscaping.

O.4 To maintain a visual buffer to road frontages and neighbouring properties, while still allowing safe visibility and passive surveillance on site.

O.5 To ensure the location and species of landscaping does not prejudice safety aspects such as sight distances.

O.6 To ensure that site landscaping employs appropriate species for the local climate.

O.7 To provide plantings that minimise potential for damage to pavements, property and/or infrastructure.

For retail and commercial developments (other than in B7 Business Park zone), there are no specific landscaping standards in terms of minimum area or site coverage, other than for landscaped areas in carparks (see Chapter 2.9 Parking). However, proposals are to show that landscaping of the site has been considered by taking into consideration:

S.24 Providing appropriate shade for carparking areas or pedestrian routes between buildings within a development.

S.25 Improving stormwater quality and reducing the quantity of stormwater, for example by using plants with low water demand and low fertilizer requirements and utilising permeable surfaces.

S.26 Improving the solar performance within the development, for example by appropriate selection and siting of deciduous and evergreen trees.

S.27 Screening carparking areas and service areas, such as loading docks and waste storage collection areas.

S.28 Contributing to streetscape character by using planting and landscape elements appropriate to the character of the streetscape and scale of the development.

S.29 Visually softening the bulk of large development when viewed from public areas in the vicinity of the development.

All landscaping is to relate to the streetscape and context within which the development is sited. Opportunities to integrate the development into public open space areas are encouraged.

To ensure a high quality of landscaping to complement the quality of development within adjoining areas, a suitably qualified or experienced Landscape Consultant/Contractor should be engaged to design landscape works associated with major developments. Consideration should be given to the potential impacts of plant species at maturity on proposed buildings, adjoining properties and utility services (above and below ground), and the minimisation of future maintenance by taking into account practical establishment and long-term management of landscape elements.

5.7 Works in public areas – CBD Masterplan Report

Development works on public land may be required, particularly for major developments. These works may involve streetscape improvements and infrastructure provision in the road reserve including paving, landscaping, seating, rubbish bins, and pedestrian facilities.

Where public infrastructure is to be provided as part of the development, Council will take into consideration the extent to which the proposal is sympathetic to or consistent with the following recommendations of the Armidale CBD Streetscape Design Project – Masterplan Report (Environmental Partnerships, July 2003).

The Masterplan Report suggests the following elements:

- Avenue tree planting to inner town centre streets with semi-mature deciduous tree specimens.
- ‘Off-road’ parking facilities with themed signage.

- Identification of the existing by-pass traffic route by the use of signage and boulevard tree planting.
- Installation of signage and landscaping at critical intersections – 'threshold style treatments'.
- New plantings to be as mature (size and spread) as possible, and be installed with quality soil mix, fertilizer, irrigation etc to promote maximum growth.
- Footpath pavement materials in accordance with Council's preferred footpath surface treatment strategy.

The Masterplan Report notes that development of a theme is important to identify the City Centre and major traffic routes by-passing the CBD. It recommends that only one or two species be used, with accent trees featured at key intersections, 'threshold entries' and major pedestrian crossings. Mature street trees should be retained, and where required new tree planting should be continued to complete the street-side avenue effect.

The Masterplan Report recommends that the major by-pass route (Barney and Marsh Streets) and the inner CBD roads (Jessie, Dangar, Faulkner and Dumaresq Streets) be differentiated using themed street tree planting.

S.30 All works on public land (including street tree planting and street furniture) are to be consistent with Council's requirements.

S.31 Works on public roads must be approved under the Roads Act 1993.

Part 6 Development in B7 Business Park zone

This Part applies to development within the B7 Business Park zone.

6.1 Subdivision

Objectives

O.1 To provide sites of sufficient dimensions to accommodate potential uses, vehicle parking and manoeuvring areas and landscaping

O.2 To ensure that services are provided in an orderly and efficient manner to meet the requirements of future potential users.

S.1 All lots created by the subdivision must have a minimum frontage of 20 metres.

S.2 All new lots created by a subdivision must have legal and properly constructed access with the minimum road standard specified in the Engineering Code.

S.3 Subdivisions creating more than 10 lots and accessed by a cul-de-sac are to have an alternative emergency vehicular access.

S.4 Each lot created by subdivision of land must be provided with a connection to Council's reticulated water supply.

S.5 Water systems must be:

a) designed to the standards specified in Council's Engineering Code; and

b) designed to be easily accessible and maintained.

S.6 Each lot created by subdivision of land must be provided with a connection to Council's reticulated sewerage system.

S.7 Sewerage systems must be designed:

a) to the standards in Council's Engineering Code;

b) to allow each new lot to be serviced by gravity drainage; and

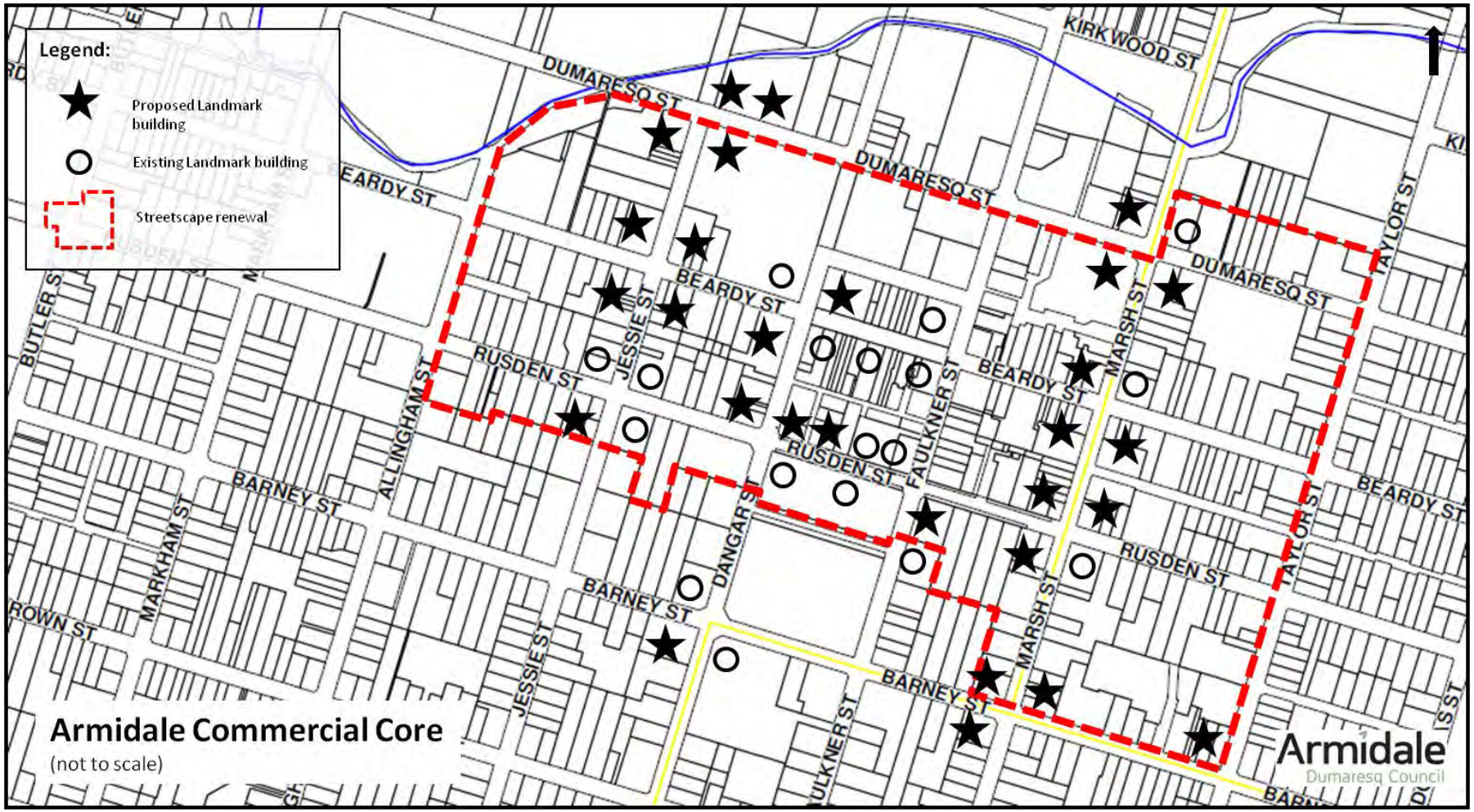
c) to be easily accessible and maintained.

S.8	Connections to a reticulated electricity, telecommunication and NBN system are to be via an underground supply system that meets the servicing authority's requirements.
6.2	**New buildings or extensions - design**
Objectives	
O.1	To promote development which is both functional and attractive in the local context through appropriate design.
O.2	To ensure that future development creates or maintains a high level of visual and environmental quality in keeping with the character of the area.
S.9	Showroom display areas, ancillary offices, staff amenities and other low-scale building elements should be, wherever practical, be located at the front of the premises.
S.10	The colours of external building materials used are to be selected to ensure that all buildings blend with the surrounding streetscape/landscape and any other business development in the locality.
6.3	**Building height, bulk and scale**
Objectives	
O.1	To ensure the bulk, height and scale of the development are compatible with the existing streetscape to prevent any adverse impacts on the amenity, solar access and private open space of adjoining development and public spaces.
S.11	Building facades should be designed so that the height, bulk and scale is appropriate and in proportion to the prevailing scale of the street and the surrounding buildings.
S.12	The maximum height of a building located on land to which this chapter applies must not exceed 12 metres (measured from ground level to the highest point on the building's roof).
6.4	**Building setbacks**
Objectives	
O.1	To ensure that setbacks define the boundary between private and public space, complement the existing setbacks of surrounding buildings, and contribute to the character of the immediate streetscape.
O.2	To provide a visual transition between the business zones and adjoining residential zones.
O.3	To ensure buildings incorporate fire protection measures where setback requirements are reduced.
S.13	In the B7 zone, the front façade setback is to be a minimum of 10 metres from any road frontage.
S.14	On corner sites, a 4 metre setback applies to the secondary frontage.
6.5	**Landscaping, storage areas and fencing**
Objectives	
O.1	To protect and enhance the appearance of areas used for business parks, particularly due to the location of the B7 zone which is in the vicinity of the University of New England and is within view of the Armidale bypass.
O.2	To provide a landscape buffer between business development and adjoining or adjacent non-business uses whilst enhancing the general streetscape and amenity of business parks.
O.3	To ensure that landscaped areas are an integral part of the site.

O.4	To encourage plantings in scale with the height and bulk of the proposed building on the land.
S.15	Existing trees on the site should be retained and building envelopes designed to minimise tree removal.
S.16	Plantings should be: a) selected having regard to their future maintenance requirements and likely growth; b) suited to Armidale's climate and produce environmental and climatic benefits; c) mature or semi-mature plants so that 'instant effect' may be achieved; d) consistent with findings or recommendations of any flora study that may have been carried out to support the development application; e) in scale with the height and bulk of the building and include species that will grow to a height consistent with the building height. Trees to be planted between a new building and the street frontage should be selected to achieve a mature height at least equivalent to the ridge height of the roof of the new building.
S.17	The following areas are to be landscaped: a) Between the front boundary and building line (10m setback) exclusive of approved access ways. This area is not to be utilised for car parking. Any security fences shall not encroach onto the setback; b) Within the off-street parking area; c) Areas not otherwise utilised for approved building, parking or off-street loading.
S.18	All open areas for the storage of plant, goods and/or materials shall be screened from the public road by means of a suitable screen wall of face brick or masonry matching the building façade.
S.19	No plant, goods and/or materials shall be placed, stored or otherwise stand between the buildings, or screen walls, and the street alignment or Armidale bypass boundary.
S.20	The location and species of trees should consider underground services, aboveground services and buildings in the vicinity. New tree plantings are to be a minimum of 3 metres horizontal distance from buildings or underground services.
S.21	Landscaping beds shall: a) Have soil depth of at least 1 metre; b) Have edged support; c) Be mulched; d) Have access to water – an outdoor tap, or where lots are larger than 1000m^2 an automated watering system is to be provided.
S.22	Fences are to be a maximum of 3m above existing ground level. Fences along the site frontage are not to be constructed of solid material more than 1m above finished ground level.
6.6	**Vehicular access**
Objectives	
O.1	To ensure the safe movement of all forms of vehicular traffic and pedestrians.
S.23	All developments fronting Madgwick Drive shall be serviced by a singular access drive with clear lines of sight, with access being designed off an alternative minor road. Access is denied to the Armidale bypass, which is a controlled access road. Each vehicular crossing shall be not less than 6 metres, nor greater than 9 metres in width.

S.24	Vehicle manoeuvring, driveways, turning circles etc must be designed in accordance with the current edition of AS 2890.1 and AS 2890.2.
S.25	All parking and vehicle manoeuvring areas are to be a sealed surface (i.e. concrete or bitumen) – including both public parking areas, and operational areas such as loading docks, staff parking, or vehicle manoeuvring.
S.26	All car parking spaces and access are to be in accordance with Chapter 2.9 Parking of this DCP.
S.27	All buildings must be provided with a loading bay so that loading/unloading facilities take place wholly within the subject lot.
S.28	Loading bays must be located: a) behind the front building line, and b) so that they are not facing a dwelling on an adjacent lot.
S.29	Loading areas must be designed in accordance with the current edition of AS 2890.
S.30	Directional signage is to be provided on-site that directs visitors to the public parking and building entrance.
S.31	Directional signage is to be provided for delivery vehicles entering the site.
6.7	**Streetscape**
S.32	A concrete footpath to Councils standards is required to the frontage of: a) all new development on a vacant site. b) a site where the work for alterations and/or additions is more than 25% of the existing development (including external works).
S.33	Street tree planting to Council's standards is required to the frontage of: c) all new development on a vacant site d) a site where the work for alterations and/or additions is more than 25% of the existing development (including external works).
6.8	**Caretaker's residence**
O.1	To ensure that any caretaker's residence is subsidiary and ancillary to the primary use of the property.
S.34	There must only be one caretaker's residence per lot.
S.35	The caretakers residence must appear to be part of the new building or alterations and additions, and not be a separate residence from the main development.
S.36	The residence should be located to maximise natural surveillance of the site in the first instance, but also provide solar access to the living areas wherever possible.
S.37	The floor area of the residence should be no greater than 100m^2.
S.38	The residence should be provided with a separate defined parking space as close as possible to the entrance of the residence.
S.39	The residence is to be provided with a minimum 40m^2 area of private open space.

Part 7	**Utility infrastructure**
Objectives	
O.1	To ensure that land within Council's Development Servicing Plan for Water and Sewerage is provided with services in accordance with that Plan.
O.2	To ensure internal services are positioned for effective use of land and access by servicing authorities.
O.3	To ensure that all development has adequate water supply to meet domestic/commercial, and fire fighting demands.
O.4	To ensure that satisfactory provision is made for the safe and nuisance free disposal of effluent.
O.5	To ensure that an adequate electricity supply is available for the intended use.
7.1	**Water supply**
S.1	All development identified in the 'Water DSP Development Area' in Council's Development Servicing Plan for Water and Sewerage must connect to Council's reticulated water supply.
S.2	The development shall be connected to a reticulated water supply with adequate capacity for fire fighting purposes.
7.2	**Sewerage systems**
S.3	All development identified in the 'Sewerage DSP Development Area' in Council's Development Servicing Plan for Water and Sewerage must connect to Council's reticulated sewerage system.
7.3	**Stormwater drainage**
S.4	Stormwater drainage systems are to be designed in accordance with Chapter 2.7 Floodplain Protection and Stormwater Drainage.
7.4	**Electricity supply**
S.5	Electricity supply requirements are outlined in Chapter 2.1 Site Analysis.
Part 8	**Earthworks**
S.6	Earthworks, including excavation, fill, retaining walls, batters and geotechnical investigations (including soil, slip and spring activity) are required, the relevant provisions in *LEP 2012* Clause 6.1 Earthworks and Chapter 2.6 – Earthworks and Geotechnical Assessment must be applied.
Part 9	**Definitions**
In this chapter, the term *'major development'* means any new commercial development, or any alterations/additions affecting more than 25% of an existing development, or any subdivision, but does not include construction of, or alterations and additions to, buildings ancillary to the development.	


