

# Riverstone West

## Development Control Plan

August 2009



NSW GOVERNMENT  
**Department of Planning**

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# 1.0

## Introduction



# 1.0 INTRODUCTION

## 1.1 Name of this Plan

This Plan is known as the Riverstone West Precinct Development Control Plan 2009 (also referred to as Riverstone West DCP 2009). It has been prepared pursuant to the provisions of Section 72 of the *Environmental Planning & Assessment Act 1979*.

This DCP was adopted by the Director General (or delegate) of the Department of Planning on 6 August 2009 and came into force on 19 August 2009.

This DCP applies to all development on the land shown at **Figure 1**.



**Figure 1:** Land to which this DCP Applies



## 1.2 The Purpose of this DCP

The purpose of this DCP is to:

- 1) communicate the planning, design and environmental objectives and controls against which Council will assess future Development Applications (DAs)
- 2) consolidate and simplify the planning controls to ensure the orderly, efficient and environmentally sensitive development of the Riverstone West Precinct as envisaged by the North West Growth Centre Structure Plan, *State Environmental Planning Policy (Sydney Growth Centres) Amendment (Riverstone West Precinct) 2009* (referred to in this DCP as the *Growth Centres SEPP Amendment (Riverstone West Precinct) 2009*) and as refined by the Riverstone West Indicative Layout Plan
- 3) promote high quality urban design outcomes within the context of environmental, social and economic sustainability
- 4) clearly set out the processes, procedures and responsibilities for the involvement of the community and key stakeholders in the development of land
- 5) ensure that development will not detrimentally affect the environment and ensure that satisfactory measures are incorporated to ameliorate any impacts arising from the proposed development
- 6) encourage innovation with particular emphasis on the integration of buildings and landscaped areas that add to the character of employment areas
- 7) provide safe and high quality environments for workers and visitors to Riverstone West
- 8) give effect to the North West Growth Centre Waterfront Land Strategy.

## 1.3 Structure of this Plan

This DCP is structured as follows:

- |                  |  |
|------------------|--|
| <b>Section 1</b> | <b>Introduction</b><br>Sets out the administrative provisions of the DCP.  |
| <b>Section 2</b> | <b>Riverstone West Precinct</b><br>Relates to the vision and overall objectives for the future development of the Precinct as well as the overall layout of the Precinct.  |
| <b>Section 3</b> | <b>Overall Framework</b><br>Relates to the street network (including road design standards and traffic management), block layout, public transport network, pedestrian and cycleway network and open space network and public domain works.  |
| <b>Section 4</b> | <b>Environmental Controls</b><br>Relates to general environmental issues that apply across the entire Riverstone West Precinct including energy, cut and fill, integrated water cycle management, salinity management, contamination management, the environmental corridor, bushfire management, Indigenous heritage, European heritage, air quality and odour management, noise and vibration management and waste management. |
| <b>Section 5</b> | <b>Development Controls</b><br>Provides the objectives and design controls for industrial, light industrial, commercial and retail development within the Precinct including lot subdivision, built form, streetscape, landscape design, access and parking, safety and surveillance and community needs.  |

- Section 6 Special Area Controls**  
Outlines the objectives, key controls and design principles relating to areas that require further design attention including Vineyard Business Area (southern area), Riverstone West Business Park, the Sports Centre and the Intermodal Facility (IMT).
- Appendix A Glossary**  
Explains the terms used in the DCP.
- Appendix B Exempt and Complying Development**  
Identifies the types of development that are subject to the exempt and complying development provisions in the Riverstone West Precinct Plan.
- Appendix C Floodplain Management Strategy**  
Defines the parameters and the requirements for the preparation of a Floodplain Management Strategy as outlined in Clause 6.3 of *State Environmental Planning Policy (Sydney Region Growth Centres) Amendment (Riverstone West Precinct) 2009*.
- Appendix D Integrated Water Cycle Management Strategy**  
Defines the parameters and the requirements for the preparation of an Integrated Cycle Water Management Strategy as outlined in Sections 1.7.3 and 4.3 of this DCP.
- Appendix E Land Use Categories**  
Provides the definition of Land Use Categories as required when preparing Structural Assessments and Flood Plans.
- Appendix F Flood Compatible Materials**  
Provides a list of those materials used in a building which are resistant to damage when inundated.
- Appendix G Prescribed Trees, Preferred Species and Street Trees**  
Identifies trees that are subject to the tree preservation provisions of the Riverstone West Precinct Plan, and provides a list of plant species that are preferred for use in landscaping and street planting within the Precinct.
- Appendix H Crime Prevention through Environmental Design**  
Establishes principles and controls for the implementation of Crime Prevention through Environmental Design in all aspects of new urban development across the Precinct.

## 1.4 Relationship to other Plans

### 1.4.1 The Act and the SEPP

This DCP has been prepared under the *Environmental Planning and Assessment Act 1979*. It has been prepared to provide additional objectives, controls and guidance to applicants proposing to undertake development in the Riverstone West Precinct, and for Council reference when assessing DAs. It should be read in conjunction with the *State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (the Growth Centres SEPP) Amendment (Riverstone West Precinct) 2009*, which provides the statutory planning controls for development in the Precinct. This DCP is consistent with and supports those controls by providing more detail in relation to how development is to occur in the Precinct.

### 1.4.2 Planning Documents

#### Blacktown City Council Planning Documents

*Blacktown Local Environmental Plan 1988 (Blacktown LEP 1988)* does not apply to land that the Riverstone West Precinct Plan applies to, except for some local heritage significance provisions. This DCP repeals or replaces all other Council DCPs and policies with the exception of those listed below as amended:

- *Blacktown Development Control Plan 2006*
- *Path Paving Policy – Blacktown City Council*
- *Stormwater Quality Control Policy (2005) – Blacktown City Council*
- *Soil Erosion and Sedimentation Control Policy (1998) – Blacktown City Council*
- *Works Specification Civil (2005) – Blacktown City Council*
- *Engineering Guide for Development (2005) – Blacktown City Council*

Where existing policies, procedures and guidelines continue to apply to the Riverstone West Precinct, these are specifically referred to in the relevant clauses of this DCP.

In the event of any inconsistency between this DCP and any other DCP or policy of Council, it is the intention that this DCP prevails to the extent of the inconsistency.

#### Other Planning Documents

The following planning documents as amended apply to the Riverstone West Precinct where relevant:

- *Environmental Planning and Assessment Regulation 2000*
- *Local Government Act 1993*
- *Blacktown LEP 1988*
- Relevant State Environmental Planning Policies (SEPPs)
- Relevant Regional Environmental Plans (REPs)
- *Action for Bikes – Bike Plan 2010*
- *Australian Standards*
- *Austrroads Guidelines*
- *Bioretention Filter Media Guidelines (2008)*
- *Building Code of Australia*
- *Building in a Saline Environment Book 6 Local Government Salinity Initiative (2003)*
- *Floodplain Development Manual 2005*
- *Floodplain Risk Management Guidelines – Practical considerations of Climate Change (2007)*
- *Guidelines for the Management of Contaminated Sites (2000)*



- *Guide to Traffic Generating Developments (2002)*
- *Green Star – Office As Built Technical Manual*
- *Growth Centres Development Code*
- *Growth Centres Biodiversity Certification (2008)*
- *Hawkesbury Nepean Flood Emergency Sub Plan (2005)*
- *How to Prepare Archival Records of Heritage Items' (1998)*
- *Interpreting Heritage Place and Items: Guidelines (2005).*
- *Interim Guidelines for Applicants – consideration of rail noise and vibration in the planning process (2003)*
- *Making Access for all (2002)*
- *North West Growth Centre Waterfront Lands Strategy (2009)*
- *Action for Air - The NSW Government's 25 Year Air Quality Management Plan (1998)*
- *NSW Industrial Noise Policy (2000)*
- *Photographic Recording of Heritage Items Using Film and Digital Capture (2006).*
- *Planning for Bushfire Protection (2006)*
- *RTA NSW Bicycle Guidelines (November 2003)*
- *Safer By Design Guidelines (2002)*
- *Rural Fire Services Standards for Asset Protection Zones*
- *Sydney Coast Councils Group Groundwater Management Handbook (2006)*
- *Western Sydney Salinity Code of Practice (March 2004)*

### 1.4.3 Growth Centres Biodiversity Certification

Biodiversity Certification under the *Threatened Species Conservation Act 1995*, was conferred upon the *Growth Centres SEPP* in December 2007 and confirmed in July 2008 via an amendment to the Act. Relevant Biodiversity Measures underpin the certification and must be satisfied in order to maintain certification across the Growth Centres.

In accordance with Relevant Biodiversity Measure 35 as provided in the Ministerial Order gazetted on 14 December 2007, a report has been prepared assessing consistency of the Riverstone West Precinct Plan with the biodiversity certification. The assessment concludes that no impacts are anticipated on Existing Native Vegetation (ENV) within land that is not subject to certification and appropriate measures of protection have been adopted to protect ENV within the Precinct. **Table 1** summarises the assessment of consistency with Biodiversity Certification.