Legend:
Proposed Landmark building
Existing Landmark building
Streetscape renewal
DUMARESQ ST
KIRKWOOD ST
BEARDY ST
RUSDEN ST
BARNEY ST
JESSIE ST
ALLINGHAM ST
BUTLER ST
MARKHAM ST
DANGAR ST
FAULKNER ST
MARSH ST
TAYLOR ST
Armidale Commercial Core
(not to scale)
Armidale
Dumaresq Council

Armidale Dumaresq
Development Control Plan 2012

Section 5 Commercial and Industrial Development Controls

Chapter 5.2 Industrial Development

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Table of Contents

Part 1 General provisions

1.1 Introduction

This chapter provides detailed guidelines for developers on a range of matters relating to industrial development in the Armidale Dumaresq Local Government Area (LGA).

This chapter provides a guide for industrial development that preserves and enhances the character of each locality and the outlines the matters that should be taken into account when considering development proposals.

This chapter is to be read in conjunction with all relevant chapters in Section 2 Site Analysis and General Controls. All relevant matters relating to the development must be addressed in the development application, the SEE and on site analysis plans and site plans. The site analysis process may highlight the requirement for specialist reports to be undertaken.

1.2 Objectives

The objectives of this chapter are:

O.1 To encourage a high standard of building design, particularly on sites adjoining non-industrial uses or along classified roads and the main approach routes to Armidale.

O.2 To minimise conflict with adjacent non-industrial land uses such as the Armidale Regional Airport or areas zoned for residential development.

O.3 To minimise detrimental impacts to the built and natural environment through careful site planning.

O.4 To encourage building design, orientation, materials and location that provides a pleasant and safe work environment for employees.

O.5 To present an attractive streetscape through building design and landscaping.

1.3 Land to which this chapter applies

This chapter applies to land in LEP 2012 zoned:

IN1	General Industrial	IN2	Light Industrial

This chapter applies to land in LEP 2008 identified as 'Deferred Matter' and zoned:

4(a)	Industrial

This chapter also applies to existing industrial development on land not zoned for industrial purposes where that development can establish existing use rights in accordance with the relevant legislation.

1.4 Addressing the guidelines in this chapter

The guidelines for development in the industrial zones are set out in this chapter. These are expressed in the form of objectives which need to be addressed for each development proposal. For each objective (O), 'acceptable solutions' (S) are provided which, if met, will ensure compliance. Alternative approaches may be proposed, provided these adequately address the relevant objectives and comply with legislation.

1.5 Developer contributions

Council may require as a condition of development consent that a financial contribution or dedication of land or provision of a material public benefit be made by a developer to provide for or upgrade public services or facilities for which the development is likely to create a demand.

Developer contributions that apply to development are contained within the Armidale Dumaresq Contributions Plan and the Armidale Dumaresq Water Supply and Sewerage Development Servicing Plan. Depending upon the likely demand for public services or facilities that a development proposal is likely to generate, Council may also require preparation of a specific Contributions Plan or enter into a Planning Agreement with the developer prior to determining a particular development proposal.

Part 2 Site requirements

Objectives

O.1 To encourage a range of industrial developments appropriate to the developable area of a lot.

2.1 Minimum lot size

S.1 There is no minimum lot size for the erection of an industrial development.

2.2 Floor area for buildings

S.2 There are no maximum floor area requirements for an industrial development. However, other requirements outlined in this chapter, for example car parking and landscaping, should be met.

Part 3 Building height and setbacks

Objectives

O.1 To ensure that the bulk and scale of the development is appropriate to adjoining land uses and will not impact negatively on the amenity and function of adjoining development, the streetscape, or views and vistas.

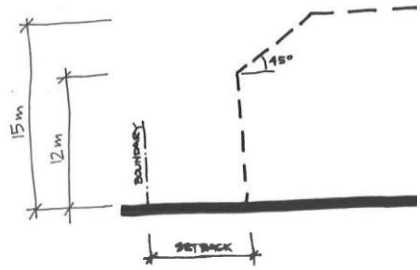
O.2 To define the boundary between private and public spaces.

O.3 To ensure that the development contributes to the surrounding streetscape, particularly along classified roads, main approach routes to Armidale or adjoining areas with non-industrial uses.

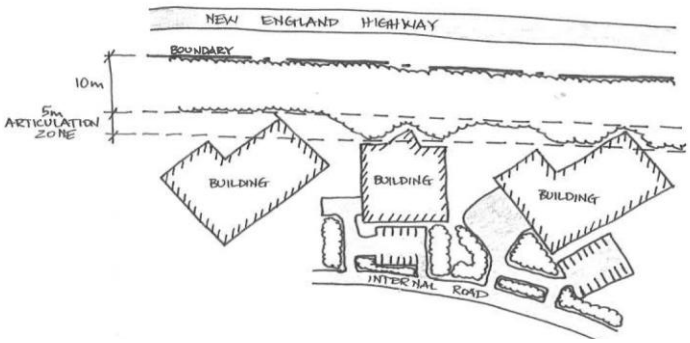
3.1 Maximum heights

S.1 The maximum height of a new building, or alterations and additions to an existing building, is:

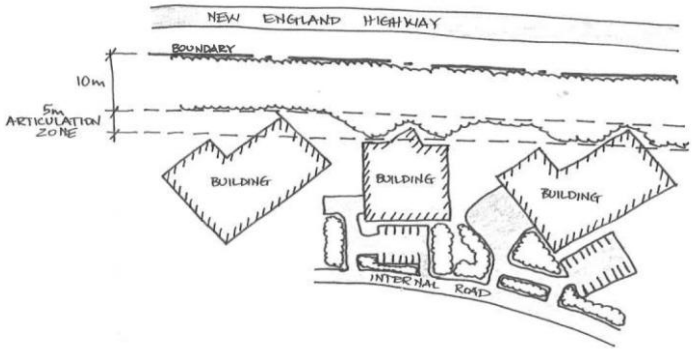
	Height (m)
Generally	The development should not penetrate the Obstacle Limitations or Operations Surface Plan for Armidale Regional Airport (clause 6.3, LEP 2012). Otherwise, the height limit is 15m above existing ground level.
Adjacent to a local or State heritage item, or within or immediately adjacent to a heritage conservation area	4.5m at the required setback and then 45degrees from the horizontal to a height of 15m

Adjacent to residential development/zone	
Adjacent to a public reserve	
Adjacent to the New England Highway	12m at the required setback and then 45 degrees from the horizontal to a height of 15m 

3.2	**Setbacks from roads**
S.2	The following setbacks apply to all development types, and are measured from the adjacent road boundary to the building.

Road	Setback (m)
New England Highway	10m plus a 5m articulation zone which can include a portion of the main building provided it is articulated to the main building structure e.g. at 45 degrees to the New England Highway
	
All other classified roads	10m
Primary road frontage *(that is not a classified road)*	6m, or the average distance of the setbacks of the nearest two industrial buildings that have a boundary with the same road and are within 40m of the lot
Secondary road frontage for a corner lot *(that is not a classified road)*	4m

3.3	**Setbacks from side and rear boundaries**
S.3	The minimum setback for a new building, or alterations and additions to an existing building that is not adjacent to a road is as follows.

	Setback (m)
Generally	0m
New England Highway	10m plus a 5m articulation zone which can include a portion of the main building provided it is articulated to the main building structure e.g. at 45 degrees to the New England Highway
	
Adjoining a local or State heritage item, or within or immediately adjacent to the heritage conservation area	3m
Adjoining a residential development/zone	
Adjoining a public reserve	
Adjoining environmentally sensitive land	10m
Adjoining unmanaged vegetation (i.e. rural farmland)	

S.4	The relevant provisions of the BCA apply to building design on a boundary such as fire rating or requirements that an existing building to be upgraded to meet current standards.

Part 4 Building and site design

Objectives

O.1 To encourage high quality building design particularly along classified roads, main approach routes to Armidale or on land adjoining non-industrial uses by using a variety of building elements, textures, materials, colours, heights, articulation and other design features.

O.2 To provide a comfortable work environment for all employees and reduce the impact of development on the environment.

O.3 To provide a clear entrance to the building for the public.

O.4 To enhance the streetscape by locating service and other functional areas of development out of view, particularly from classified roads, main approach routes to Armidale or adjoining non-industrial uses.

O.5 To provide for limited residential use that is ancillary to an industrial use.

4.1 Building materials and colours

S.1 The entry door for the public must be prominent from the primary road or access to the site by providing an awning, entry portico, architectural features or the use of different building materials to the main building structure.

S.2 Offices and areas for the public should be located to the street frontage.

S.3 Colours of external finishes should be appropriate to the site and landscape. Highly reflective colours and materials, such as white or zincalume metal, should not be used.

S.4 External walls visible from a roadway must:

a) contain at least 30% of materials that are not the same as the main exterior finish of the building structure;

b) be articulated;

c) not contain large continuous expanses of the same wall material.

S.5 Sun shades, screens or canopies should be provided, particularly for windows with a westerly aspect.

S.6 Glazing is to be non-reflective.

4.2 Building articulation

S.7 Walls over 100m long should be articulated to reduce the expanse of the walls by using building elements such as blade walls, feature walls or different external cladding.

S.8 The following encroachments into a setback from a road, or a side or rear setback, are permitted except to a classified road:

a) Entry feature or portico - to a depth of 2m and no higher than the maximum height;

b) Balconies, decks, patios, pergolas, terraces and verandahs – to a depth of 2.4m but no more than 50% of the width of the building, and no higher than 3m;

c) Emergency exit landings, steps or ramps not more than 1m in height;

d) Eaves, fascias, gutters, downpipes (if designed as part of an architectural feature i.e. stainless steel, or hidden within an awning ‘structure’);

e) Exterior light fittings;

f) Flush wall signs;

g) Sun shades, screens or sun blinds over a window or door – to a depth of 2m;

h) Blade/fin walls.

4.3 Caretaker's residence

S.9 There must only be one caretaker's residence per lot.

S.10 The caretaker's residence must appear to be part of the new building or alterations and additions, and not be a separate residence from the main development.

S.11 The residence should be located to maximise natural surveillance of the site in the first instance, but also provide solar access to the living areas wherever possible.

S.12 The floor area of residence should be no greater than $100m^2$.

S.13 The residence should be provided with a separate defined parking space as close as possible to the entrance of the residence.

S.14 The residence is to be provided with a minimum $40m^2$ of private open space.

4.4 Service equipment and external storage area

Service equipment includes air conditioning systems, ventilation ducts, external pipes and the like.

S.15 Ground level service equipment should :

a) be behind the building line;

b) be screened from view from any adjacent roads;

c) be located away from adjoining residential development.

S.16 Roof mounted service equipment should:

a) be screened from view from surrounding roads;

b) be below the ridgeline where the building is adjacent to a classified road;

c) not protrude above the maximum height of the building.

S.17 Ancillary developments such as product storage areas or equipment rooms should be behind the building line and screened from view from any adjacent roads.

Part 5 Site facilities

Objectives

O.1 To ensure proposed development does not negatively impact on the ongoing operation of existing approved land uses within the vicinity, including the Armidale Regional Airport.

O.2 To ensure the proposed development does not adversely impact on the surrounding built and natural environment.

O.3 To minimise negative impacts on adjoining non-industrial uses.

5.1 Waste storage

S.1 A waste storage area for recyclable and non-recyclable waste is to be provided within the lot for the development.

S.2 The waste storage areas must:

a) be accessible entirely within the site by waste collection vehicles;

b) not be forward of the building line or within any setback;

c) be screened from view from adjoining roads or residential development;

	d) not be located on any side of a building that faces an adjoining residence.
S.3	Waste storage areas within the Armidale Regional Airport Buffer (as shown on the Airport Buffer Map for LEP 2012) must be fully enclosed so that loose refuse does not interfere with the safe use of the runway or attract wildlife, particularly birds.
5.2	**Noise and amenity**
S.4	Proposed hours of operation shall be assessed in relation to the noise and traffic movements generated by the development and its proximity to adjoining areas zoned for residential use.
5.3	**Lighting**
S.5	Lighting structures or fixtures within 4.5 kilometres of the runway ends, and 750 metres of the runway centreline extension of the Armidale Regional Airport must: a) be designed by a suitably qualified lighting engineer/professional; b) consider the requirements of the Civil Aviation Safety Authority for Lighting in the Vicinity of Aerodromes.
S.6	External lighting to proposed development adjacent to a residential development must consider the residential amenity and potential impact on adjoining residents while not compromising safety and security. An external lighting scheme designed by a suitably qualified lighting engineer/professional must be submitted with any development application adjacent to a residential zone.
5.4	**Signs**
S.7	All signage is to be in accordance with Chapter 2.10 Signage.
5.5	**Bunding**
S.8	All areas for the storage and handling of chemicals, fuels and oils on-site must be designed with appropriate bunded areas that: a) have impervious flooring; b) have sufficient capacity to contain 110% of the largest container stored within the bund; c) are designed in accordance with pages 40-44 of *Storage and Handling Liquids, Environmental Protection Participants Manual, Appendix 2: Technical Considerations – 2A Secondary containment* (Department of Environment and Climate Change, May 2007).
Part 6	**Parking and site access**
Objectives	
O.1	Provide sufficient capacity and all-weather surface on-site for all activities associated with the function of the development such as deliveries, loading/unloading and storage areas.
O.2	Provide sufficient capacity and all weather surface for staff and visitor parking.
O.3	Provide a safe access into and within the site for all vehicles.
6.1	**Site access**
S.1	Adequate area must be provided for vehicle manoeuvring on-site, so that all vehicles can

	enter and exit in a forward direction.
S.2	Vehicle manoeuvring, driveways, turning circles etc must be in accordance with Chapter 2.9 of this DCP.
S.3	All parking and vehicle manoeuvring areas are to be a sealed surface (i.e. concrete or bitumen), including public parking areas and operational areas such as loading docks, staff parking, or vehicle manoeuvring.
6.2	**Parking and access**
S.4	Provision of parking is to be in accordance with Chapter 2.9 Parking of this DCP.
6.3	**Loading facilities and driveways**
S.5	Buildings should be provided with a loading bay so that all loading and unloading takes place wholly within the subject lot.
S.6	Loading bays must be located: a) behind the front building line; and b) so that they are not facing a dwelling on an adjacent lot.
S.7	Loading areas must be designed in accordance with the current edition of AS 2890.1 and AS 2890.2.
6.4	**Wayfinding signs**
S.8	Directional signage is to be provided on-site that directs visitors to the public parking and building entrance.
S.9	Directional signage is to be provided for delivery vehicles entering the site.
Part 7	**Landscaping**
Objectives	
O.1	To ensure that sites are landscaped in order to improve air quality, and provide shade, vertical elements and visual amenity.
O.2	To reduce the impact of the bulk height and scale of buildings and large, hard surfaced areas.
O.3	To ensure that planting and site preparation is planned and undertaken to optimise prospects for the survival and good health of the landscaping.
O.4	To maintain a visual buffer to road frontages, particularly along classified roads and the main approaches to Armidale, and to adjoining residential uses.
O.5	To ensure the location and species of landscaping does not prejudice safety aspects such as sight distances.
O.6	To ensure that site landscaping employs appropriate species for the local climate.
O.7	To provide plantings that minimise potential for damage to pavements, property and/or infrastructure..
7.1	**Depth of landscaping**
S.1	Landscaping is to be provided to all road frontages (except where vehicle or pedestrian access is required).
S.2	The depth of landscaping within the setback area shall be a minimum of:

	depth (m)
New England Highway frontage	10m
Development with a frontage opposite a residential zone	5m
All other street frontages	3m
Adjoining a Local or State Heritage Item, or within or immediately adjacent to the Heritage Conservation Area	
Adjoining a residential development/zone	
Adjoining a public reserve	
Adjoining environmentally sensitive land	

S.3 Developments on land over 1000m^2 must provide a separate landscaping plan that has been prepared or endorsed by a qualified horticulturist. The plan is to include a species list, note hard landscaping such as paving or fencing; provide specifications of landscape bed details, maintenance details etc.

S.4 Landscaping should include a variety of plant species, and species that are suited to Armidale's climate and mature or semi-mature trees appropriate to the bulk and scale of the building.