**Table 1:** Summary of Biodiversity Certification outcomes in the Riverstone West Precinct

<b>General Requirements</b>	<b>Draft Conservation Plan</b>	<b>Precinct Planning Outcomes</b>	<b>Assessed Consistency</b>
2,000 ha of "existing native vegetation" (ENV) retained across the Growth Centres. Any clearance of ENV within non-certified areas required to be offset in accordance with the Biodiversity Certification Ministerial Order.	16.3 ha of ENV is identified within the Precinct to be retained or otherwise offset.	No non-certified ENV is to be cleared within the Precinct. 4.3 ha of ENV is certified. 12 ha of ENV is to be retained within the Precinct. Key protection mechanisms are achieved through the application of controls in the Precinct Plan to restrict the clearing of ENV in	Outcomes are considered to be consistent with the requirements of the order.  This includes the extent of vegetation to be retained, the types of protection mechanisms used, and the requirement to maintain and improve biodiversity

---

accordance with the Relevant Biodiversity Measures.

values.

Non-certified areas will be managed under private ownership.

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The area of non-certified ENV to be retained under the draft SEPP amendment meets the amount of ENV specified by the 2007 Draft Conservation Plan and is consistent with the Relevant Biodiversity Measures. The assessment of consistency recommends that:

- the Minister for Environment and Climate Change maintains the Biodiversity Certification
- areas of ENV will be protected through mechanisms in the *Growth Centres SEPP Amendment (Riverstone West Precinct) 2009*

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

## 1.5 Consent Authority

Blacktown City Council is the consent authority in respect of approvals to develop land (except complying development where private certification of development can occur) in Riverstone West Precinct. Council will use this DCP in its assessment of DAs within the Precinct.

## 1.6 Exempt and Complying Development

The *Environmental Planning and Assessment Act 1979 (EP&A Act)* enables certain forms of development to be classified as either exempt development or complying development.

Exempt development is development of a minor nature that can be undertaken without the need for development consent.

Complying development is development that, providing the provisions of the *Building Code of Australia* are satisfied, can be assessed through the issuance of a complying development certificate.

This DCP sets out types of exempt and complying development in the Riverstone West Precinct. When considering a development proposal, applicants should refer to this Part of the DCP, **Appendix B** of this DCP and also Part 3 '*Exempt and Complying Development*' of the *Growth Centres SEPP Amendment (Riverstone West Precinct) 2009* to determine if their proposal is of a type that is exempt or complying.

### 1.6.1 Exempt Development

Development that is specified in Schedule 1 of **Appendix B** that meets the standard for the development contained in that Schedule and that complies with the requirement of this Part is exempt development.

- 1) To be exempt development, the development:
  - must meet the relevant deemed-to-satisfy provisions of the *Building Code of Australia* must not, if it related to an existing building, cause the building to contravene the *Building Code of Australia*
  - must not be designated development
  - must not be carried out on land that comprises, or in which there is, a heritage item that is listed on the State Heritage Register under the *Heritage Act 1977* or that is subject to an interim heritage order under the *Heritage Act 1977*, and
  - must not be carried out in an environmentally sensitive area for exempt and complying development (as defined in clause 3.3 of *Growth Centres SEPP Amendment (Riverstone West Precinct) 2009*).
- 2) Development that relates to an existing building that is classified under the Building Code of Australia as class 1b or class 2-9 is exempt development only if:
  - the building has a current fire safety certificate or fire safety statement, or
  - no fire safety measures are currently implemented, required or proposed for the building.

**Note:** *Specifying a type of development as exempt development does not authorise the contravention of any condition of development consent applying to the land on which the exempt development is carried out, nor does it remove the need for any approval that may be required under other legislation.*

### 1.6.2 Complying Development

- 1) Development cannot be complying development if:
  - it is on land that is a critical habitat of an endangered species, population or ecological community (identified under the *Threatened Species Conservation Act 1995* or the *Fisheries Management Act 1994*)
  - it is on land that is within a wilderness area (identified under the *Wilderness Act 1987*)

## Riverstone West Precinct Development Control Plan 2009

- it is designated development
  - it is on land that comprises, or on which there is, an item of environmental heritage (that is listed on the State Heritage Register or in Schedule 5 of *Growth Centres SEPP Amendment (Riverstone West Precinct) 2009* or that is subject to an interim heritage order under the *Heritage Act 1977*)
  - it requires concurrence (except a concurrence of the Director-General of the Department of Environment and Climate Change in respect of development that is likely to significantly affect a threatened species, population, or ecological community, or is habitat identified under the *Threatened Species Conservation Act 1995*)
  - it is carried out in an environmentally sensitive area for exempt and complying development as defined in clause 3.3 of Appendix 5 *State Environmental Planning Policy (Sydney Growth Centres) Amendment (Riverstone West)*
  - it contravenes any restriction on the land imposed by Council within the 88B and/or 88E instrument
  - the land is below the 100 year ARI flood level or the floor level of a habitable room is not 600mm above the 1 per cent flood level
  - the land was previously used as: a gas works; a service station; a sheep or cattle dip; intensive agriculture; mining or extractive development; for the manufacturing of chemicals; waste storage or waste treatment; asbestos or asbestos products manufacture; and a notice of completion of remediation work for the proposed use has not been given to the local council in accordance with *SEPP No.55 Remediation of Land*
- 2) Development specified in **Schedule 2 of Appendix B** that is carried out in compliance with:
- the development standards specified in relation to that development and
  - the requirements of this Part, is complying development
- 3) To be complying development, the development must:
- be permissible, with consent, in the zone in which it is carried out
  - meet the relevant deemed-to-satisfy provisions of the Building Code of Australia.
- 4) A complying development certificate for development specified in **Schedule 2 of Appendix B** is subject to the conditions set out in Schedule 3 of **Appendix B**.

### Notes:

*Section 76A (6) of the EP&A Act 1979 provides that certain development, such as designated development, or development requiring the concurrence of another body, or development on land comprising, or on which there is, a heritage item, cannot be complying development.*

*Under section 76A of the Act 1979, development consent for the carrying out of complying development may be obtained by the issue of a complying development certificate.*

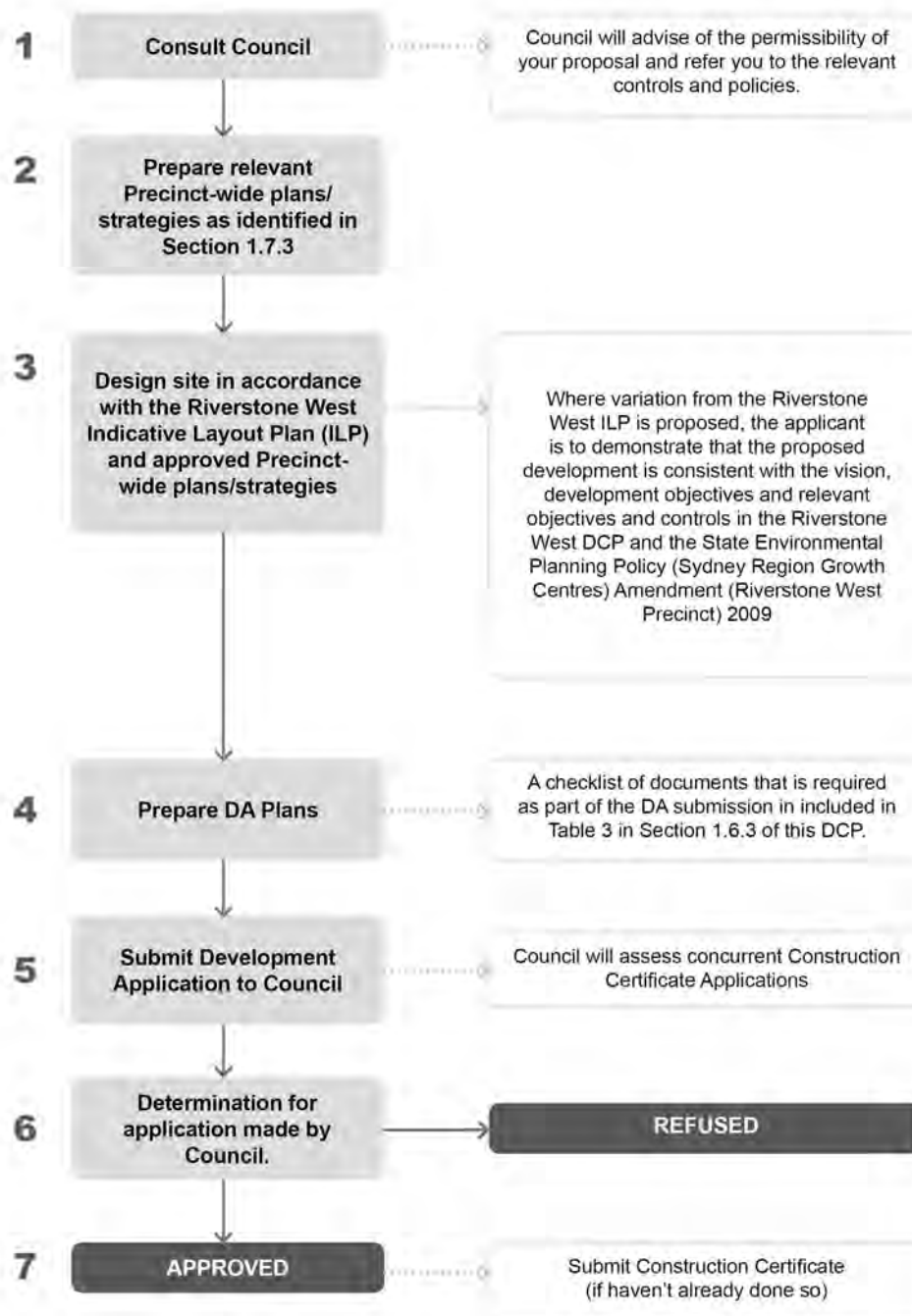
*Specifying a type of development as complying development does not authorise the contravention of any condition of development consent applying to the land on which the complying development is carried out, nor does it remove the need for any approval that may be required under other legislation.*

*See also Clause 5.8 of Growth Centres SEPP Amendment (Riverstone West Precinct) 2009 which provides that the conversion of fire alarms is complying development in certain circumstances.*

## 1.7 Development Application Process

### 1.7.1 Development Application Process

The DA process is summarised in **Figure 2**.



**Figure 2:** DA process

### 1.7.2 Variations to Development Controls

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

Where variation from the Riverstone West ILP is proposed, the applicant is to demonstrate that the proposed development is consistent with the vision and development objectives for the Precinct set out in Section 2 and the objectives and controls in Sections 3, 4, 5 and 6 and the *Growth Centres SEPP Amendment (Riverstone West Precinct) 2009*.

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

### 1.7.3 Lodgement Requirements

#### Matrix of DA Lodgement Requirements

**Table 2:** Matrix of lodgement requirements

Key: ✓ Required

Document	Precinct-wide Plan/Strategy (Subdivision and/or Earthworks DA stage)	Lot and/or Building DA stage
A4 Notification Plan	✓	✓
Air And Odour Report		✓
Building Plans		✓
Bushfire Evacuation Plan		✓
Completed DA Form	✓	✓
Conservation Management Plan	✓	
Contamination Assessment and Management Plan	✓	
Crime Risk Assessment Report (Safer By Design Evaluation)		✓
Cut and Fill Plan		✓
Environmental Assessment (Intermodal Terminal)		✓
Floodplain Management Strategy	✓	
Heritage Interpretation Strategy	✓	
Heritage Impact Statement		✓
Integrated Water Management Strategy	✓	
Integrated Water Management Report		✓
Landscape Plan		✓
Landscape Strategy	✓	
Materials Sample Board of external colours and finishes		✓

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Document	Precinct-wide Plan/Strategy (Subdivision and/or Earthworks DA stage)	Lot and/or Building DA stage
Noise and Vibration Impact Assessment and Management Plan		✓
Photomontages		✓
Salinity Assessment and Management Plan	✓	
Salinity Report		✓
Scale model		Optional (*)
Shadow diagrams		✓ (*)
Site Analysis Plan	✓	✓
Statement of Environmental Effects	✓	✓
Subdivision Plans	✓	
Survey Plan	✓	✓
Traffic Impact Report		✓
Transport Management and Access Plan	✓	
Tree Survey Plan/Arborist Report		✓
Vegetation Management Plan	✓	
Waste Management Plan		
Works as executed plan ( <i>only as condition of consent</i> )	N/A	N/A

(\*) Note: For development in the B7 Business Park zone only

## Precinct-wide Plans and Strategies for the Lodgement of DAs

**Table 3** provides a list of Precinct-wide plans and strategies that must be adopted by Council in order to facilitate the DA process.

Each plan, report and strategy listed in the table below must be:

- a written report supported by plans and figures
- prepared by a suitably qualified practitioner with relevant tertiary qualifications, technical knowledge and a minimum of five (5) years demonstrated experience in the relevant field.

The plan or strategy must be submitted to Council for adoption prior to the assessment of any DA within Riverstone West Precinct. Each plan or strategy shall address the entire precinct, unless otherwise specified. All DAs within the precinct must demonstrate compliance with the relevant plan or strategy as adopted by Council.

**Table 3:** Precinct-wide plans and strategies required in order to facilitate lodgement of DAs.

Plan	Description	Refer to Section in DCP
<b>A4 Notification Plan</b>	Site plan and elevations must be shown in an A4 document.	-
<b>Completed DA form</b>	Signed by the owner(s) of the development site. This is to be lodged with the applicable DA fee.	-
<b>Conservation Management Plan</b>	<p>A <b>Conservation Management Plan (CMP)</b> must be prepared in accordance with the requirements of the NSW Heritage Office, which establishes the heritage significance of an item, which identifies conservation policies and management mechanisms that are appropriate to enable that significance to be retained.</p> <p>The CMP must include:</p> <ul style="list-style-type: none"> <li>• detailed objectives for the preservation of heritage items identified in <b>Table 11</b> in <b>Section 4.9</b> of this DCP</li> <li>• provisions for the conservation, interpretation and management of heritage items</li> <li>• provisions for new development with regard to the heritage items in accordance with <b>Figure 29</b> in <b>Section 4.9</b> of this DCP</li> <li>• provisions for further investigation regarding flood mitigation for the cottages in accordance with <b>Appendix C</b> Floodplain Management Strategy.</li> </ul>	<b>4.9</b>
<b>Contamination Assessment and Management Plan</b>	<p>A <b>Contamination Assessment and Management Plan (CAMP)</b> must be prepared prior to any earthworks being undertaken. The plan must be prepared by a practitioner with relevant tertiary qualifications, technical knowledge and a minimum of five years demonstrated experience in the contamination assessment and management field and be prepared in accordance with the relevant NSW Government Contaminated Lands legislation and guidelines as amended or superseded.</p> <p>This assessment must include a preliminary site investigation and detailed site inspection.</p> <p>The CAMP must include a site remedial action plan, site validation and ongoing monitoring.</p> <p>A CAMP must be prepared prior to and implemented during the earthworks. The CAMP should be prepared by an appropriately qualified environmental scientist and comprise:</p>	<b>4.5</b>



Plan	Description	Refer to Section in DCP
	<ul style="list-style-type: none"> <li>• a description of the known areas of buried waste and potential contamination impact</li> <li>• procedures for the management of any waste that is encountered during the excavation of the site</li> <li>• a statement of any potential for additional waste to that so far defined to be present with procedures provided for its management and/or offsite disposal to ensure that human and environmental health are protected</li> <li>• contingency plans for the management of unexpected waste types being discovered during earthworks on the site, as well as procedures for the appropriate assessment, classification, management and disposal of unexpected waste types to ensure that human and environmental health are protected</li> <li>• definitions of responsibilities for the implementation of the CAMP and the assessment and management of waste as it is discovered</li> <li>• a review schedule established for the CAMP to ensure that the management procedures remain current and reflect any changes in regulations and guidelines.</li> </ul> <p>An accredited site auditor must be engaged to confirm that the assessment is appropriate and that the site is suitable for the proposed use.</p> <p>Fill material brought onto the site must also be validated as suitable for the proposed use of the site.</p>	
<p><b>Floodplain Management Strategy</b></p>	<p>The <b>Floodplain Management Strategy</b> (FMS) must comply with the requirements of <b>Appendix C</b> in this DCP.</p> <p>The purpose of the FMS is to:</p> <ul style="list-style-type: none"> <li>• Define existing flooding at the site and in the vicinity of the site in accordance with the <i>NSW Floodplain Development Manual, 2005</i> procedures;</li> <li>• Determine the flood impacts on account of the proposed development, and investigate mitigation options which will input to the FMS</li> <li>• Develop a strategy that demonstrates flood impacts at the site and adjoining the site are managed in accordance with the requirements of the <i>Growth Centres SEPP Amendment (Riverstone West Precinct) 2009</i> and the development controls in <b>Section 4.3</b> of this DCP; and</li> <li>• Develop a Flood Emergency Response Plan (FERP) in consultation with the State Emergency Services (SES).</li> </ul>	<p><b>Appendix C</b></p>
<p><b>Heritage Interpretation Strategy</b></p>	<p>A <b>Heritage Interpretation Strategy</b> (HIS) must be prepared by an appropriately qualified consultant and must address:</p> <ul style="list-style-type: none"> <li>• photographic recording and documentation of heritage items</li> <li>• proposed location of interpretive works</li> </ul>	<p><b>4.9</b></p>