S.5 Landscaping to classified roads, including the New England Highway, are to be of a high quality and include a substantial amount of mature and semi-mature trees, as well as ground covers, shrubs and hard landscape features.

S.6 The location and species of trees should consider underground services, aboveground services and buildings in the vicinity. New tree plantings are to be a minimum of 3m horizontal distance from buildings or underground services.

S.7 Landscaping must not interfere with the ongoing safe operation of the Armidale Regional Airport Buffer. For example, the mature height of trees is not to intrude into the Obstacle Limitation Surface Map or Procedures for Air Navigation Services Operations Surface Map for the Airport ; or species are not to attract a significant amount of birdlife.

S.8 Landscaping beds shall:

a) have a soil depth of at least 1m;

b) have edge support;

c) be mulched;

d) have access to water - an outdoor tap, or where lots are larger than 1000m^2 an automated watering system is to be provided.

7.2 Fences and Gates

S.9 The following requirements are for fencing within the setback area :

Adjacent to	Fence and gate type
The New England Highway	• Maximum 3m above existing ground level • Constructed of black wire mesh
Classified roads *(except the New England Highway)* Primary road frontages	• Maximum 3m above existing ground level; • Not be constructed of solid material more than 1m above finished ground level • Components be a dark, subdued colour such as black wire mesh or dark green pickets
Secondary road frontages *(that are not a classified road)*	• Maximum 3m above existing ground level; • Components be a dark, subdued colour such as black or dark green
Side and rear boundaries to an adjoining industrial development	• Maximum 3m above existing ground level;
Side and rear boundaries to an adjoining residential development	• Maximum 3m above existing ground level; • Any portion of the fence above 1.8m shall be at least 50% transparent, and not reduce solar access to private open space or living areas of the adjacent dwelling between 10am and 2pm on 22 June (i.e. mid-winter).

7.3 Existing vegetation

S.10 Where tree removal or pruning is required to facilitate development, the provisions outlined in the *LEP 2012* and Chapter 2.2 – Tree Preservation apply.

Part 8 Streetscape

S.1 A concrete footpath to Council's standards is required to the frontage of:

a) all new development on a vacant site;

b) alterations and additions where the work is more than 25% of the existing development (including external works).

S.2 Street tree planting to Council's standards is required to the frontage of:

a) all new development on a vacant site;

b) alterations and additions where the work is more than 25% of the existing development (including external works).

Part 9 Utility infrastructure

Objectives

O.1 To ensure that land within Council's Development Servicing Plan for Water and Sewerage is provided with services in accordance with that Plan.

O.2 To ensure internal services are positioned for effective use of land and access by servicing authorities.

O.3 To ensure that all development has adequate water supply to meet domestic/commercial,

and fire fighting demands.

O.4 To ensure that satisfactory provision is made for the safe and nuisance free disposal of effluent.

O.5 To ensure that an adequate electricity supply is available for the intended use.

Note: Under the provisions of s.68 of the *Local Government Act 1993,* approval will be required from Council for a new water and/or sewer connections.

9.1 Water supply

S.1 All development identified in the 'Water DSP Development Area' in Council's Development Servicing Plan for Water and Sewerage must connect to Council's reticulated water supply.

S.2 The development shall be connected to a reticulated water supply with adequate capacity for fire fighting purposes.

9.2 Sewerage systems

S.3 All development identified in the 'Sewerage DSP Development Area' in Council's Development Servicing Plan for Water and Sewerage must connect to Council's reticulated sewerage system.

9.3 Stormwater drainage

S.4 Stormwater drainage systems are to be designed in accordance with Chapter 2.7 Floodplain Protection and Stormwater Drainage.

9.4 Electricity and telecommunications supply

S.5 Electricity and telecommunications supply requirements are outlined in Chapter 2.1 Site Analysis.

Part 10 Earthworks

S.1 Earthworks, including excavation, fill, retaining walls, batters and geotechnical investigations (including soil, slip and spring activity) are required, the relevant provisions in *LEP 2012* Clause 6.1 Earthworks and Chapter 2.6 – Earthworks and Geotechnical Assessment must be applied.

Part 11 Subdivision

Objectives

O.1 To provide new lots that are of a sufficient size and dimension to accommodate future development.

O.2 To ensure that services are provided in an orderly and efficient manner to meet the requirements of future development.

O.3 To ensure all development has legal and properly constructed access.

11.1 Lot dimensions

S.1 New lots are to have a minimum frontage of 20m.

S.2 Subdivision is not to create a new lot with access via a battleaxe handle.

11.2 Roads

S.3	All new lots created by a subdivision must have legal and properly constructed access with the minimum road standard specified in Armidale Dumaresq Engineering Code.
S.4	Subdivision creating more than 10 lots accessed by a cul-de-sac is to have alternative emergency vehicular access.
S.5	No new access points are permitted to the New England Highway.
11.3	**Water supply**
Servicing Authority: Armidale Dumaresq Council	
S.6	Each lot created by subdivision of land must be provided with a connection to Council's reticulated water supply.
S.7	Water systems must: a) be designed to the standards specified in Council's Engineering Code; b) be designed to be easily accessible and maintained; c) meet the minimum standards for both domestic supply and fire fighting purposes.
11.4	**Sewerage systems**
Servicing Authority: Armidale Dumaresq Council	
S.8	Each lot created by subdivision of land must be provided with a connection to Council's reticulated sewerage system.
S.9	Sewerage systems must be designed: a) to the standards in Council's Engineering Code; b) to allow each new lot to be serviced by gravity drainage; c) to be easily accessible and maintained.
11.5	**Electricity and telecommunications supply**
S.10	Electricity and telecommunications supply requirements are outlined in Chapter 2.1 Site Analysis.

Armidale
Dumaresq Council

Armidale Dumaresq
Development Control Plan 2012

Section 5 Commercial and Industrial Development Controls

Chapter 5.3 Bed and Breakfast and Farmstay Accommodation

Effective 26 June 2013

Contact Details

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Table of Contents

Part 1 General provisions

1.1 Introduction

This chapter provides information about the development and operation of Bed and Breakfast and Farmstay Accommodation in the Armidale Dumaresq local government area.

1.2 Objectives

The objectives of this chapter are:

O.1 To outline Council's requirements for proposed bed and breakfast and farm stay accommodation for both new and existing dwellings.

O.2 To ensure that bed and breakfast and farm stay accommodation provides safe, healthy, clean and functional areas to cater for the requirements of visitors.

O.3 To ensure that such businesses are compatible with the established character of the locality in which they are situated.

1.3 Addressing the guidelines in this chapter

The guidelines for Bed and Breakfast and Farmstay Accommodation are set out in this chapter. These are expressed in the form of objectives that need to be addressed for each development proposal. For each objective (O), 'acceptable solutions' (S) are provided which, if met, will ensure compliance. Alternative approaches may be proposed, provided these adequately address the relevant objectives and comply with legislation.

1.4 Land to which this chapter applies

This chapter applies to development in the following zones:

Bed and Breakfast Accommodation			
R1	General Residential	RU1	Primary Production
R2	Low Density Residential	RU4	Primary Production Small Lots
R5	Large Lot Residential	RU5	Village
B2	Local Centre	E3	Environmental Management
B3	Commercial Core	E4	Environmental Living
B4	Mixed Use		
Farm Stay Accommodation			
RU1	Primary Production	R5	Large Lot Residential
RU4	Primary Production Small Lots	B2	Local Centre
E3	Environmental Management		

Part 2 General matters

2.1 Class of building

The use of a dwelling as bed and breakfast or farm stay accommodation will result in a change of building class for the dwelling under the *Building Code of Australia (BCA)*. There will be new fire safety and access requirements. The class of building will determine the building standards, and may require buildings to be upgraded to comply with current standards.

2.2 Access for People with Disabilities and Use of Adaptable Housing Principles

The provision of equitable access to public buildings is a key principle of the Commonwealth Disability Discrimination legislation. On 1 May 2011 the Commonwealth Disability (Access to Premises – Buildings) Standard 2010 (the Premises Standard) commenced in conjunction with consistent amendments to the *Building Code of Australia* (BCA). The Premises Standards specifies a set of performance requirements to provide non-discriminatory access to, and use of buildings and areas of buildings.

The requirements for providing access for people with disabilities under the Premises Standards and BCA will be apply dependent on the characteristics of the development.

If Premises Standards and BCA requirements for providing access for people with disabilities do not apply, applicants are still encouraged to consider the provision of access opportunities for all disability groups, and, where possible, make reasonable provision for access and circulation throughout the building by people with disabilities.

In particular, bed and breakfast operators are encouraged to consider adaptable housing principles in the design of bed and breakfast and farm stay accommodation. Australian Standard AS 4299 – 1995: Adaptable Housing provides guidelines that can be applied to the planning and design of any residential accommodation.

2.3 Ancillary use only

Bed and breakfast and farm stay accommodation is considered ancillary to the primary use of the land on which it is located (eg. as a secondary business to primary production). These types of development should not present predominantly as commercial or other tourist/motel style development or serviced apartments.

2.4 Number of guests

The number of guests staying at a property should not be so great as to change the character of the immediate locality, or overtax local facilities and utility services. Guest numbers should not markedly exceed the number of persons that could be accommodated in a single large family home or farm house.

2.5 Number of guest rooms

LEP 2012 Clause 5.4 specifies the maximum number of guest rooms (4) for bed and breakfast and farm stay accommodation.

2.6 Design of sleeping rooms

Sleeping rooms must:

S.1 meet the minimum floor space and design requirements for premises used for sleeping accommodation in the *Public Health Regulation 2012*.

S.2 provide adequate space and facilities for occupants to store clothes and travel gear.

S.3 provide adequate security to protect occupants and their belongings.

S.4 allow the occupants to exit the room quickly and easily in emergencies by taking into consideration location of beds in relation to each other, the height of beds and no keyed locks for existing doors.

S.5 where the proposal incorporates new construction, sound insulation for separating walls and floors from noise generating sources (eg kitchens, bathrooms, laundries) is required.

Part 3 Vehicle Parking and Access

Objectives

O.1 To ensure land upon which a development is to be carried out has legal and properly constructed access.

S.1 An adequate all weather access is to be provided in accordance with Council's Engineering Code.

S.2 The vehicle access must be flood free.

S.3 All weather parking areas for visitors and residents must also be provided at the rate of 1 space per residential unit/room plus 1 space for the residents/operators – see Chapter 2.9 Parking.

Part 4 Fire safety

Objectives

O.1 To ensure that there is adequate protection, early warning and provision for escape from fire for guests, residents, neighbours and fire fighters.

O.2 To ensure

O.3 To meet the BCA and relevant legislation and standards for fire safety.

S.1 Each establishment must have a documented fire prevention and management plan. Operators are required to prepare a documented fire prevention and maintenance program for smoke detector alarms and any other active fire protection elements.

S.2 An instruction sheet to be followed in the event of a fire emergency is to be placed in each guest room.

S.3 Smoke detector alarms are to be installed in all bedrooms and hallways and on each other storey of the building not already provided with an alarm. Approved (AS 3786) single station detector systems must be connected to a permanent 240v electricity supply with battery operated back up device.

S.4 Portable fire extinguisher (3.5kg carbon dioxide) and 1.2m square fire blanket must be mounted on the kitchen wall with clear instructions for use.

S.5 Bedroom or exit doors must not have deadlocks or other locks/fixtures that require an internal key release.

S.6 Windows must not have bars or restrictions that prevent egress from windows.

S.7 Escape paths are to be kept clear at all times.

S.8 All other legislative fire safety requirements must be met.

Part 5 Kitchen and food handling

Objectives

O.1 To ensure food storage and meal preparation areas and processes are conducive to the preparation and consumption of food that is safe for guests.

The *NSW Food Act 2003* and *AS 4674 – Design, construction and fit out of food premises*, along with the Australian/New Zealand Food Standards Code contain the relevant standards for kitchen design and food handling for food premises in NSW. Bed and breakfasts are included as food premises and as such the relevant health standards apply.

S.1 Benches used for food preparation should be finished in a material that is smooth and durable, impervious to moisture and easily cleaned.

S.2 Provision for hygienic cleaning and sanitising of utensils is required.

S.3 Hand washing facility – a designated hand wash basin either as a third bowl of the sink or separate facility in or near the kitchen.

S.4 Refrigerators are to maintain food at or below 5˚C and hot food storage equipment to maintain hot food above 60˚C. Thermometers (accurate to +/- 1˚C) must be provided and located conveniently to allow systematic checking of temperatures.

Arrangements outlining particulars on daily cleaning and hygiene standards, equipment maintenance, check systems for food storage and a program for approved pest control treatment must be documented and displayed.

Part 6 Toilets and bathrooms

Objectives

O.1 To provide an adequate number of toilet and shower facilities to cater for the requirements of the maximum number of occupants.

The following standards should be met for a bed and breakfast establishment:

S.1 A minimum of two toilets must be available for use within the dwelling.

S.2 A minimum of two bathrooms must be available within the dwelling.

S.3 Share facilities must be convenient to the location of the bedrooms for which the facilities are provided

S.4 Bathrooms used by permanent residents are to be separate from those used by guests.

S.5 Toilets and bathrooms are to be situated, separated and screened to maintain privacy (without the need to enter through another bedroom).

Part 7 Utility services

Objectives

O.1 To provide adequate utility services/facilities to bed and breakfast and farm stay operations.

7.1 Water supply

S.1 Development on land in the 'Water DSP Development Area' in Council's Development Servicing Plan for Water and Sewerage must connect to Council's reticulated water supply if the land is located within 225 metres of an existing water main.

S.2 Development on land in the 'Water DSP Development Area' in Council's Development Servicing Plan for Water and Sewerage that is greater than 225 metres from an existing water main must connect to Council's reticulated water supply, except where the applicant can justify, to Council's satisfaction, that a reticulated supply is not required based on the criteria below:

a) the type and scale of the development relative to its proximity to the existing reticulated water supply system.

b) the sequence of infrastructure provision identified under the Development Servicing Plan for Water and Sewerage relative to the proposed development.

c) potential future development of nearby land, including type and timing of development(s).

d) the ability of on-site water supply to provide for domestic/commercial demands and a reliable fire fighting reserve.

e) the economic feasibility of connection to a reticulated water supply compared to providing on-site water storage. A cost benefit analysis is to be submitted, including the

total cost to install, run and maintain an on-site water supply system compared to the cost of providing reticulated water supply over a substantial period being 20 years.

S.3 Where the development will not be connected to Council's reticulated water supply, it will be required to have not less than 70,000 litres of domestic water storage per dwelling. Although not specifically required by Council, it is recommended that landowners consider providing a greater storage capacity.

S.4 In addition to the minimum quantities of domestic water storage required above, a dedicated reserve for fire fighting purposes of not less than 20,000 litres shall be provided. This may be reduced to 10,000 litres for development in the RU5 zone on land having an area of less than 1 hectare. For development on bush fire prone land as identified on Council's Bush Fire Prone Land Map certified by the Rural Fire Service, additional storage capacity may be required.

S.5 The dedicated fire fighting water supply tank shall:

a) include a 65mm Storz fitting and ball or gate valve, or if the tank is in ground, it shall be fitted with a 200mm x 200mm child proof access hole.

b) provide for fire fighting appliances (i.e. trucks and tankers) to gain access to within 4 metres of the tank.

c) include a minimum 3kW (5hp) petrol, diesel or generator powered pump, including appropriate fittings.

S.6 Water supply and fire fighting measures for the development will be assessed on its merits in each case having regard to the above objectives.

S.7 Non reticulated water for drinking and food preparation must comply with the NSW Health Private Water Supply Guidelines and the *Public Health Act 2010*.

7.2 Sewerage systems

S.8 Development on land within the 'Sewer DSP Development Area' in Council's Development Servicing Plan for Water and Sewerage must connect to Council's reticulated sewerage system if the land is located within 75 metres of an existing sewer main.

S.9 Development on land within the 'Sewer DSP Development Area' in Council's Development Servicing Plan for Water and Sewerage that is greater than 75 metres from an existing sewer main must connect to Council's reticulated sewerage system, except where the applicant can justify, to Council's satisfaction, that connection to Council's sewerage system is not required based on the criteria below:

a) The proposed on-site sewerage management system(s) must be able to demonstrate that it can satisfy Council's Policy POL 225 – Regulatory: Local Approvals Policy - On-site Waste Water Systems.

b) The case for on-site waste management is consistent with the type and scale of the development relative to its proximity to the existing reticulated sewerage system.

c) The sequence of infrastructure provision identified under the Servicing Plan relative to the proposed development.

d) The case for on-site waste management considers potential future development of nearby land, including type and timing of development(s).

e) A case for on-site waste management is consistent with and accounts for future development on the subject land with respect to the area of the land parcels, type of development and sensitivity of the environment.

f) The economic feasibility of connection to Council's sewer compared to providing an on-site sewerage management system. A cost benefit analysis is to be submitted, including the total cost to install, run and maintain an on-site system compared to the cost of

connecting to the sewer over a substantial period being 20 years.

S.10 On all other land, on-site effluent disposal is acceptable subject to satisfying Council's Policy POL 225 – Regulatory: Local Approvals Policy - On-site Waste Water Systems.

7.3 Electricity supply

S.11 Electricity supply requirements are outlined in Chapter 2.1 Site Analysis.

Part 8 Stormwater management

S.1 Stormwater drainage systems are to be designed in accordance with Chapter 2.7 Floodplain Protection and Stormwater Drainage.

Part 9 Signage

Objectives

O.1 To provide for signs advertising the property are in keeping with the scale and visual character of the locality.

S.1 All signage must meet the standards for signage outlined in Chapter 2.10 Signage.

Part 10 Definitions

Bed and breakfast accommodation means an existing dwelling in which temporary or short-term accommodation is provided on a commercial basis by the permanent residents of the dwelling and where:

a) meals are provided for guests only; and
b) cooking facilities for the preparation of meals are not provided within guests' rooms; and
c) dormitory-style accommodation is not provided.

Farm stay accommodation means a building or place that provides temporary or short-term accommodation to paying guests on a working farm as a secondary business to primary production.

Armidale
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Armidale Dumaresq
Development Control Plan 2012

Section 5 Commercial and Industrial Development Controls

Chapter 5.4 Brothels and Restricted Premises

Effective 26 June 2013

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Part 1 General Provisions

1.1 Introduction

The Environmental Planning and Assessment Act 1979 (EPA Act) and the *Armidale Dumaresq Local Environmental Plan 2012* (LEP 2012) provide a basis for control on the location and operation of brothels and restricted premises.

1.2 Objectives

The objectives of this chapter are:

O.1 To minimise adverse amenity impacts and land use conflicts that may be associated with the operation of brothels and restricted premises.

O.2 To provide planning guidelines for brothels and restricted premises.

1.3 Addressing the guidelines in this chapter

The guidelines for brothels and restricted premises are set out in this chapter. These are expressed in the form of objectives which need to be addressed for each development proposal. For each objective (O), 'acceptable solutions' (S) are provided which, if met, will ensure compliance. Alternative approaches may be proposed, provided these adequately address the relevant objectives and comply with legislation.

1.4 Land to which this chapter applies

This chapter applies to land in the following zones in LEP 2012.

Sex Services Premises			
B3	Commercial Core	IN1	General Industrial
B4	Mixed Use	IN2	Light Industrial
Home Occupation (Sex Services)			
RU1	Primary Production (without consent)	IN1	General Industrial (without consent)
RU4	Primary Production Small Lots (without consent)	IN2	Light Industrial (without consent)
RU5	Village	B2	Local Centre
R1	General Residential	B3	Commercial Core
R2	Low Density Residential	B4	Mixed Use
R5	Large Lot Residential	B5	Business Development
E3	Environmental Management	B7	Business Park
E4	Environmental Living		
Restricted Premises			
B2	Local Centre	IN1	General Industrial
B3	Commercial Core	IN2	Light Industrial
B4	Mixed Use		

1.5 Types of development to which this chapter applies

This chapter will be used in the assessment of any development application for a sex services premises; a home occupation (sex services); or restricted premises. Brothels include home occupation (sex services) and sex services premises (refer to Definitions in Part 4).

Part 2 Planning issues

LEP 2012 identifies where the different types of development are permitted or prohibited. Where a development is permitted with consent, a development application must be submitted for the proposal and the guidelines in this chapter will apply.

Planning issues that arise from these kinds of activities include:

a) the generation of excessive arrivals/departures of staff and clients late at night;

b) the external appearance, including signage, advertising and lighting, of any brothels or restricted premises.

Part 3 Planning guidelines

3.1 General

S.1 The appearance of any brothels or restricted premises should be discreet in design, and not stand out in the streetscape.

3.2 Location

3.2.1 Sex services premises

Matters for consideration relating to the location of sex services premises are found in LEP 2012 Clause 6.7 Location of sex services premises.

3.2.2 Restricted premises/sex shops

S.2 The proposed restricted premises must not be within view of the following:

a) any other restricted premises;

b) any residential zone; and

c) any existing dwelling.

S.3 Access to the premises must be via a public road.

3.3 Parking

S.4 Parking for premises subject to this chapter shall be generally designed in accordance with Chapter 2.9 Parking.

3.4 Signage

S.5 Signage must comply with the provisions in Chapter 2.10 Signage.

3.5 Health and Building Requirements

S.6 Brothels must meet the requirements of the *WorkCover Health and Safety Guidelines for Brothels (2001)* and the Building code of Australia requirements for Class 5 buildings.

S.7 Full details of Council's health requirements are specified in Appendix 1. These requirements will be included as advice with all development consents issued and the operators of the brothel premises will need to demonstrate satisfactory compliance with these requirements.

S.8 Access for people with disabilities will be required for the development.

Part 4 Definitions

Brothel means a brothel within the meaning of the *Restricted Premises Act 1943*, other than premises used or likely to be used for the purposes of prostitution by no more than one prostitute.

Home occupations (sex services) means the provision of sex services in a dwelling that is a brothel, or in a building that is a brothel and is ancillary to such a dwelling, by no more than 2 permanent residents of the dwelling and that does not involve:

a) the employment of persons other than those residents; or

b) interference with the amenity of the neighbourhood by reason of the emission of noise, traffic generation or otherwise; or

c) the exhibition of any signage; or

d) the sale of items (whether goods or materials), or the exposure or offer for sale of items by retail;

but does not include a home business or sex services premises.

Restricted premises means premises that, due to their nature, restrict access to patrons or customers over 18 years of age, and includes sex shops and similar premises, but does not include a pub, hotel or motel accommodation, home occupation (sex services) or sex services premises.

Sex services premises means a brothel, but does not include home occupations (sex services).

Armidale
Dumaresq Council

Armidale Dumaresq
Development Control Plan 2012

Section 5 Commercial and Industrial Development Controls

Chapter 5.5 Animal Boarding or Training Establishments for Companion Animals

Effective 26 June 2013

Contact Details

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Table of Contents

Part 1 General provisions

1.1 Introduction

This chapter outlines the guidelines for keeping companion animals for commercial gain and/or breeding and boarding purposes.

1.2 Objectives

The objectives of this chapter are:

O.1 To outline construction standards for companion animal boarding and breeding establishments.

O.2 To outline public health and safety standards for companion animal boarding and breeding establishments.

O.3 To address the potential adverse impacts on adjoining land uses and the amenity of the surrounding environment.

1.3 Addressing the guidelines in this chapter

The guidelines for keeping companion animals for commercial gain and/or breeding and boarding purposes are set out in this chapter. These are expressed in the form of objectives which need to be addressed for each development proposal. For each objective (O), 'acceptable solutions' (S) are provided which, if met, will ensure compliance. Alternative approaches may be proposed, provided these adequately address the relevant objectives and comply with legislation.

1.4 Land to which this chapter applies

This chapter applies to land in LEP 2012 zoned:

RU1	Primary Production	IN1	General Industrial
RU4	Primary Production Small Lots	IN2	Light Industrial
E3	Environmental Management		

Part 2 General Requirements

2.1 Aesthetics of the locality

S.1 The kennels and runs should not be visually intrusive to the immediate locality.

S.2 Proposals should incorporate workable screening details.

2.2 Containment

S.3 Animals are to be safely and effectively contained. No dog is to be allowed to run freely in a public place or along any road reserve. The Companion Animals Act 1998 clearly specifies that dogs in a public place must be clearly restrained at all times and failure to do so can result in the issue of an on-the-spot fine for each individual offence.

S.4 A dog-proof netting fence is to be erected around dog yards and kennels.

S.5 In the case of a breeding establishment, all animals over the age of six months are to be registered in accordance with the *Companion Animals Act 1998*.

S.6 Animals shall at all times be kept within the confines of approved housing except when being taken to and from the premises.

S.7 Animals being exercised must be fully supervised.

2.3 Noise control

S.8 Animals must not generate offensive noise (as defined under the *Protection of the*

Environmental Operations Act 1997). Consideration must be given to appropriate inbuilt features to control noise.

S.9 Impact on surrounding properties must be addressed in accordance with the requirements of Chapter 2.8 Noise.

S.10 Animals must be enclosed in kennels or cat cages at night to prevent barking at distractions. Soundproofing of kennels may be considered.

S.11 Yard lighting is to be switched off after dark as a noise mitigation measure.

S.12 A separately screened facility should be considered to separate noisy dogs from others.

2.4 Hygiene

S.13 The design and management of the establishment must take into consideration the impact of the premises on the health and well-being of occupants, nearby residents and the animal(s). Such consideration may include:

a) methods of waste disposal;

b) cleanliness of housing and the ability of housing to be easily cleaned;

c) pest control;

d) control of odours (distances from dwellings should be considered);

e) drainage;

f) control of internal and external parasites;

g) accumulation of hair.

2.5 Distance of kennels from boundaries

S.14 Consideration must be given to siting kennels and exercise yards an appropriate distance from side and rear boundaries.

S.15 The appropriate setback distances will vary depending on circumstances and will be carefully considered during the development assessment process. In general terms the following setback distances will apply:

a) kennels, runs and exercise yards shall be set back a minimum distance of 200 metres from the frontage to a public road and a minimum of 60 metres, depending on site topography, from any rear or side boundary. Proprietors' pets are excluded from this requirement and may be allowed within these setbacks.

b) no kennels or day runs should be located within 150 metres of any dwelling or approved dwelling in existence at the date of application, other than that on the same land.

S.16 In determining an appropriate setback distance, the following should be considered:

a) the location of adjoining dwellings and recreation areas and the likely noise impact on these. An Acoustic Engineer can recommend suitable setbacks consistent with kennel construction and other noise attenuation measures;

b) the likely generation of odours from the kennels and yards;

c) the appearance of the establishment and the impact of this on adjoining properties;

d) the distraction of dogs by activities on adjoining properties, eg. children playing, vehicles entering and leaving.

2.6 Size of Lot

S.17 Consideration must be given to the size of the lot on which the kennel will be situated. Lot sizes will vary depending on circumstances and will be carefully considered during the

development assessment process.

2.7 Access and parking

S.18 Parking is to be provided and designed in accordance with Chapter 2.9 Parking of this DCP.

Part 3 Low end establishments

A Low End Establishment means a small scale operation involving the keeping of up to four adult companion animals for commercial purposes.

3.1 Screening of kennels

S.1 Kennels must be fully screened from the view of adjacent premises and roadways to prevent dogs barking at cars, pedestrians and animals. This may be achieved by:

a) a planted screen of trees and bushes;

b) wire mesh fencing over which a vine or creeper is grown;

c) a solid wall;

d) a metal fence which is permanently colour treated and in good order.

S.2 Any construction must take into account the welfare of the animal and will be subject to the provisions of the *Prevention of Cruelty to Animals Act 1979* and published animal welfare codes.

3.2 Floor

S.3 The floor is to be 75mm minimum thickness concrete finish with wooden float graded to catchment drain which has fall to the outlet trap.

S.4 Concrete is to extend for 300mm beyond the plane of the kennel walls.

S.5 An alternative impervious floor construction may be considered by Council.

3.3 Walls

S.6 Walls should be designed to be:

a) of a solid impervious type being capable of easy cleaning;

b) if masonry, to be sealed to a height of 1200mm;

c) the base of wall is to be coved to the floor;

d) if of timber frame construction, bottom plates are to be secured to a raised impervious hob of minimum height of 450mm (hob may be constructed of brick work rendered internally) which is coved at its junction with the floor.

3.4 Stormwater Drainage

S.7 Ample provision is to be made for disposal of surface and roof drainage so as not to interfere with adjacent premises.

3.5 Floor wastes and other wastes

S.8 Floor wastes and other wastes (including wastes from animal wash activities) shall be designed in accordance with the *Liquid Trade Waste Regulation Guidelines 2009* (NSW Office of Water).

S.9 Where the type of animal housed requires a yard enclosure, the yard shall be design to facilitate effective cleaning and removal of refuse.

3.6 Yard areas

S.10 Facilities require an ample fenced grassed area for dog exercise (a minimum of $100m^2$).

S.11 Faeces is to be removed daily.

3.7 Bedding and sleeping areas

S.12 Bedding and sleeping areas are to be raised timber slats, hessian or equivalent, and able to be removed for cleaning purposes.

S.13 A means of suspending bedding whilst cleaning should be provided.

3.8 Dividing walls

S.14 Dividing walls of cages are to be of solid material such as masonry and steel mesh.

S.15 Small mesh is to be used to avoid nose biting.

3.9 Ventilation

S.16 Condensation must not form on inside surfaces. Facilities are to be passively ventilated through air spaces such as windows (located a minimum of 2m above floor level) beneath doors or simple roof or wall mounted vents.

3.10 Hygiene

3.10.1 Cleaning of kennels and yard areas

S.17 Kennels shall be cleaned daily and all food scraps, bones and manure removed.

S.18 Water shall be replenished daily and care should be taken to ensure the storage receptacles for water do not provide a breeding ground for mosquitoes.

S.19 Yard area shall be raked clean of all scraps and manure and grass shall be kept short mown.

3.11 Disposal of waste

3.11.1 Disposal of manure and scraps

S.20 Disposal of manure and scraps shall be carried out to ensure that nuisance does not arise from the breeding of flies or offensive odours. Suitable plans should be provided outlining management and disposal.

S.21 Burning or burying of excrement on site is strictly prohibited.

S.22 Distances of kennels and yard areas from surrounding dwellings should be considered and shown on development application plans.

Part 4 High end establishments

A 'high end establishment' means a larger scale operation requiring significant investment and involves the keeping of five or more adult companion animals for commercial purposes.

4.1 Screening of kennels

S.1 Kennels must be fully screened from the view of adjacent premises and roadways to prevent dogs barking at cars, pedestrians and animals. This may be achieved by:

a) a planted screen of trees and bushes;

b) wire mesh fencing over which a vine or creeper is grown;

c) a solid wall;

d) a metal fence which is permanently colour treated and in good order;

e) similar methods may also be considered.

4.2 Noise control

S.2 High End Establishments must provide an acoustic assessment of their proposal with their development application.

S.3 Kennels should be fully sound proofed to keep noise in and neighbourhood noise out.

S.4 Animals must be enclosed at night.

S.5 A separately screened facility should be available to separate noisy dogs from others.

S.6 Kennel operators must be able to demonstrate to Council the ability to quickly quiet the dogs when necessary.

S.7 Operators shall take reasonable precautions to ensure that the dogs do not cause a noise nuisance between 8.00pm and 6.30am (as defined in the 'offensive noise' provisions of the *Protection of the Environment Operations Act 1997*).

S.8 Sites should be selected with consideration for the location of clients, feed supplies and adjoining land uses.

4.3 Construction and layout of kennels and housing - floor

S.9 Floors are to be 75mm minimum thickness concrete finish with wooden float graded to catchment drain which has fall to the outlet trap. Concrete is to extend for 300mm beyond the plane of the kennel walls.

S.10 Alternate impervious floor construction may be considered by Council. Floors in enclosed areas are to be treated with a waterproof seal to facilitate cleaning and avoid odours.

4.4 Construction and layout of kennels and housing - walls

S.11 Walls are to be of a solid impervious type that is easy to clean and maintain. If masonry to be sealed to a height of 1200mm.

S.12 Base of wall is to be coved to the floor.