Plan	Description	Refer to Section in DCP
	<ul style="list-style-type: none"> <li>• built form</li> <li>• landscape design</li> <li>• public art</li> <li>• signage</li> <li>• provisions for education and general interest.</li> </ul>	
<b>Integrated Water Cycle Management Strategy</b>	<p>The purpose of the <b>Integrated Water Management Strategy</b> (IWMS) must comply with the requirements of <b>Appendix D</b> in this DCP, with the purpose to:</p> <ul style="list-style-type: none"> <li>• assess the site water cycle including requirements for water conservation;</li> <li>• describe surface water quality management across the precinct and demonstrate compliance with the development controls in <b>Section 4.3</b>;</li> <li>• nominate flood management and demonstrates compliance with the <b>FMS</b> in <b>Appendix C</b>, including cut and fill and flood emergency response;</li> <li>• describe surface water quantity management and drainage and demonstrate compliance with the development controls in <b>Section 4.3</b>;</li> <li>• manage construction phase impacts in accordance with <i>Blacktown City Council Engineering Guide for Development 2005</i></li> <li>• nominate maintenance requirements for the trunk stormwater system.</li> </ul>	<b>Appendix D</b>
<b>Landscape Strategy</b>	<p>A <b>Landscape Strategy</b> must be prepared by an appropriately qualified consultant. It must include a landscape concept plan for the entire precinct which addresses:</p> <ul style="list-style-type: none"> <li>• location and mix of open spaces</li> <li>• planting species</li> <li>• visual character</li> <li>• access and parking</li> <li>• topography and drainage</li> <li>• riparian corridors, in accordance with the North West Growth Centre Waterfront Land Strategy;</li> <li>• areas of revegetation/regeneration</li> <li>• landscape treatment of embankment batters and terraces.</li> </ul>	<b>3.5</b>
<b>Salinity Assessment and Management Plan</b>	<p>A <b>Salinity Assessment and Management Plan</b> (SAMP) must be conducted and prepared in accordance with the <i>Western Sydney Salinity Code of Practice 2004</i> as amended or superseded.</p> <p>Salinity assessment must address water cycle management, groundwater monitoring, and variation to subsoil drainage</p>	<b>4.4</b>

Plan	Description	Refer to Section in DCP
	<p>across the precinct in accordance with the <i>Growth Centres Development Code</i> with reference made to the Local Government Salinity Initiative documents available on the Urban Salinity page of the Department of Environment and Climate Change website.</p> <p>The SAMP must address filling, groundwater management, landscaping and water cycle management.</p>	
<b>Site Analysis Plan</b>	<b>Site Analysis Plan</b>	-
	<p>should include plan and section drawings of the existing features of the site, at the same scale as the site and landscape plan, together with appropriate written material. Information may include but is not limited to:</p> <ul style="list-style-type: none"> <li>• site dimensions, site areas, north point</li> </ul>	
<b>Site Analysis Plan (cont.)</b>	<ul style="list-style-type: none"> <li>• location of site in relation to shops, community facilities and transport</li> <li>• form and character of adjacent and opposite buildings in the streetscape, including both sides of any street that the development fronts</li> <li>• location and use of any existing buildings or built feature on the site</li> <li>• location and important characteristics of adjacent public, communal and private open spaces</li> <li>• location, use, overall height (storeys, metres) and important parapet/datum lines of adjacent buildings</li> <li>• location and height of existing windows and balconies on adjacent properties facing the site</li> <li>• location, height and characteristics of adjacent walls and fences</li> <li>• location of natural features including watercourses, major trees and other significant vegetation on site, on adjacent properties and street trees, identified by size and botanical or common names</li> <li>• topography, showing spot levels and contours 0.5 metre intervals for the site, adjoining streets and land adjoining the site</li> <li>• views to and from the site</li> <li>• prevailing winds</li> <li>• orientation and overshadowing of the site and adjoining properties by neighbouring structures and trees</li> <li>• geotechnical characteristics including salinity and groundwater conditions of the site and suitability of development</li> <li>• pedestrian and vehicular access points (existing and proposed)</li> <li>• location of utility services, including electricity poles, stormwater drainage lines, natural drainage, kerb crossings and easements</li> <li>• location of any infrastructure easement of rights of way</li> </ul>	

Plan	Description	Refer to Section in DCP
	<ul style="list-style-type: none"> <li>• significant noise sources on and in the vicinity of the site, particularly vehicular traffic, train, aircraft and industrial operations noise</li> <li>• assessment of site contamination, proposed remediation strategy and a statement from a recognised expert that the site can be remediated and made suitable for the proposed uses.</li> </ul> <p>As a minimum, the Plan should show the site location, boundary dimensions, site area, north point, existing vegetation and trees, location and uses of existing adjoining buildings, existing site levels to Australian Height Datum (AHD) and services.</p>	
<b>Statement of Environmental Effects</b>	The <b>Statement of Environmental Effects</b> must demonstrate how the proposal meets all relevant objectives and provision this DCP and should set out measures to be taken to mitigate any likely adverse impact of the proposal.	-
<b>Subdivision Plan</b>	<p>Subdivision Plans must show:</p> <ul style="list-style-type: none"> <li>• lot numbers</li> <li>• lot sizes and dimensions</li> <li>• lot orientation</li> <li>• road names/numbers</li> <li>• road layout</li> <li>• road widths and locations</li> <li>• locations of any traffic calming</li> <li>• existing and proposed levels to AHD</li> <li>• existing and proposed drainage</li> <li>• drainage calculations including overland flow</li> <li>• any details of existing and proposed easements and services affecting or benefiting the subject land.</li> </ul>	-
<b>Survey Plan</b>	<p>A <b>Survey Plan</b> must be prepared and certified by a registered surveyor. The Plan must extend to a minimum of 10 metres beyond the extent of the local overland flooding in the one per cent Annual Exceedance Probability (AEP) flood extents and include sufficient detail to conduct hydraulic modelling. The Plan, for example, must show (but is not limited to) building footprints, existing floor levels, existing structures such as sheds or fences.</p> <p>The Plan must include:</p> <ul style="list-style-type: none"> <li>• the Registered Surveyor's name, qualifications and signature</li> <li>• the boundary of the allotment of land and its location with respect to the road from which access to the allotment is gained</li> <li>• the location of any existing and proposed buildings including fences and the existing and proposed floor levels</li> </ul>	4.3

Plan	Description	Refer to Section in DCP
	<ul style="list-style-type: none"> <li>• existing or proposed floor levels to AHD</li> <li>• the location of any cut and fill proposed</li> <li>• the contours of the existing natural surface to AHD, at intervals of 100 millimetres per one per cent average grade of the allotment (for example if there is a two per cent grade the interval will be 200 millimetres). Only the one interval, however, shall be used for the complete Survey Plan</li> <li>• level and extent of the high area within the property including the contours of the existing natural surface according to the information required above for all development excluding residential development and/or filling for residential and agricultural purposes</li> <li>• sufficient information to prove that there will be no damming effect on the subject and adjoining allotments</li> <li>• the origin, nature and value of the data used to establish the levels of the survey and location and details of the nature and value of a temporary benchmark where the origin of the levels is greater than 200 metres.</li> </ul>	
<p><b>Traffic Management and Accessibility Plan</b></p>	<p>A <b>Transport Management and Accessibility Plan (TMAP)</b> is to be prepared by a suitably qualified consultant, in consultation with Council, Roads and Traffic Authority (RTA) and Ministry of Transport (MoT). The TMAP will provide the following details:</p> <ul style="list-style-type: none"> <li>• traffic/transport infrastructure requirements (based on detailed traffic modelling)</li> <li>• conceptual layouts of key (major) intersections along Spine Road, Bandon Road and Garfield Road West</li> <li>• staging requirements for road/transportation based infrastructure (linked to the provision of overall developed floorspace within the Precinct)</li> <li>• strategies to reduce car use</li> <li>• possible implementation of modal split targets.</li> </ul>	<p><b>3.1.3</b></p>
<p><b>Vegetation Management Plan</b></p>	<p>The <b>Vegetation Management Plan (VMP)</b> is to be submitted to Council as part of the subdivision DA for works in the environmental corridor area. The VMP is to be prepared in accordance with Clause 65 of the <i>Growth Centres SEPP Amendment (Riverstone West Precinct) 2009, North West Growth Centre Waterfront Land Strategy</i> and any other relevant guidelines by Department of Water and Energy (DWE).</p>	<p><b>4.6</b></p>
<p><b>Waste Management Plan</b></p>	<p>A <b>Waste Management Plan (WMP)</b> must be submitted in accordance with <i>Blacktown DCP 2006, Part O (Site Waste Management and Minimisation)</i>. The plans and/or accompanying documents (include the waste management plan) should include details of:</p> <ul style="list-style-type: none"> <li>• the volume and type of waste generated during construction and demolition</li> </ul>	<p><b>4.12</b></p>

Plan	Description	Refer to Section in DCP
	<ul style="list-style-type: none"> <li>• how waste is to be stored on site</li> <li>• method of disposal of recyclable and residual waste</li> <li>• ongoing management</li> <li>• bin type, number, size</li> <li>• location and design of waste storage areas/rooms (commercial)</li> <li>• method and frequency of collection</li> <li>• details of garbage chutes, where applicable</li> <li>• location of collection points for bin servicing</li> <li>• responsibility for movement of bins from storage areas to collection points and retrieved after collection</li> <li>• responsibility for ensuring the system is maintained in a clean condition free of odour and vermin</li> <li>• details on how contamination of the recycling will be minimised</li> <li>• details of collection truck vehicle manoeuvring.</li> </ul> <p>The WMP must demonstrate and achieve a diversion in the amount of waste generated by the development, that is the subject of each application, going to landfill.</p>	

## Lodgement Requirements for Development Applications

**Table 4** provides a description of the lodgement requirements for all DAs and the relevant sections they can be referred to in this DCP.