S.13 If of timber frame construction, bottom plates are to be secured to a raised impervious hob of minimum height of 450mm (hob may be constructed of brick work rendered internally) which is coved at its junction with the floor.

4.5 Bedding and sleeping areas

S.14 Bedding and sleeping areas are to be raised timber slats, hessian or equivalent, and able to be removed for cleaning purposes.

S.15 A means of suspending bedding whilst cleaning should be provided.

S.16 Semi secluded beds are advisable to avoid noise at night.

4.6 Dividing walls

S.17 Cages are to be of solid material such as masonry of steel mesh.

S.18 Small mesh is to be used to avoid nose biting.

4.7 Exercise areas

S.19 Outside runs need to be half or totally roofed, with a concrete drained floor.

S.20 A continuous supply of water should be available.

S.21 Solid partitioning for concealment may be necessary for some runs, for example to avoid competition between males.

4.8 Ventilation

S.22 Condensation must not form on inside surfaces.

S.23 For High End Establishments, forced ventilation is required. This may be achieved best by wind and heat powered turbine extractors or electrical ventilators.

4.9 Hygiene and cleaning of kennels and yard areas

4.9.1 Cleaning of kennels and yard areas

S.24 Kennels shall be cleaned daily and all food scraps, bones and manure removed.

S.25 Water shall be replenished daily and care should be taken to ensure the storage receptacles for water do not provide a breeding ground for mosquitoes.

S.26 Yard area shall be raked clean of all scraps and manure and grass shall be kept short mown.

S.27 Where the type of animal housed requires a yard enclosure, the yard shall be design to facilitate effective cleaning and removal of refuse to be carried out effectively.

4.10 Disposal of waste

4.10.1 Disposal of manure and scraps

S.28 Disposal of manure and scraps shall be carried out to ensure that nuisance does not arise from the breeding of flies or offensive odours. Suitable plans should be provided outlining management and disposal.

S.29 Burning or burying of excrement on site is strictly prohibited.

S.30 Distances of kennels and yard areas from surrounding dwellings should be considered and shown on development application plans.

S.31 All excrement and loose hair, if not removed immediately, it is to be collected in an impervious fly – proof container which is to be emptied and cleansed at least once daily.

S.32 All such waste shall be deposited at an approved waste disposal depot and shall not be incinerated or buried on the premises.

4.10.2 Disposal of waste water and liquid waste

S.33 Waste water is to be transported through earthenware or plastic pipe to a suitable arrestor pit, then to a properly constructed absorption trench meeting the requirements of Council's Policy 225 On-site Waste Water System.

S.34 Liquid waste from the grit arrestor shall discharge into a Council approved septic tank.

4.10.3 Floor wastes and other wastes

S.35 Floor wastes and other wastes (including wastes from animal wash activities) shall be designed in accordance with the *Liquid Trade Waste Regulation Guidelines 2009* (NSW Office of Water).

4.11 Stormwater drainage

S.36 Ample provision is to be made for disposal of surface and roof drainage. Drainage must not interfere with adjacent premises.

Part 5 Development application checklist

Any construction must take into account the welfare of the animal and will be subject to the provision of the *Prevention of Cruelty to Animals Act 1979* and published animal welfare codes.

S.1 The following additional information is to accompany a Development Application for a Companion Animals Boarding or Training Establishment:

a) a location plan showing location of all dwellings within a one kilometre radius of the kennel site;

b) a detailed site and elevation plans of the proposed kennels, runs and compound, fences and details of drainage and effluent disposal;

c) a landscaping plan.

S.2 A submission addressing:

a) maximum number of dogs to be kept on the premises at any time;

b) noise;

c) location of feed storage;

d) arrangements for housing sick or injured animals;

e) details of water storage and reticulation to kennels;

f) waste disposal and kennel planning.

Part 6 Definitions

companion animal includes a dog or cat, pup or kitten and either male or female.

companion animal boarding and breeding establishment means a building or place used for the purpose of breeding or training or accommodating or nurturing companion animals for gain or reward, otherwise than as ancillary to the use of the building or place for the purpose of agriculture.

coved means a concave surface forming a junction between a ceiling and a wall.

housing means dog kennels yards and catteries and includes caravans, garages, carports, sheds, commercially sold dog kennels, and any room forming part of a dwelling, dual occupancy, or urban housing development used for human habitation.

low end establishment means a small scale operation involving the keeping of up to four (4) adult companion animals for commercial purposes.

high end establishment means a larger scale operation requiring significant investment and involves the keeping of five or more adult companion animals for commercial purposes.

Armidale
Dumaresq Council

Armidale Dumaresq
Development Control Plan 2012

Part 6 Locality Specific Precincts

Chapter 6.1 Link Road South Precinct

Effective 26 June 2013

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Table of Contents

Part 1 General Provisions

1.1 Introduction

The Link Road South Precinct Chapter has been developed to provide additional detail in relation to the future development of land shown on the Link Road South Precinct Strategy Plan Map (Appendix 1).

The purpose of this chapter is to identify site specific strategies and requirements that must be incorporated into future development of land in the Link Road South Precinct.

The provisions of this chapter should be read in conjunction with other relevant chapters of the Armidale Dumaresq Development Control Plan 2012.

1.2 Objectives

The objective of this chapter is to ensure that development of urban areas involving multiple land holders is carried out in a coordinated and integrated manner.

1.3 Addressing the guidelines in this chapter

Additional guidelines specifically for land in the Link Road South Precinct are set out in this chapter. These are expressed in the form of objectives that need to be addressed for each development proposal. For each objective (O), 'acceptable solutions' (S) are provided which, if met, will ensure compliance. Alternative approaches may be proposed, provided these adequately address the relevant objectives and comply with legislation.

1.4 Land to which this chapter applies

The Link Road South Precinct Chapter applies to land in the area bound by Cluny Road, Link Road and the New England Highway as identified in **Figure 1**.

Figure 1 ***Link Road South Precinct***

Part 2 Requirements for development in the Link Road South Precinct

2.1 Road and access networks

S.1 The road layout and inter-allotment connections shown on the Strategy Plan are diagrammatic only and provide an outline of the desired network of road, pedestrian, bicycle and inter-allotment connections for the area. The exact location of roads, pedestrian and bicycle networks and other access ways will be subject to subdivision and engineering design in response to the site analysis.

S.2 Subdivision design should minimise the visual impact of roads on the local environment by endeavouring to preserve existing trees and by following contour lines as closely as possible.

2.2 Site specific requirements

The following requirements apply to specific locations shown with corresponding circled numbers on the Link Road South Strategy Plan.

① Scholes Street road reserve

Scholes Street road reserve is identified in the *Armidale Greening Plan* as a potential wildlife corridor.

Objectives

O.1 To protect and maintain the Scholes Street road reserve as a wildlife corridor.

S.1 The Scholes Street road reserve shall be retained in a primarily natural state to form a wildlife corridor, with the inclusion of an all-weather pedestrian/cycleway link between Harden Street and Link Road. Access via the highway under-pass shall be designed and constructed taking into consideration AUSTROADS Guide to Engineering Practice, the RTA NSW Bicycle Guidelines and the Armidale Bicycle Strategy and Action Plan 2012.

S.2 No vehicular access shall be permitted across the Scholes Street road reserve corridor in order to preserve its primary function as a pedestrian/cycle route.

S.3 Significant development of land adjacent to the corridor shall be required to provide pedestrian access, as indicated on the Strategy Plan. Pedestrian links between adjacent streets and the corridor shall be provided at intervals not exceeding 100 metres.

S.4 Development fronting the Scholes Street road reserve shall provide a 3 metre strip of land along the road reserve boundary (to be dedicated to Council) to allow for future maintenance between the property boundaries and the reserve.

② New England Highway

Objectives

O.1 To manage traffic flows and noise buffers for land proximal to the New England Highway.

O.2 To minimise any adverse visual impact on views both to and from the New England Highway.

S.1 No access is permitted directly onto the New England Highway.

S.2 The design and layout of roads and lots adjacent to the New England Highway shall take into consideration the impacts of any traffic related noise identified through the Site Analysis Plan. Any proposed noise attenuation buffers shall generally be incorporated into the development (e.g. larger residential lots) rather than being dedicated as public land or reserve.

S.3 Any significant development of land with frontage to the New England Highway shall include an assessment of the visual appearance of the development from the highway, and shall outline proposed measures to be incorporated into the development to minimise any adverse visual impact and integrate the appearance of the development with the surrounding landscape when viewed from the highway corridor and beyond.

③ Access to public open space

Objective

O.1 To ensure safe and efficient public access to the open space area.

S.1 Subdivision of land adjacent to the open space reserve (see 2.5 below), shall provide public road frontage to the open space area, generally as shown on the Strategy Plan in the area marked ③.

S.2 The location and length of public road frontage shall be subject to final subdivision design and the requirements of Council.

④ New England Highway roundabout

Objective

O.1 To ensure safe road access from the NE Highway into the Link Road South Precinct.

S.1 Development of Lot 1 DP 1130748 shall make provision for future road connection to the adjacent New England Highway roundabout.

S.2 The fourth arm onto the roundabout shall be constructed in accordance with requirements and standards of the Roads and Maritime Services Authority applicable at the time.

S.3 A connecting road from the roundabout to Link Road shall be incorporated into development of Lot 1, as shown on the Strategy Plan.

2.3 Utility services

S.1 The supply of sewer and reticulated water to any new development shall be carried out in accordance with Council's *Water Supply and Sewerage Development Servicing Plan* and the relevant chapters of this DCP.

S.2 The proposed location of new sewer and water infrastructure required to service future development is outlined on the Link Road South Strategy Plan.

2.4 Stormwater drainage

S.1 Stormwater drainage systems shall be designed and provided in accordance with *Chapter 2.7 – Floodplain Protection and Stormwater Drainage*. In addition to the principles and requirements outlined in this chapter, development of land to which the Strategy Plan applies shall provide, where relevant, an easement or riparian area reserve as outlined below:

a) over that part of the stormwater drainage system that drains westward, generally from Scholes Street road reserve to an existing culvert under the New England Highway.

b) over that part of the stormwater drainage system that drains westward through Lots 233, 234, 453 and 454 DP 755808 and to Cluny Road.

2.5 Open space reserve

An area of remnant native vegetation, consisting predominately of Red Gum/Yellow Box Woodland is shown on the Link Road South Strategy Plan. This woodland vegetation type is listed as a Critically Endangered Ecological Community under the *Environment Protection and Biodiversity Conservation Act 1999* and an Endangered Ecological Community under the provisions of the *Threatened Species Conservation Act 1995*. The woodland forms a continuation of vegetation found in the Scholes Street road reserve and is intended to provide a passive recreational resource for future residential development in the Link Road South Strategy Area.

Objectives	
O.1	To preserve and protect native flora and fauna, and maintain natural habitat corridors.
S.1	Woodland areas utilised for public open space should be retained in a relatively undisturbed natural state for passive recreation and conservation, with only minimal walking paths and interpretive signs.
S.2	Provision of any playground equipment or active recreational facilities should be situated towards the perimeter of the woodland area, preferably where public road frontage is to be provided, as outlined above.
S.3	Development of the land on which the remnant woodland vegetation is located shall make provision for dedication of public open space to adjoin the Scholes Street road reserve.

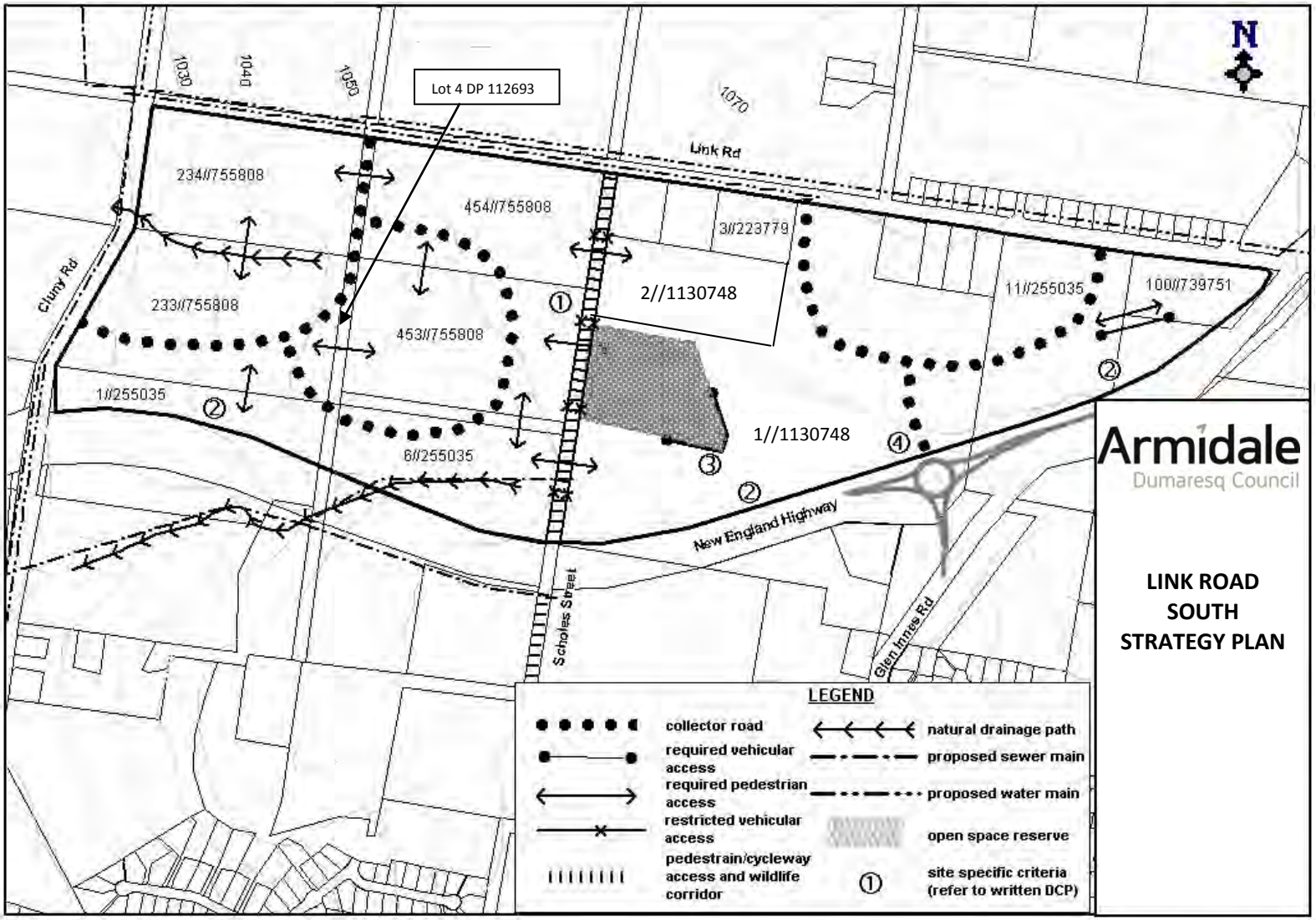

Figure 2 ***Link Road South Strategy Plan***

Armidale
Dumaresq Council

Armidale Dumaresq
Development Control Plan 2012

Part 6 Locality Specific Precincts

Chapter 6.2 Duval Precinct

Effective 26 June 2013

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Table of Contents

Part 1 General Provisions

1.1 Introduction

The Duval Precinct Chapter has been developed to provide further detail in relation to the future development of land shown on the Duval Strategy Plan Map (see Appendix 1).

The purpose of this chapter is to identify site specific strategies and requirements that must be incorporated into future development of land in the Duval Precinct.

The provisions of this chapter should be read in conjunction with other relevant chapters of the Armidale Dumaresq Development Control Plan 2012.

1.2 Objectives

The objective of this chapter is to ensure that development of urban areas involving multiple land holders is carried out in a coordinated and integrated manner.

1.3 Addressing the guidelines in this chapter

Additional guidelines specifically for land in the Duval Precinct are set out in this chapter. These are expressed in the form of objectives that need to be addressed for each development proposal. For each objective (O), 'acceptable solutions' (S) are provided which, if met, will ensure compliance. Alternative approaches may be proposed, provided these adequately address the relevant objectives and comply with legislation.

1.4 Land to which this chapter applies

The Duval Precinct chapter applies to land in the area bound by Niagara Street, Cluny Road, New England Highway, Crest Road and Erskine Street as shown below in Figure 1.

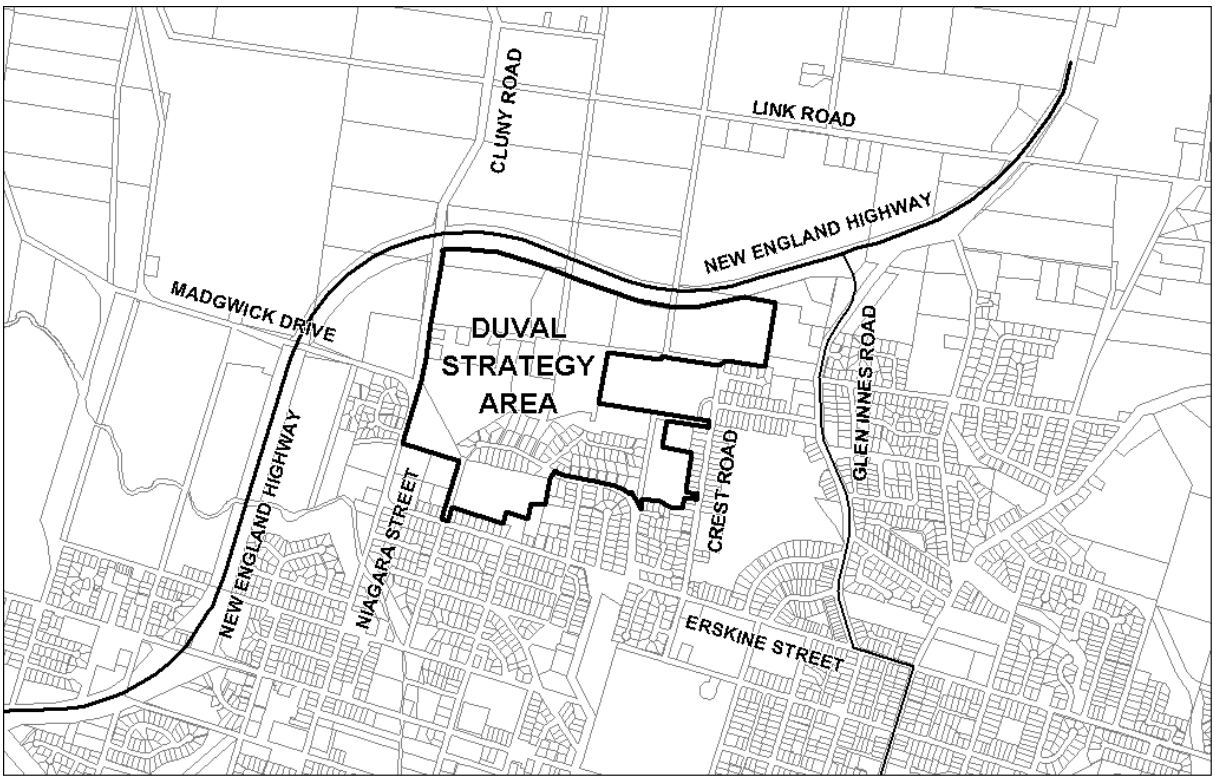

Figure 1 Duval Precinct Area

Part 2 Requirements for development in the Duval Precinct

2.1 Road and access networks

S.1 The road layout and inter-allotment connections shown on the Strategy Plan are diagrammatic only and provide an outline of the desired network of road, pedestrian, bicycle and inter-allotment connections for the area. The exact location of roads, pedestrian and bicycle networks and other access ways will be subject to subdivision and engineering design.

S.2 Subdivision design should minimise the visual impact of roads on the local environment by endeavouring to preserve existing trees and by following contour lines as closely as possible.

2.2 Site specific requirements

The following requirements apply to specific locations shown with corresponding circled numbers on the Duval Strategy Plan.

① Northcott Street Road Reserve (north of Erskine Street)

Objectives

O.1 To protect and maintain the Northcott Street road reserve as a pedestrian access route.

S.1 The Northcott Street road reserve shall be retained to provide future pedestrian access to Lot 25 DP 531103, Lot 86 DP 865309 and to the western end of Ash Tree Drive.

S.2 The road reserve shall also be retained for vehicle access to Lot 25 DP 531103 and possibly Lot 86 DP 865309. Vehicle access via the Northcott Street road reserve to Lot 86 DP 865309 will involve bridging the watercourse and possible widening, as required, at the expense of the developer.

S.3 Applications for any significant development proposing the use of Northcott Street for vehicle access shall include a Traffic Study to assess the need for upgrading the intersection of Northcott and Erskine Streets and to demonstrate that the road design will deter the use of this route as a 'short cut' between Erskine Street and the eastern end of Madgwick Drive.

② Road Reserve north of Ash Tree Drive to Munro Street

The road reserve between Ash Tree Drive and Munro Street is identified in the *Armidale Greening Plan* as a potential wildlife corridor.

Objectives

O.1 To protect and maintain the road reserve north of Ash Tree Drive to Munro Street as a wildlife corridor and pedestrian access route.

S.1 This road reserve shall be retained to provide:

a) shared vehicular and pedestrian access over its northern section between Munro Street and the existing dwelling on Lot 42 DP 794031 (if required), subject to costs being met by the beneficiary land holder;

b) pedestrian access over the southern section of road reserve to Ash Tree Drive; and

c) embellishment and revegetation where appropriate to enhance its function as a wildlife corridor.

S.2 The proposed pedestrian link from Ash Tree Drive to Lot 42 DP 794031 shall provide for all-weather access.

③ Munro Street Road Reserve

Objectives

O.1 To maintain the Munro Street road reserve for the multiple uses outlined below.

S.1 This road reserve is to be maintained to provide access to the ABC Transmitter site, Lot 42 DP 794031, and to provide pedestrian (and possibly emergency vehicle) access between proposed Golden Grove and Crest Road. The road may also be used for future additional access to Duval High School.

S.2 Any extensions or upgrading to the road carriageway in the event of significant development shall be at the cost of the developer(s).

④ Scholes Street road reserve

Scholes Street road reserve is identified in the *Armidale Greening Plan* as a potential wildlife corridor.

Objectives

O.1 To protect and maintain the Scholes Street road reserve as a wildlife corridor.

S.1 This road reserve shall be retained in a primarily natural state to form a wildlife corridor with the inclusion of an all-weather pedestrian/cycleway link between Harden Street and Link Road. Access via the highway under-pass shall be designed and constructed taking into consideration AUSTROADS Guide to Engineering Practice, the RTA NSW Bicycle Guidelines and the Armidale Bicycle Strategy and Action Plan 2012.

S.2 No vehicular access shall be permitted across the Scholes Street road reserve corridor in order to preserve its primary function as a pedestrian/cycle route. East-west traffic flow in this vicinity shall only be permitted along Harden Street.

S.3 Significant development of land adjacent to the corridor shall be required to provide pedestrian access as indicated on the Strategy Plan. Pedestrian links between adjacent streets and the corridor shall be provided at intervals not exceeding 100 metres.

S.4 Development fronting the Scholes Street road reserve shall provide a 3 metre strip of land along the road reserve boundary (to be dedicated to Council) to allow for future maintenance between the property boundaries and the reserve.

S.5 The proposed pedestrian/cycleway link shall extend westwards from Scholes Street to the land zoned RE1 Public Recreation on the western side of Duval High School.

⑤ Harden Street and pedestrian/cycleway cross-over

S.1 Traffic calming measures and/or a pedestrian crossing shall be provided at the cross-over point between Harden Street and the Scholes Street pedestrian/cycleway path, in conjunction with the western extension of Harden Street (see ⑥).

⑥ Harden Street to Cluny Road Link

Objectives

O.1 To form connections between residential development areas.

S.1 Harden Street shall be extended in a westerly direction to form a connecting road between Cluny Road and Crest Road.

S.2 The eastern section of the road marked ⑥ shall require:

a) possible road widening at the existing western end of Harden Street; and

b) traffic calming measures and/or pedestrian crossing in the vicinity of Duval High School, as outlined above in ⑤.

S.3 The western section of proposed road ⑥ has potential to intersect with Cluny Road in a number of locations, subject to the timing of development and final subdivision design. Two potential options are shown diagrammatically on the Strategy Plan, however only one intersection shall be constructed in this locality in order to limit the number of intersections along Cluny Road.

⑦	**Northern Extension of proposed Grandview Crescent**
S.1	Proposed Grandview Crescent (created via DA 0405/0238) shall be extended north through Lot 82 DP 785077 to intersect with the road identified in point ⑥ above.
S.2	Dedication of the section of road ⑦ which traverses RE1 Public Recreation may only occur following an amendment to its status from Public Land to Operational Land (in accordance with the Local Government Act 1993).
⑧	**Intersection of roads ⑥ and ⑦**
Point ⑧ relates to the following lots:	
Lot 1 DP 131912	Lot 4 DP 255035
Lot 33 DP 593364	Lot 7 DP 255035
Lot 83 DP 785077	Lot 21 DP 1168082
Lot 1 DP 738275	
S.1	The final design, location and construction of an intersection between proposed roads ⑥ and ⑦ will be subject to the timing of development and layout for subdivision of the above lots. Any proposal for significant development of the subject lots must make provision for access to adjacent lots generally in accordance with the Strategy Plan.
S.2	Proposals for significant development of any of the above lots shall include a road network plan indicating a proposed road layout over the area shown on the Strategy Plan as ⑧ that achieves the inter-allotment and through road connections indicated on the Strategy Plan.
⑨	**Cluny Road/Madgwick Drive/Niagara Street intersection**
S.1	The preferred route for vehicle access/egress to/from Lot 33 DP 593364 and Lot 83 DP 785077, in the event of significant development of those properties, is via Cluny Road to the Cluny Road/Madgwick Drive/Niagara Street intersection. This route may also be required for access to Lot 86 DP 856309, depending on the timing and design of development for this land.
S.2	Any proposal for significant development of Lot 86 DP 856309 shall include details for future access in the vicinity of the Cluny Road/Madgwick Drive/Niagara Street intersection. Proposals must demonstrate that adequate sight distances are available and that safe and efficient access can be provided to/from any development in this locality.
⑩	**New England Highway**
O.1	To manage traffic flows and noise buffers for land proximal to the New England Highway.
O.2	To minimise any adverse visual impact on views both to and from the New England Highway.
S.1	No access is permitted directly onto the New England Highway.
S.2	The design and layout of roads and lots adjacent to the New England Highway shall take into consideration the impacts of any traffic related noise identified in the site analysis. Any proposed noise attenuation buffers shall generally be incorporated into the development (e.g. larger residential lots) rather than being dedicated as public land or reserve.
S.3	Any significant development of land with frontage to the New England Highway shall include an assessment of the visual appearance of the development from the highway, and shall outline proposed measures to be incorporated into the development to minimise any adverse visual impact and integrate the appearance of the development with the surrounding landscape when viewed from the highway corridor and beyond.
S.4	The Armidale Dumaresq Bicycle Strategy includes the proposed network routes outlined below, and as shown on the Strategy Plan. Where necessary, significant development of land

	incorporating, or adjacent to, a proposed bicycle network route shall include provisions to enable construction of the route as outlined in the Bicycle Strategy. OR3 North Hill – UNE via Duval Street (primary on-road route) SP11 Erskine Street – Ash tree Drive (new primary off-road route)
2.3	**Bicycle network**
S.1	The Armidale Dumaresq Bicycle Strategy includes the proposed network routes outlined below, and as shown on the Strategy Plan. Where necessary, significant development of land incorporating, or adjacent to, a proposed bicycle network route shall include provisions to enable construction of the route as outlined in the Bicycle Strategy. OR3 North Hill – UNE via Duval Street (primary on-road route) SP11 Erskine Street – Ash tree Drive (new primary off-road route)
2.4	**Utility services**
S.1	The supply of sewer and reticulated water to any new development shall be carried out in accordance with Council's Water Supply and Sewerage Development Servicing Plan and the relevant chapters of this DCP.
S.2	The proposed location of new sewer and water infrastructure required to service future development is outlined on the Duval Strategy Plan.
2.5	**Stormwater drainage**
S.3	Stormwater drainage systems shall be designed and provided in accordance with *Chapter 2.7 – Floodplain Protection and Stormwater Drainage*. In addition, development of land to which the Strategy Plan applies shall provide, where relevant, an easement or riparian area reserve over that part of the stormwater drainage system between the New England Highway and Cluny Road.

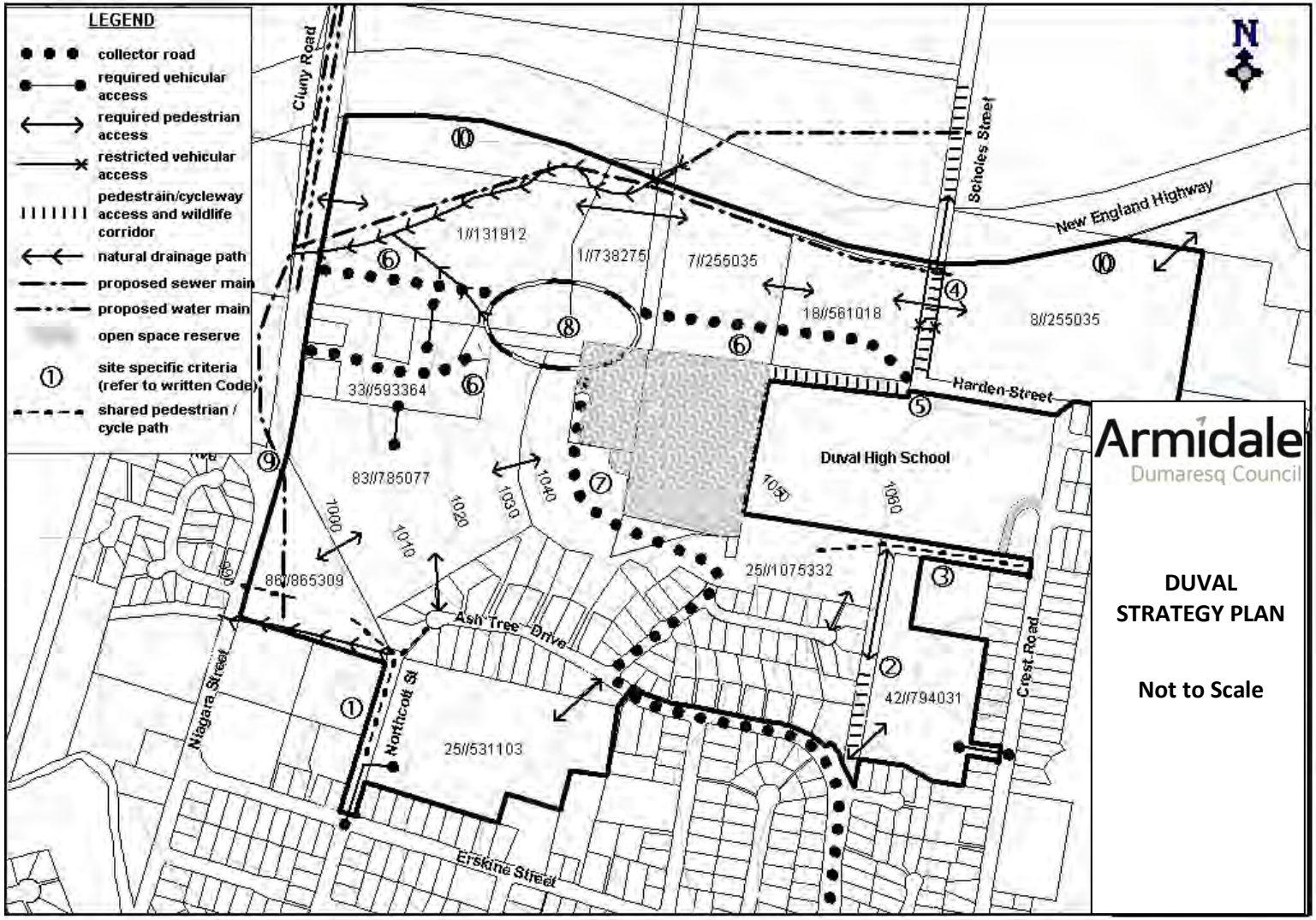

Figure 2 Duval Strategy Plan

Armidale
Dumaresq Council

Armidale Dumaresq
Development Control Plan 2012

Section 6 Locality Specific Precincts

Chapter 6. 3 North-East Armidale Precinct

Effective 26 June 2013

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Part 1 General Provisions

1.1 Introduction

The North-East Armidale Precinct Chapter has been developed to provide further detail in relation to the future development of land shown on the North-East Armidale Strategy Plan Map (see Figure 1).