**Table 4:** Lodgement requirements for DAs

Lodgement Requirement	Description	Refer to Section in DCP
<b>A4 Notification Plan</b>	Refer to <b>Table 3</b> .	-
<b>Air and Odour Report</b>	An <b>Air and Odour Report</b> is must be prepared by a suitably qualified practitioner for all DAs within the 2OU odour buffer identified in <b>Section 4.10</b> of this DCP. The report must provide an assessment and identify necessary mitigation measures to minimise the potential environmental impacts from air pollutants generated by the proposed development.	<b>4.10</b>
<b>Building Plans</b>	<b>Building Plans</b> must show dimensioned floor plans, elevations of all facades, including a schedule of external finishes, colours and textures, sections showing heights and finished ground levels.	-
<b>Bushfire Evacuation Plan</b>	A site specific <b>Bushfire Evacuation Plan</b> shall be prepared in accordance with <i>Planning for Bush Fire Protection 2006</i> for each development. Evacuation Plans for each facility will include the protocols for the evacuation of the individual buildings during bush fire and other emergencies. Individual Evacuation Plans shall address the protocols for the timely relocation of staff/customers in the event that an emergency occurs, both within the Riverstone West Precinct or within the local area.  Evacuation Plans shall be provided to the Local Emergency Management Committee, Police, NSW Fire Brigade and NSW Rural Fire Service. Evacuation Plans shall comply with <i>AS 3745 -2002 Emergency Control Organisation and Procedures for Buildings, Structures and Workplaces</i> .	<b>4.7</b>
<b>Completed DA form</b>	Refer to <b>Table 3</b> .	-
<b>Contamination Report</b>	A <b>Contamination Report</b> that must be prepared by a practitioner with relevant tertiary qualifications, technical knowledge and a minimum of five years demonstrated experience in the contamination assessment and management field and be prepared in accordance with the relevant NSW Government legislation and guidelines as amended or superseded.  The <b>Contamination Report</b> must demonstrate how the development complies with the requirements of the Precinct-wide <b>Contamination Assessment and Management Plan</b> .	<b>4.5</b>
<b>Crime Risk Assessment Report (Safer by Design Evaluation)</b>	A <b>Crime Risk Assessment Report</b> must be prepared for each development to demonstrate how it addresses the objectives and performance outlined in <b>Appendix H</b> of this DCP. The report should also demonstrate consistency with <i>Safer by Design Guidelines (2002)</i> .	<b>5.6 Appendix H</b>
<b>Cut and Fill Plan</b>	Subdivision applications involving any landfill/excavation activities must provide a <b>Cut and Fill Plan</b> . The Cut and Fill Plan must be prepared by a practitioner that fulfils the	<b>4.2 Appendix C</b>

Lodgement Requirement	Description	Refer to Section in DCP
Cut and Fill Plan (cont.)	<p>requirements of the <i>Blacktown City Council Engineering Guide for Development 2005</i> for the preparation of such plans. The plan must provide enough detail for Council to determine that the proposal will function in accordance with the development controls of this DCP, relevant section of the <i>Blacktown City Council Engineering Guide for Development 2005</i> and <i>Works Specification – Civil 2005</i> and good engineering practice. The Plan must:</p> <ul style="list-style-type: none"> <li>• be accompanied by a statement providing full justification for the proposed works, demonstrating compliance with the Floodplain Management Strategy (refer to <b>Appendix C</b> of this DCP). The statement must also demonstrate consideration of the potential impacts on: <ul style="list-style-type: none"> <li>- soil erosion</li> <li>- floodways/stormwater runoff</li> <li>- groundwater/surface water</li> <li>- contaminated material (existing or imported)</li> <li>- existing trees and vegetation</li> <li>- water pollution</li> <li>- dust (air pollution)</li> <li>- traffic with in regards to the transportation of landfill. This may be required dependent upon the volume required to the transported to the site</li> <li>- development consent/Construction Certificate requirements</li> </ul> </li> <li>• show the existing pre-development and proposed finished ground levels to enable an assessment of the extent of earthworks proposed and assessment of the relationship between the finished road levels and proposed building platform levels</li> <li>• be drawn to an appropriate scale (1:100, 1:200, 1:500, 1:1000 or 1:2000 should be used to adequately define detail) and indicate: <ul style="list-style-type: none"> <li>- levels to be provided at AHD</li> <li>- finished (to be shown in bold) and existing or natural ground level contours, which are to be displayed as follows</li> <li>- Total existing ground relief over the subject site: <ul style="list-style-type: none"> <li>▪ &lt;1m – contours at 100mm</li> <li>▪ &lt;2m – contours at 200mm</li> <li>▪ &gt;2m – contours at 500mm</li> </ul> </li> </ul> </li> <li>• provide sufficient levels to accurately define contours. Particular care should be taken at changes in grade, natural watercourses/creek lines and other major features</li> </ul>	



Lodgement Requirement	Description	Refer to Section in DCP
	<ul style="list-style-type: none"> <li>show the height above existing ground levels on adjoining properties where retaining walls are used for retention of landfill on the site.</li> </ul>	
<b>Environmental Assessment for Intermodal Terminal (IMT)</b>	<p>An <b>Environmental Assessment (EA)</b> is required for the proposal of an Intermodal Terminal (IMT) in Riverstone West Precinct.</p> <p>The EA must be prepared by a suitably qualified consultant and be submitted with the master plan for the site. The EA must address the impact of the proposed IMT on:</p> <ul style="list-style-type: none"> <li>available rail infrastructure</li> <li>train paths</li> <li>noise, particularly during the operating hours of 12am to 5am for neighbouring residents</li> <li>vibration and other rail related impacts.</li> </ul>	<b>6.4</b>
<b>Heritage Impact Statement</b>	<p>A <b>Heritage Impact Statement</b> must be prepared by a suitably qualified practitioner. It must consist of a statement demonstrating the heritage significance of a heritage item, assessment of the impact that proposed development will have on that significance and proposals for measures to minimise that impact.</p>	<b>4.9</b>
<b>Integrated Water Cycle Management Report</b>	<p>An <b>Integrated Water Cycle Management Report (IWCMR)</b> must be compiled for each individual lot. The report must:</p> <ul style="list-style-type: none"> <li>must be compiled in accordance with the requirements set out in <b>Appendix C and D</b></li> <li>describe surface water quality management on the lot and demonstrate compliance with <b>Section 4.3</b> of this DCP.</li> <li>nominate flood management and demonstrate compliance with the Floodplain Management Strategy as described in <b>Appendix C</b> , including cut and fill and Flood Emergency Response Plan</li> <li>describe site drainage and demonstrate compliance with the development controls</li> <li>provide an Erosion and Sediment Control Plan or a Soil and Water Management Plan, as appropriate, for construction phases of the development, including provision for staging the development</li> <li>nominate maintenance for trunk stormwater infrastructure</li> <li>demonstrate how the development complies with the requirements of the Precinct-wide <b>Integrated Water Cycle Management Strategy</b>.</li> <li>Include a Structural Assessment for all developments involving the construction of structures within the extent of the 1 in 100 year ARI flood level, in accordance with <b>Appendix D</b> of this DCP.</li> </ul>	<b>4.3</b> <b>Appendix C and D</b>

Lodgement Requirement	Description	Refer to Section in DCP
<b>Landscape Plan</b>	<p>A <b>Landscape Plan</b> is to be prepared, in accordance with the <b>Landscape Strategy</b>, and be submitted for all DAs. Information on the Landscape Plan should include:</p> <ul style="list-style-type: none"> <li>• north point</li> <li>• scale</li> <li>• contours and spot levels</li> <li>• all parks and streets</li> <li>• main structures on the site (buildings, car parking, driveways and services areas, walls, fences, paved areas, storage areas etc)</li> <li>• drainage structure and above ground water storage tanks</li> </ul>	<b>5.4</b>
<b>Landscape Plan (cont.)</b>	<ul style="list-style-type: none"> <li>• existing trees to be removed or retained</li> <li>• proposed planting areas</li> <li>• proposed turfed areas</li> <li>• plant species schedule including botanical and common names</li> <li>• details of seating and other outdoor furniture including bins, bollards and signs</li> <li>• details of paving, fencing, wall and edge treatments</li> <li>• lighting</li> <li>• irrigation systems and water requirements</li> <li>• sections and/ or elevations where necessary to describe special features or alterations in levels</li> <li>• name and contact details of the landscape architect.</li> </ul> <p>Maintenance responsibilities of the landscaped areas should be defined whether by private or Council. Any public open space areas to be maintained by Council need to be designed in accordance with Council's maintenance requirements.</p> <p>All streetscape designs within the Landscape Plan must be in accordance with RTA guidelines.</p>	
<b>Materials Sample Board of external colours and finishes</b>	A Materials Sample Board must be submitted detailing external colours and finishes.	<b>5.2.6</b>
<b>Noise and Vibration Impact Assessment and Management Plan</b>	A <b>Noise and Vibration Impact Assessment and Management Plan</b> must be prepared by a suitably qualified consultant. It must provide an assessment of noise and vibration impacts and identify necessary mitigation measures to minimise the potential environmental impacts from noise and vibration generated by the proposed development. Where the development adjoins the rail corridor, this must also include an assessment of electrolysis risk.	<b>4.11</b>
<b>Photomontages</b>	Colour photomontages of the proposed development in its context must be submitted.	-