The purpose of this chapter is to identify site specific strategies and requirements that must be incorporated into future development when development of land in the North-East Armidale Precinct occurs.

The provisions of this chapter should be read in conjunction with other relevant chapters of the Armidale Dumaresq Development Control Plan 2012.

1.2 Objectives

The objective of this chapter is to ensure that development of urban areas involving multiple land holders is carried out in a coordinated and integrated manner.

1.3 Addressing the guidelines in this chapter

Additional guidelines specifically for land in the North East Armidale Precinct are set out in this chapter. These are expressed in the form of objectives that need to be addressed for each development proposal. For each objective (O), 'acceptable solutions' (S) are provided which, if met, will ensure compliance. Alternative approaches may be proposed, provided these adequately address the relevant objectives and comply with legislation.

1.4 Land to which this chapter applies

The North-East Armidale Precinct Chapter applies to land in the area bound generally by Rockvale Road, Box Hill Drive, Cookes Road, Erskine Street, Kennedy Street North and Watson Avenue as shown in Figure 1.

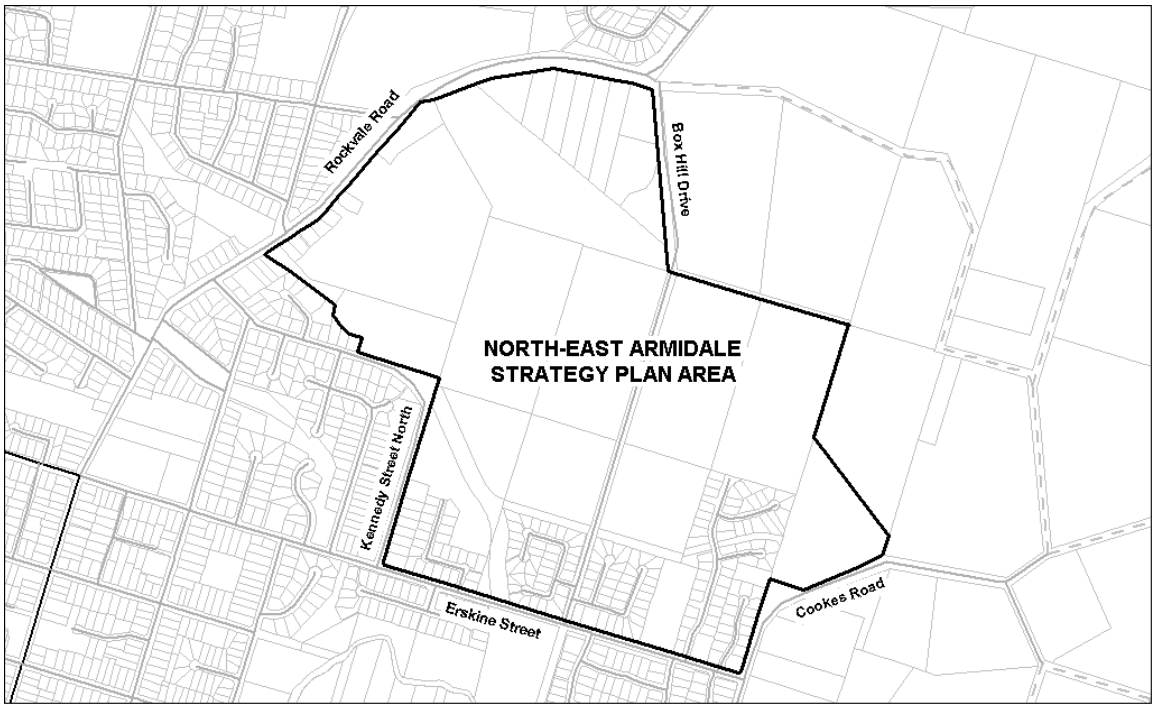

Figure 1 ***North-East Armidale Precinct Area***

Part 2 Requirements for development in the North-East Armidale Precinct

2.1 Road and access networks

S.1 The road layout and inter-allotment connections shown on the Strategy Plan are diagrammatic only and provide an outline of the desired network of road, pedestrian, bicycle and inter-allotment connections for the area. The exact location of roads, pedestrian and bicycle networks and other access ways will be subject to subdivision and engineering design in response to the site analysis.

S.2 Subdivision design should minimise the visual impact of roads on the local environment by endeavouring to preserve existing trees and by following contour lines as closely as possible.

2.2 Site specific requirements

The following requirements apply to specific locations shown with corresponding circled numbers on the North-East Armidale Strategy Plan.

① Box Hill Drive

Box Hill Drive has been identified by Council as a potential future road link between Erskine Street and Rockvale Road.

S.1 Any development requiring access to/from Box Hill Drive shall make provision for the construction of Box Hill Drive from the nearest sealed public road up to the point of entry to a development site in accordance with Council's road design standards applicable at the time.

S.2 Council may require additional road works past the entry point to the proposed development to eliminate dust nuisance to residential properties.

S.3 Road design should endeavour to retain as many existing trees within the road reserve as is feasible and safe.

2.3 Bicycle network

S.1 The Armidale Dumaresq Bicycle Strategy includes the proposed network routes outlined below. Where necessary, significant development of land incorporating or adjacent to a proposed bicycle network route shall include provisions to enable construction of the route as outlined in the Bicycle Strategy.

- SP1 Cookes Road – Merinda Place via Erskine Street (primary off-road route)
- SP3 Canambe Street – Rockvale Road via Box Hill Drive

2.4 Utility services

S.2 The supply of sewer and reticulated water to any new development shall be carried out in accordance with Council's Water Supply and Sewerage Development Servicing Plan and the relevant chapters of this DCP.

S.3 The proposed location of new sewer and water infrastructure required to service future development is identified on the North East Armidale Strategy Plan.

2.5 Gara raw water main

The location of the Gara Raw Water Main is shown on the Strategy Plan. The main is not available for domestic water connections.

S.4 Any development of land through which the main passes shall provide a 5 metre wide easement over the main to benefit Council. The line of the water main shall be off-set by not

	less than 1.5 metres from one side of the easement to allow for maintenance access by Council.
S.5	Council may consider realignment of the water main, at the developer's expense, where required to enable development to occur.
2.6	**Stormwater management**
S.1	Stormwater drainage systems shall be designed and provided in accordance with *Chapter 2.7 – Floodplain Protection and Stormwater Drainage*. In addition to the principles and requirements outlined in this chapter, development of land to which the Strategy Plan applies shall provide, where relevant, an easement or riparian area reserve over existing natural flow paths within the area of proposed development, and over receiving drainage systems downstream of development sites that cater for run-off from development.

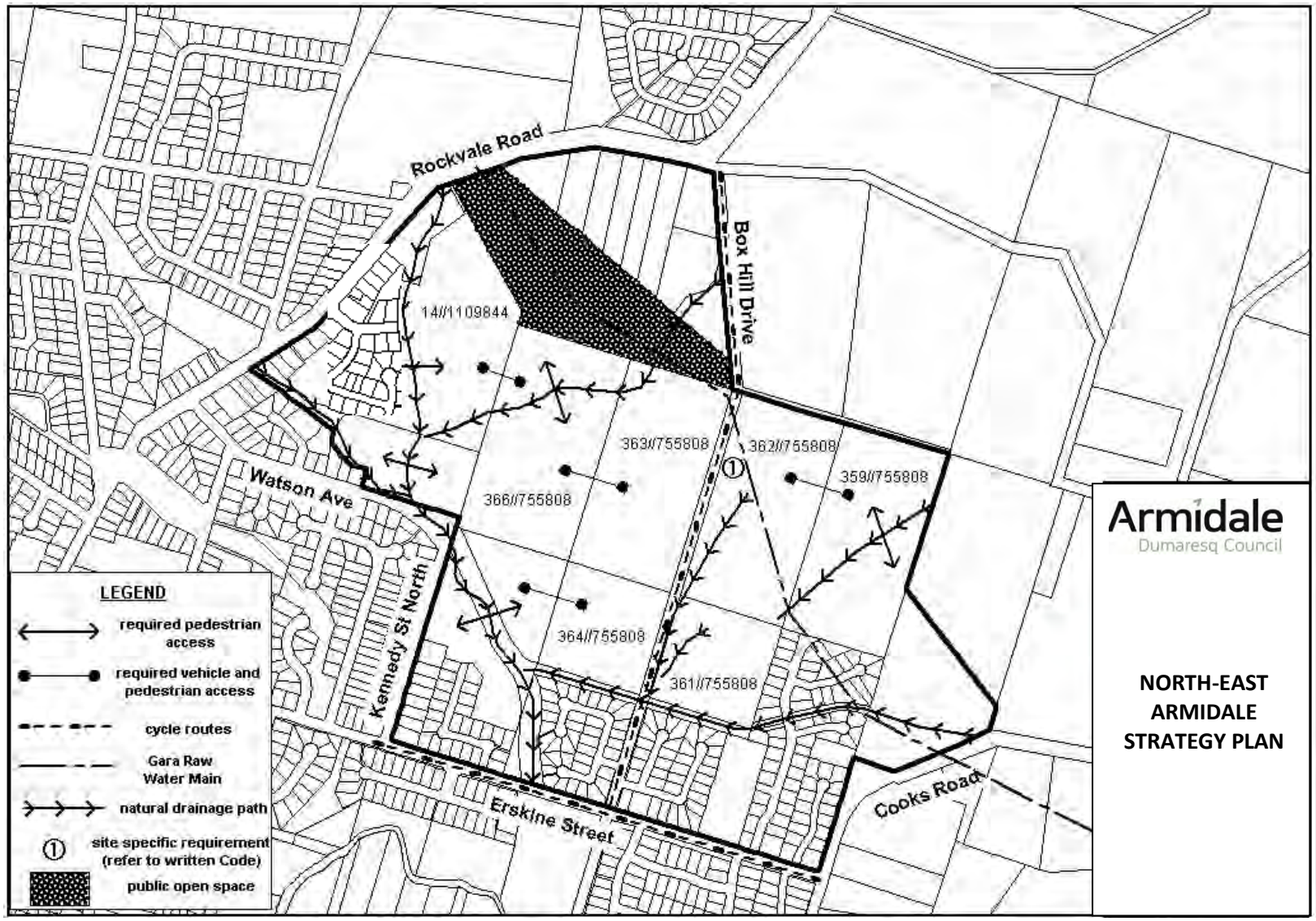

Figure 2 ***North East Armidale Strategy Plan***

Armidale
Dumaresq Council

Armidale Dumaresq
Development Control Plan 2012

Section 6 Locality Specific Precincts

Chapter 6.4 Chestnut Avenue Precinct

Effective 26 June 2013

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Part 1 General Provisions

1.1 Introduction

The Chestnut Avenue Precinct Chapter has been developed to provide further detail in relation to the future development of land shown on the Chestnut Avenue Strategy Plan Map (see Figure 1).

The purpose of this chapter is to identify site specific strategies and requirements that must be incorporated into future development when development of land in the Chestnut Avenue Precinct occurs.

The provisions of this chapter should be read in conjunction with other relevant chapters of the Armidale Dumaresq Development Control Plan 2012.

1.2 Objectives

The objective of this chapter is to ensure that development of urban areas involving multiple land holders is carried out in a coordinated and integrated manner.

1.3 Addressing the guidelines in this chapter

Additional guidelines specifically for land in the Chestnut Avenue Precinct are set out in this chapter. These are expressed in the form of objectives that need to be addressed for each development proposal. For each objective (O), 'acceptable solutions' (S) are provided which, if met, will ensure compliance. Alternative approaches may be proposed, provided these adequately address the relevant objectives and comply with legislation.

1.4 Land to which this chapter applies

The Chestnut Avenue Strategy Plan applies to the area bounded by Glen Innes Road, Gordon Street, Chestnut Avenue and Old Glen Innes Road as shown in Figure 1.

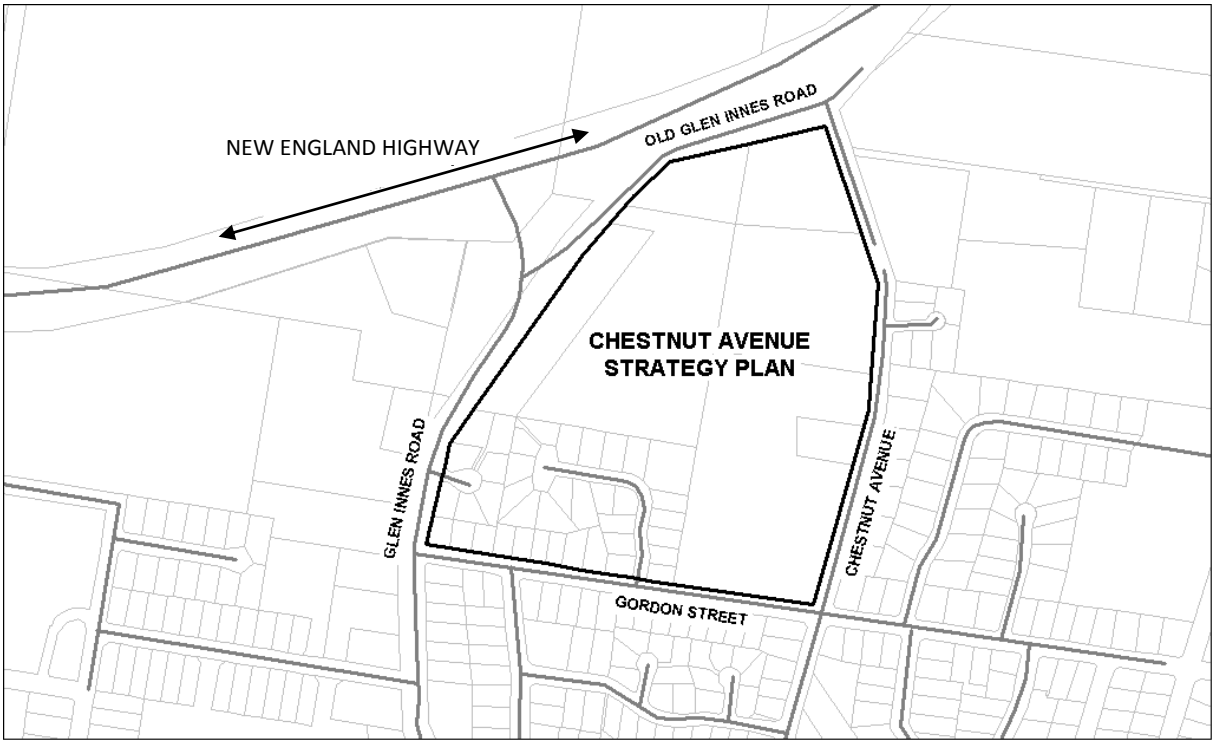

Figure 1 ***Chestnut Avenue Precinct Area***

Part 2 Requirements for development in the Chestnut Avenue Precinct

2.1 Road and access networks

S.1 The road layout and inter-allotment connections shown on the Strategy Plan are diagrammatic only and provide an outline of the desired network of road, pedestrian, bicycle and inter-allotment connections for the area. The exact location of roads, pedestrian and bicycle networks and other access ways will be subject to subdivision and engineering design in response to the site analysis.

S.2 Subdivision design should minimise the visual impact of roads on the local environment by endeavouring to preserve existing trees and by following contour lines as closely as possible.

2.2 Site specific requirements

The following requirements apply to specific locations shown with corresponding circled numbers on the Chestnut Avenue Strategy Plan.

① Chestnut Avenue

S.1 Provision of all-weather pedestrian and emergency access in conjunction with the development of 30 or more lots at the northern end of Chestnut Avenue with only one road access via Old Glen Innes Road.