Lodgement Requirement	Description	Refer to Section in DCP
<b>Salinity Report</b>	<p>A <b>Salinity Report</b> must be prepared by a practitioner with relevant tertiary qualifications, technical knowledge and a minimum of five years demonstrated experience in the salinity assessment and management field and be prepared in accordance with the <i>Western Sydney Salinity Code of Practice 2004</i> as amended or superseded.</p> <p>The <b>Salinity Report</b> must demonstrate how the development complies with the requirements of the Precinct-wide <b>Salinity Assessment and Management Plan</b>. Detailed salinity investigation must be undertaken for any proposed earthworks. In this regard, it must address:</p> <ul style="list-style-type: none"> <li>• site layout and levels</li> <li>• volume of earthworks</li> <li>• depths of cut and fill.</li> </ul> <p>in accordance with <b>Figure C2</b> and <b>C3</b> in <b>Appendix C Floodplain Management Plan</b> of this DCP.</p>	<b>4.4</b>
<b>Scale model</b>	<p>A scaled model should be provided for proposed building development in the B7 Business Park zone. A scaled model at either 1:100 or 1:200 of the proposed development should also include reference to adjoining properties.</p>	-
<b>Shadow Diagrams</b>	<p>Shadow diagrams for 9am, 12 noon and 3pm at 21 December, 21 June and 21 March shall be prepared for the B7 Business Park Zone only. For commercial and light industrial sites, shadow diagrams must be prepared demonstrating that communal areas receive two hours of solar access between 11am and 3pm on 21 June. Such diagrams should be prepared by an appropriate professional, be based on a survey of the site and buildings on adjoining sites and include details of finished ground levels.</p>	-
<b>Site Analysis Plan</b>	Refer to <b>Table 3</b> .	-
<b>Statement of Environmental Effects</b>	Refer to <b>Table 3</b> .	-
<b>Subdivision Plan</b>	Refer to <b>Table 3</b> .	-
<b>Traffic Impact Report</b>	<p><b>The Traffic Impact Report</b> must address the traffic impacts of the proposal on the local road network within the Precinct and assess the adequacy of on-site parking.</p>	<b>5.5.2</b>
<b>Tree Survey Plan/Arborist Report</b>	<p>The <b>Tree Survey Plan/Arborist Report</b> must identify existing trees, trees to be removed and trees to be retained.</p>	<b>3.5</b>
<b>Waste Management Plan</b>	Refer to <b>Table 3</b> .	-
<b>Work as Executed Plan</b>	<p>A <b>Works as Executed Plan</b> is a drawing that must be prepared by a practitioner that fulfils the requirements of the <i>Blacktown City Council Engineering Guide for Development 2005</i> for the preparation of such plans. The Plan must be prepared in accordance with the relevant section <i>Blacktown City Council Engineering Guide for Development 2005</i> and <i>Works Specification – Civil 2005</i>.</p>	-





# 2.0

## Riverstone West Precinct



NSW GOVERNMENT  
**Department of Planning**

## 2.0 RIVERSTONE WEST PRECINCT

This section of the DCP contains objectives and development controls relating to the vision for the future development of the Precinct and the Indicative Layout Plan (ILP).

### 2.1 Vision

The vision for Riverstone West is to create an attractive employment precinct that provides for a diverse range of job opportunities to support the growing residential areas in Sydney's North West.

The Precinct will be characterised by a mix of industrial, light industrial and commercial uses that will be supported by accessible public transport, small scale retail and community facilities such as child care centres.

A pleasant and safe work environment is envisaged through the provision of pedestrian-friendly streets, good landscape design, parks and open spaces with access to riparian corridors, and cycleways as well as encouraging high-quality built form based on ecologically sustainable design (ESD) principles.

Focal points around Riverstone and Vineyard Stations will be created by providing pedestrian-focused main streets with access to the stations. Small shops, cafes and restaurants will be encouraged to activate station areas and provide areas for social interaction.

The Precinct will incorporate a Spine Road that will improve the amenity of Riverstone township by providing an alternative route for heavy vehicles to pass through. A crossing beneath the rail line (underpass) at Bandon Road will provide access to the Spine Road for vehicles travelling from the west.

Streets within the vicinity of Riverstone and Vineyard Stations will maximise pedestrian amenity and safety whilst providing for the requirements of large and heavy vehicles.

Riverstone West will contain four development sub-precincts:

- **Vineyard Business Area**

Vineyard Business Area at Vineyard Station, will comprise small warehouse buildings with ancillary offices (trade units). Similar to the business park, this light industrial area will be focused along a main street and will be activated by display/showrooms and small scale retail.

- **Riverstone West Industrial and Intermodal Precinct**

The Riverstone West Intermodal Precinct between the Vineyard Business Area and the Riverstone West Business Park, will feature an intermodal terminal and large warehousing and distribution facilities.

- **Riverstone West Business Park**

Riverstone Business Park at Riverstone Station will accommodate four to six storey commercial buildings set in a campus environment. This area is will be vibrant and pedestrian friendly, focused along a main street with key active frontages and a civic plaza adjoining the entry to Riverstone Station. The Business Park will complement Riverstone town centre by providing a commercial focus and high value employment within short walking distance of the retail activity in the town centre.

- **Recreation Precinct**

The Recreation Precinct on the western side of the Spine Road, along the Eastern Creek riparian corridor, will include private sporting fields and an associated sports centre in the north, and passive recreational open space along the length of the riparian corridor.

Refer to **Figures 3 and 4**.

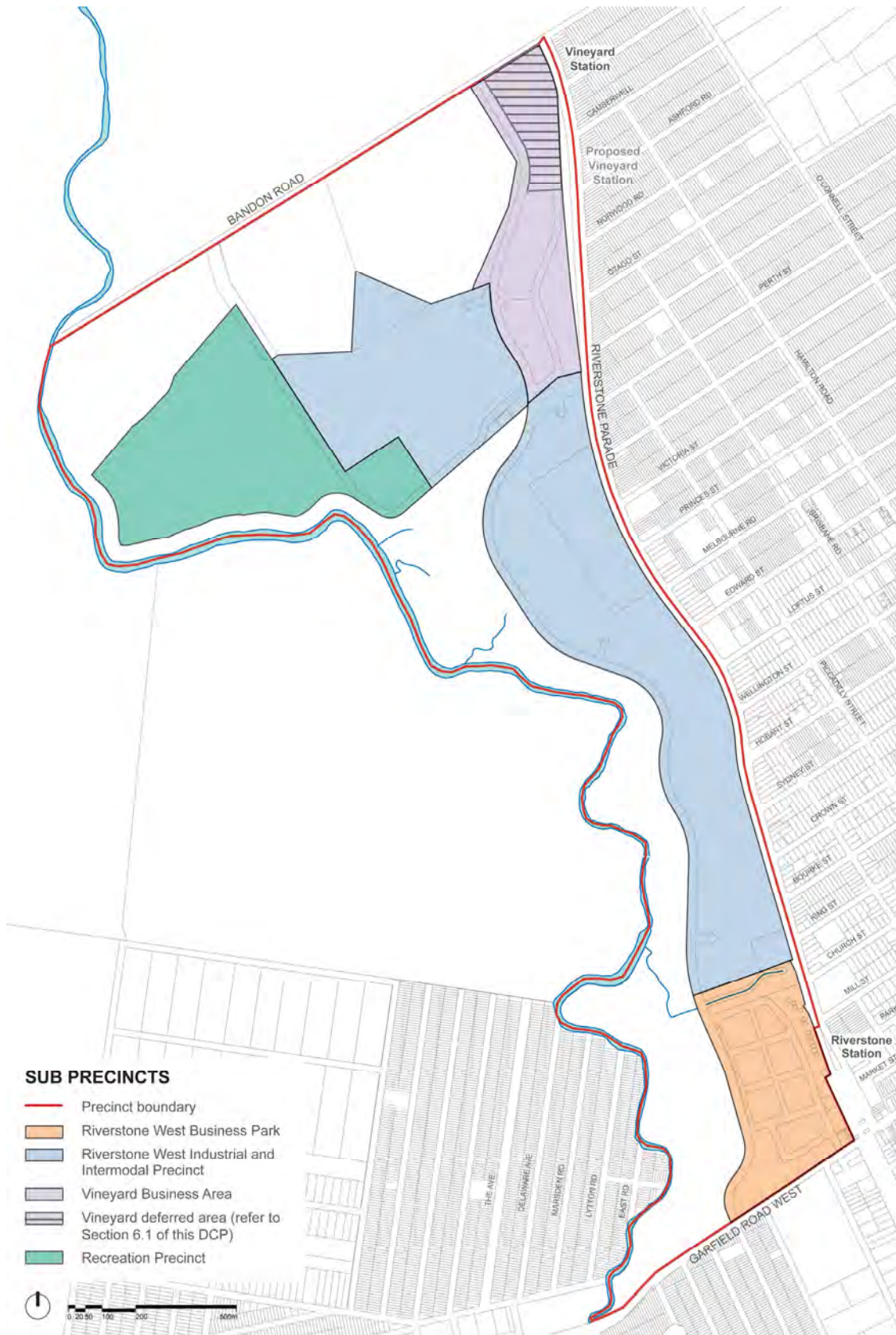


Figure 3: Riverstone West sub-precincts





**Figure 4:** Vision for Riverstone West

## 2.2 Development Objectives

The development objectives of Riverstone West are to:

- 1) maximise employment opportunities within Riverstone West for the local and regional communities
- 2) ensure development does not cause any offsite flood impacts that are unacceptable to Council
- 3) integrate water cycle management and development such that the developable area is maximised whilst potential impacts of the development on the water cycle and in particular the receiving waters of Eastern Creek are minimised
- 4) create distinct employment areas based on employment types such as industrial, light industrial and commercial
- 5) maximise employment uses around Riverstone and Vineyard Stations
- 6) facilitate development that complements and supports the existing Riverstone town centre
- 7) contribute to employment targets set out by the Department of Planning
- 8) provide a road system that relieves heavy vehicle traffic movement around Riverstone town centre and Garfield Road
- 9) provide a sustainable development that minimises its impacts on surrounding areas
- 5) ensure development is economically viable
- 6) provide efficient access to public transport
- 7) provide for services that support the daily needs of the workforce
- 8) mitigate odour impacts from the Sydney Water Corporation Sewerage Treatment Plant through landscape design, building layout design and the location of land uses
- 9) recognise the heritage significance of No. 4 Garfield Road (the former Butcher Shop)
- 10) create linkages between Riverstone West and Riverstone town centre and adjoining urban areas
- 11) address potential impacts of climate change on the development
- 12) protect and enhance riparian corridors identified in the Riverstone West ILP
- 13) protect and enhance existing and future biodiversity values across the site.

## 2.3 Indicative Layout Plan

The ILP (ILP) (**Figure 4**) illustrates the broad level development outcomes for the Riverstone West Precinct. It indicates the land uses, road layout and key pedestrian paths, public focal points, open space and stormwater management measures for Riverstone West.

### OBJECTIVES

The ILP objectives are to:

- 1) To ensure development of the Precinct is undertaken in a coordinated manner consistent with the Riverstone West ILP

### CONTROLS

- 1) All development is to be undertaken generally in accordance with the ILP at **Figure 5** subject to compliance with the objectives and development controls set out in this DCP.
- 2) Where variation from the ILP is proposed, the applicant is to demonstrate that the proposed development is consistent with the vision and development objectives for the Precinct set out in **Section 2** and the objectives and controls in **Sections 3, 4, 5** and **6** of this DCP.



Figure 5: Riverstone West Indicative Layout Plan



# 3.0

## Overall Framework



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**Department of Planning**

## 3.0 OVERALL FRAMEWORK

### 3.1 Street Network and Design

#### OBJECTIVES

The street network and design objectives are to:

- 1) provide a hierarchy of interconnected streets that gives safe, convenient and clear access within and beyond the Precinct
- 2) ensure that the hierarchy of the streets is clearly discernible through variations in carriageway width, on-street parking, street tree planting and pedestrian amenities
- 3) provide an acceptable level of access, safety and convenience for all street and road users within the Riverstone West Precinct, whilst ensuring emergency access and egress and acceptable levels of amenity and minimising the negative impact of traffic
- 4) provide a clear and permeable movement network for pedestrians and cyclist along streets and paths
- 5) enhance the outlook, setting and amenity of subdivisions adjoining open space and other public areas
- 6) promote passive surveillance of publicly accessible areas, thereby increasing safety
- 7) provide sufficient carriageway and verge widths to allow streets to perform their designated functions within the street network and to accommodate public utilities and drainage systems
- 8) encourage the use of streets by pedestrians and cyclists and to allow trucks, cars, buses and other users to proceed safely without unacceptable inconvenience or delay
- 9) provide blocks that can accommodate a range of lot sizes with solar access
- 10) facilitate a subdivision pattern that will reinforce the employment sub-precincts.

#### CONTROLS

##### 3.1.1 Street Network and Hierarchy

- 1) The street network and road hierarchy is to be provided in accordance with **Figure 6** and **Table 5**.
- 2) Fixed roads shall be provided in accordance with **Figure 7**.



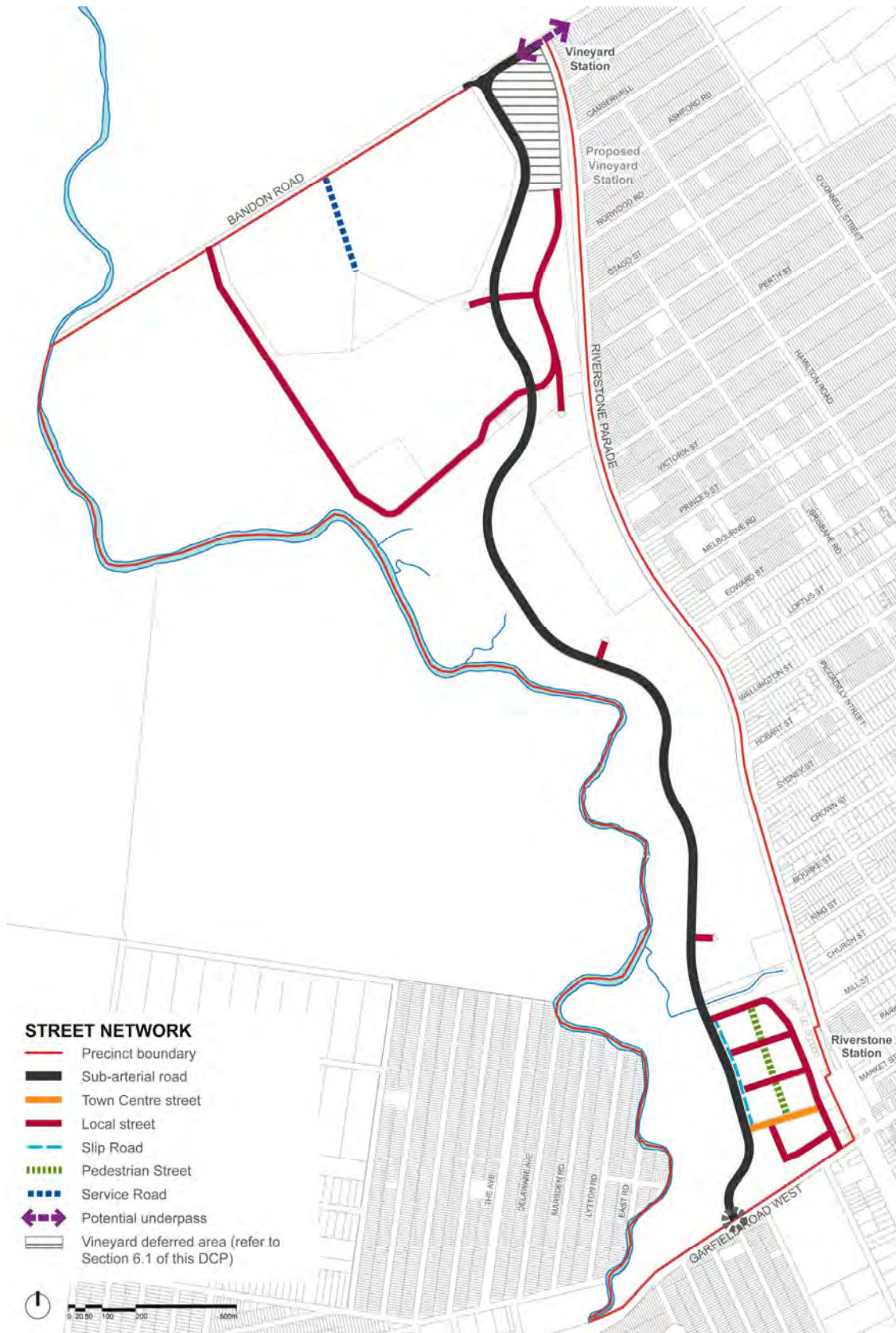


Figure 6: Street Network and Hierarchy





Figure 7: Fixed Roads

### 3.1.2 Street Types

3) The street types are to be provided generally in accordance with **Table 5** and **Figures 8 to 14**.