S.2 Entrances to the access shall be designed to discourage the use of this route by others than the intended users. Emergency access shall require signage and road markings to clearly identify its purpose.

② Restricted Vehicular Access

S.1 No direct vehicular access is permitted to Glen Innes Road in the location shown on the Strategy Plan. Vehicular access to the development of this land may be achieved by an internal access road or a separate service road adjacent to Glen Innes Road (subject to satisfactory engineering design).

2.3 Utility services

S.1 The supply of sewer and reticulated water to any new development shall be carried out in accordance with Council's *Water Supply and Sewerage Development Servicing Plan* and the relevant chapters of this DCP.

S.2 The proposed location of new sewer and water infrastructure required to service future development is identified on the Chestnut Avenue Strategy Plan.

2.4 Stormwater management

S.3 Stormwater drainage systems shall be designed and provided in accordance with *Chapter 2.7 – Floodplain Protection and Stormwater Drainage*. In addition to the principles and requirements outlined in this chapter, development of land to which the Strategy Plan applies shall provide, where relevant, an easement or riparian area reserve as outlined below:

a) over the natural drainage path running generally from north-west to south-east through the centre of the subject land.

b) an inter-allotment drainage easement to drain water from the northern area of land to which the Strategy Plan applies to the existing natural drainage path. This easement is to extend from the land identified on the Strategy Plan as Lot 12 DP 255035 and Lot 1 DP 40374, south along the common boundary of Lot 5 DP 608284, Lot 6 DP 608284 and Lot 8 DP 569699.

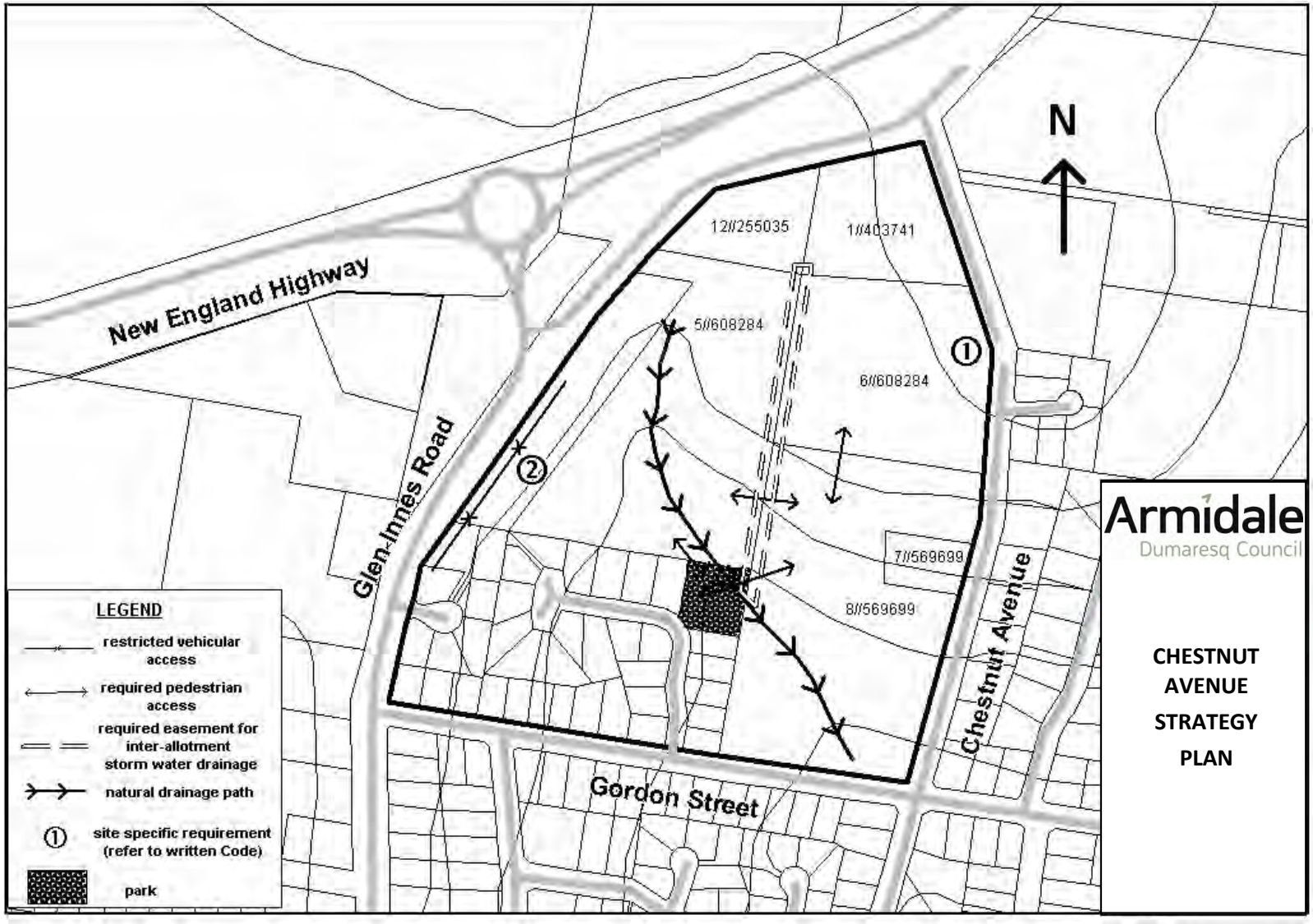

Figure 2 ***Chestnut Avenue Strategy Plan***

Armidale
Dumaresq Council

Armidale Dumaresq
Development Control Plan 2012

Section 6 Locality Specific Precincts

Chapter 6.5 Shambrook Avenue Precinct

Effective 26 June 2013

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Part 1 General provisions

1.1 Introduction

The Shambrook Avenue Precinct Chapter has been developed to provide further detail in relation to the future development of land shown on the Shambrook Avenue Strategy Plan Map (see Figure 1).

The purpose of this chapter is to identify site specific strategies and requirements that must be incorporated into future development when development of land in the Shambrook Avenue Precinct occurs.

The provisions of this chapter should be read in conjunction with other relevant chapters of the Armidale Dumaresq Development Control Plan 2012.

1.2 Objectives

The objective of this chapter is to ensure that development of urban areas involving multiple land holders is carried out in a coordinated and integrated manner.

1.3 Addressing the guidelines in this chapter

Additional guidelines specifically for land in the Shambrook Avenue Precinct are set out in this chapter. These are expressed in the form of objectives that need to be addressed for each development proposal. For each objective (O), 'acceptable solutions' (S) are provided which, if met, will ensure compliance. Alternative approaches may be proposed, provided these adequately address the relevant objectives and comply with legislation.

1.4 Land to which this chapter applies

The Shambrook Avenue Strategy Plan applies to the area in heavy black bordered by Shambrook Avenue and the New England Highway shown below in Figure 1.

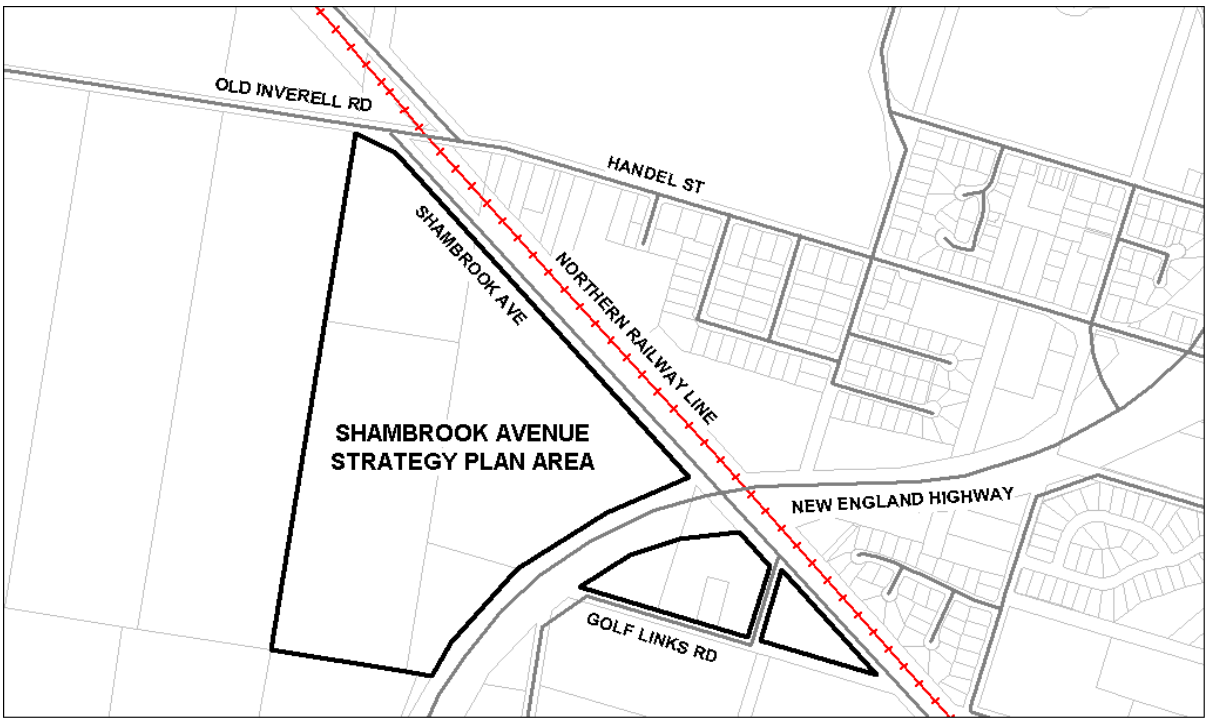

Figure 1 Shambrook Avenue Precinct Area

Part 2 Requirements for development in the Shambrook Avenue Precinct

2.1 Road and access networks

S.1 The road layout and inter-allotment connections shown on the Strategy Plan are diagrammatic only and provide an outline of the desired network of road, pedestrian, bicycle and inter-allotment connections for the area. The exact location of roads, pedestrian and bicycle networks and other access ways will be subject to subdivision and engineering design in response to the site analysis.

S.2 Subdivision design should minimise the visual impact of roads on the local environment by endeavouring to preserve existing trees and by following contour lines as closely as possible.

2.2 Pedestrian and cycle access

S.1 Shared pedestrian/cycle access shall be provided from Shambrook Avenue to existing development on the northern side of the Main Northern Railway Line in conjunction with any significant development of land to which the Strategy Plan applies.

S.2 A number of options for pedestrian/cycle access have been identified on the Strategy Plan. The final route for any access link will be subject to negotiation with the affected landholder(s) to acquire suitable land for construction of the link, and concurrence of the relevant Rail Authority for a rail line crossing.

S.3 The options for shared pedestrian/cycle access from Shambrook Avenue require construction of a link connecting to either:

a) the existing walking track on Old Inverell Road/Handel Street;

b) the corner of Glenelg Road and Helen Avenue, via Helen Avenue Park; or

c) White Avenue.

2.3 New England Highway

O.1 To manage traffic flows and noise buffers for land proximal to the New England Highway.

O.2 To minimise any adverse visual impact on views both to and from the New England Highway.

S.1 No access is permitted directly onto the New England Highway.

S.2 The design and layout of roads and lots adjacent to the New England Highway shall take into consideration the impacts of any traffic related noise identified through the Site Analysis Plan. Any proposed noise attenuation buffers shall generally be incorporated into the development (e.g. larger residential lots) rather than being dedicated as public land or reserve.

S.3 Proposed development of land with frontage to the New England Highway shall include an assessment of the visual appearance of the development from the highway, and shall outline proposed measures to be incorporated into the development to minimise any adverse visual impact and integrate the appearance of the development with the surrounding landscape when viewed from the highway corridor and beyond.

2.4 Highway noise

Properties adjacent to the New England Highway may experience traffic-generated noise. Noise impacts must be addressed in accordance with the relevant DCP Chapters, Council policy and guidelines.

2.5	**Stormwater management**
S.1	Stormwater drainage systems shall be designed and provided in accordance with *Chapter 2.7 – Floodplain Protection and Stormwater Drainage*. The drainage concept for the Shambrook Avenue Strategy Plan area is to mitigate any potential flooding of downstream properties north of Shambrook Avenue by redirecting storm water flows to Martin's Gully.
S.2	In addition, and where relevant, an easement or riparian area reserve development of land upstream of the drainage discharge point into Martin's Gully shall direct storm water via an easement or reserve to the open drain constructed along Shambrook Avenue, then through to Martin's Gully.

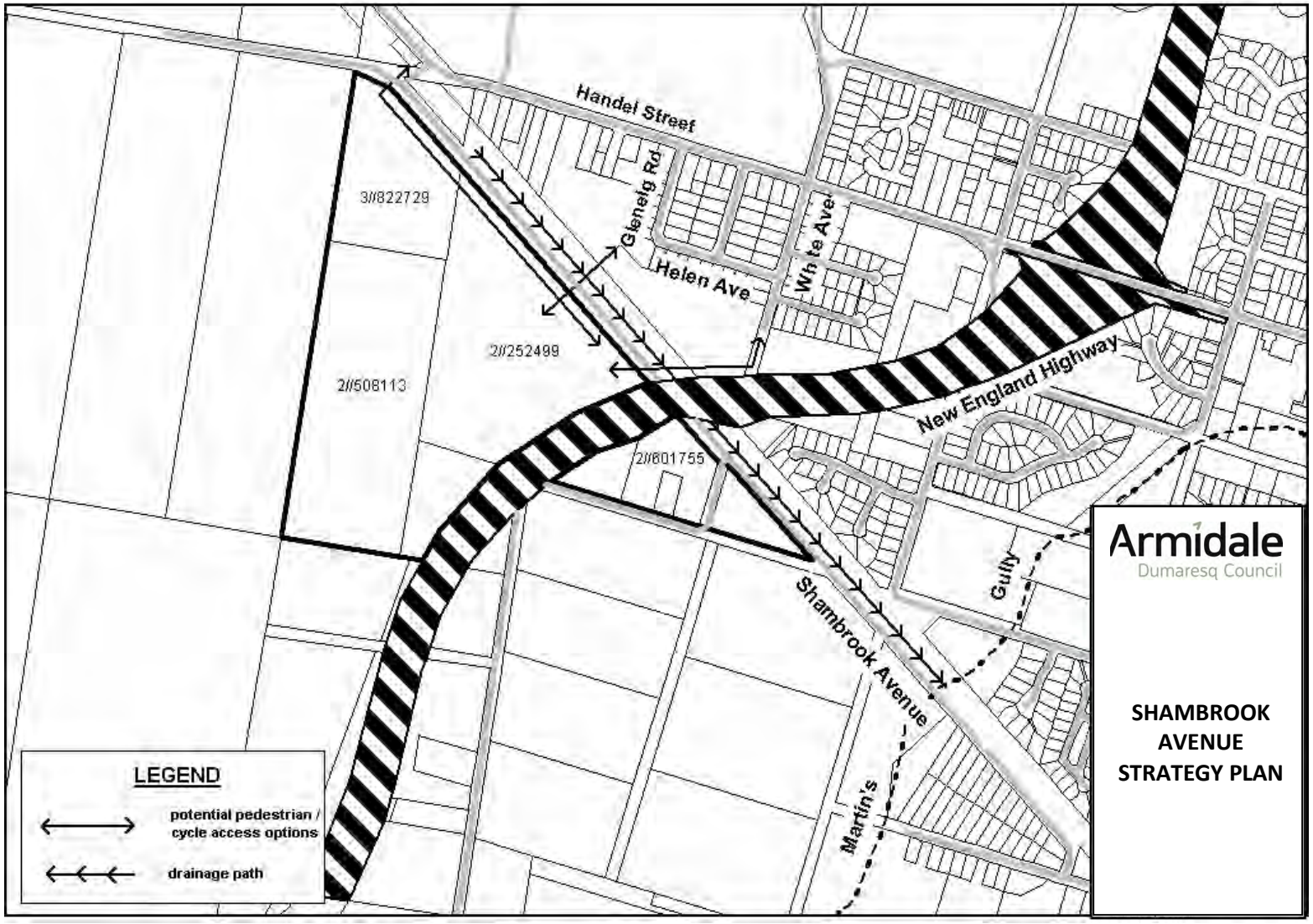

Figure 2 ***Shambrook Avenue Strategy Plan***