**Table 5:** Street Types

Street Type	Description
<b>Sub-arterial</b>	<p>Accommodates heavy vehicle movement and provides access to the Riverstone West Industrial and Intermodal Precinct. Shared paths will be provided for pedestrian and cycle use on the eastern side of the road, with a pedestrian footpath on the western side. Driveway access from sub-arterial roads is not permitted.</p> <p>Spine Road is a sub-arterial road in Riverstone West. Refer to <b>Figures 8, 9 and 10</b>.</p>
<b>Town centre street</b>	<p>Designed to create a pleasant and comfortable pedestrian environment. Amenity and safety is to be maintained through wide shaded footpaths, regular traffic calming and crossing points and no loading or unloading permitted on the street. Public transport routes can be accommodated. On-street parking is to be provided on both sides of the street, contributing to street activity and providing a buffer between pedestrians and cars on the carriageway.</p> <p>Town Centre streets in Riverstone West include Riverstone Business Park Main Street and Vineyard Main Street. Refer to <b>Figures 11 and 12</b>.</p>
<b>Local street</b>	<p>Provide local access to industrial and business sites. These streets are designed to slow traffic in order to give priority to pedestrians and cyclists. Amenity and safety is to be maintained by introducing various traffic calming measures. On-street parking is provided on both sides of the street. Local streets will facilitate loading and unloading of vehicles.</p> <p>Refer to <b>Figure 13</b>.</p>
<b>Slip road</b>	<p>Mediate access from the sub-arterial road to commercial properties by providing separate lanes along the eastern side of the sub-arterial road. Slip roads will be separated from the sub-arterial road with a landscaped buffer and will comprise a one-way carriageway and a parking lane, providing a safer environment for people to disembark from their vehicles to access commercial buildings from the front. Shared paths are provided for pedestrian and cycle use.</p> <p>Refer to <b>Figure 10</b>.</p>
<b>Pedestrian street</b>	<p>Specifically designed to accommodate pedestrian movement in Riverstone West Business Park and Vineyard Business Area. Vehicular access will be restricted to service and emergency vehicles only.</p> <p>Refer to <b>Figure 14</b>.</p>

**Note:** Street/Median Tree plantings should be in accordance with RTA's "Clear Zone" requirements and the Landscape Strategy for Riverstone West Precinct.

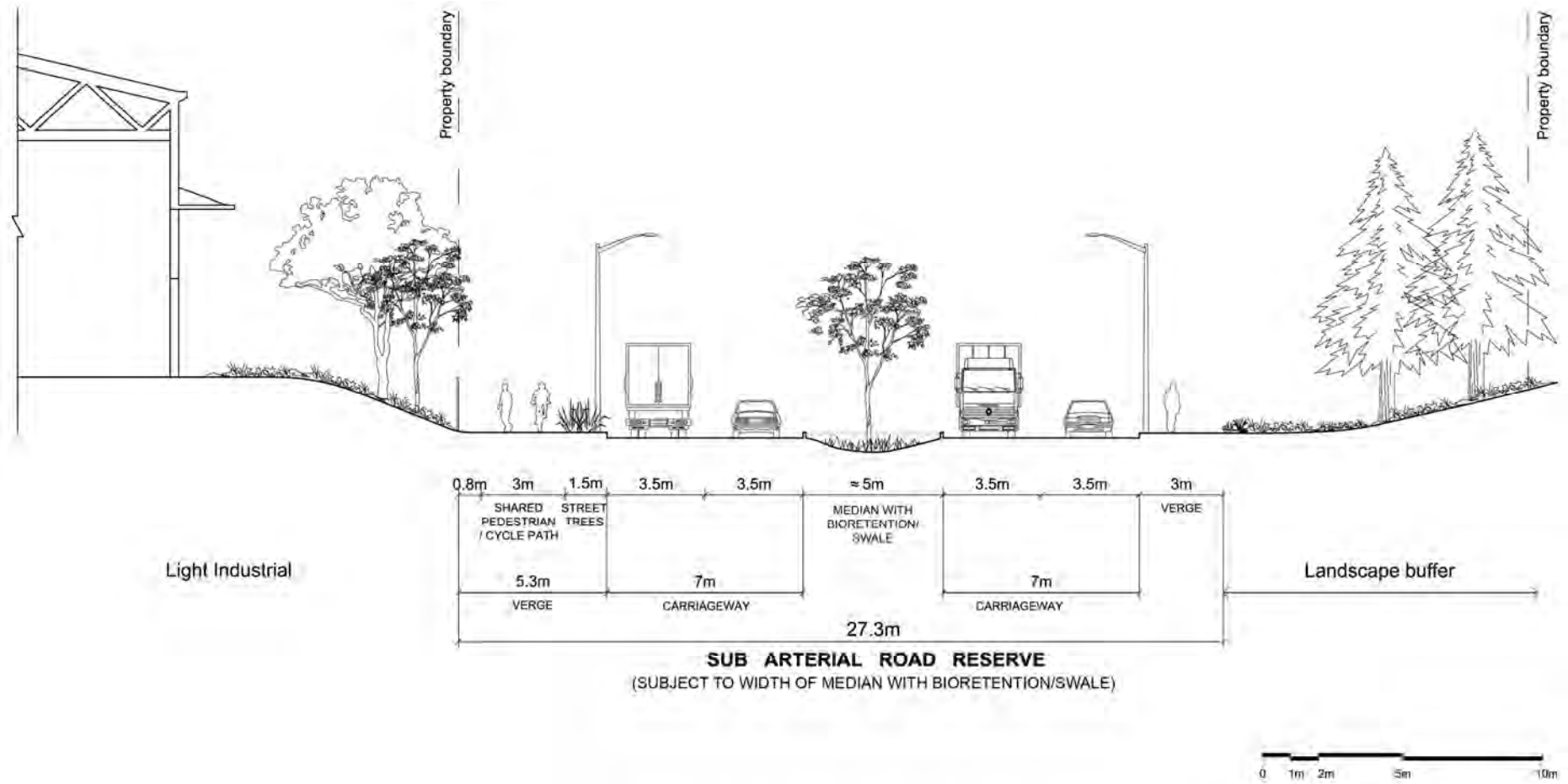


Figure 8: Sub-arterial road in Vineyard Business Area

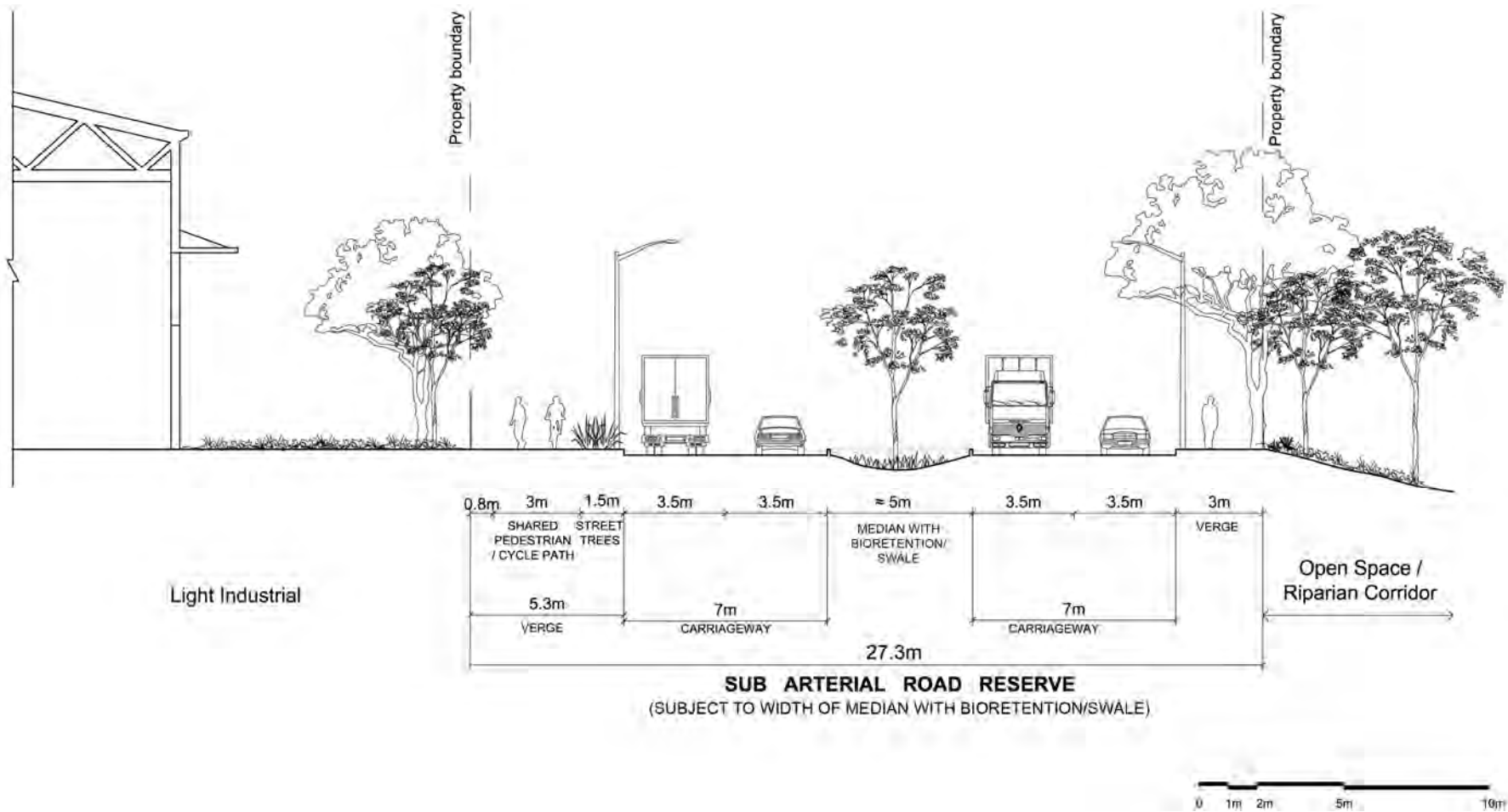


Figure 9: Sub-arterial road in Riverstone West Industrial and Intermodal precinct

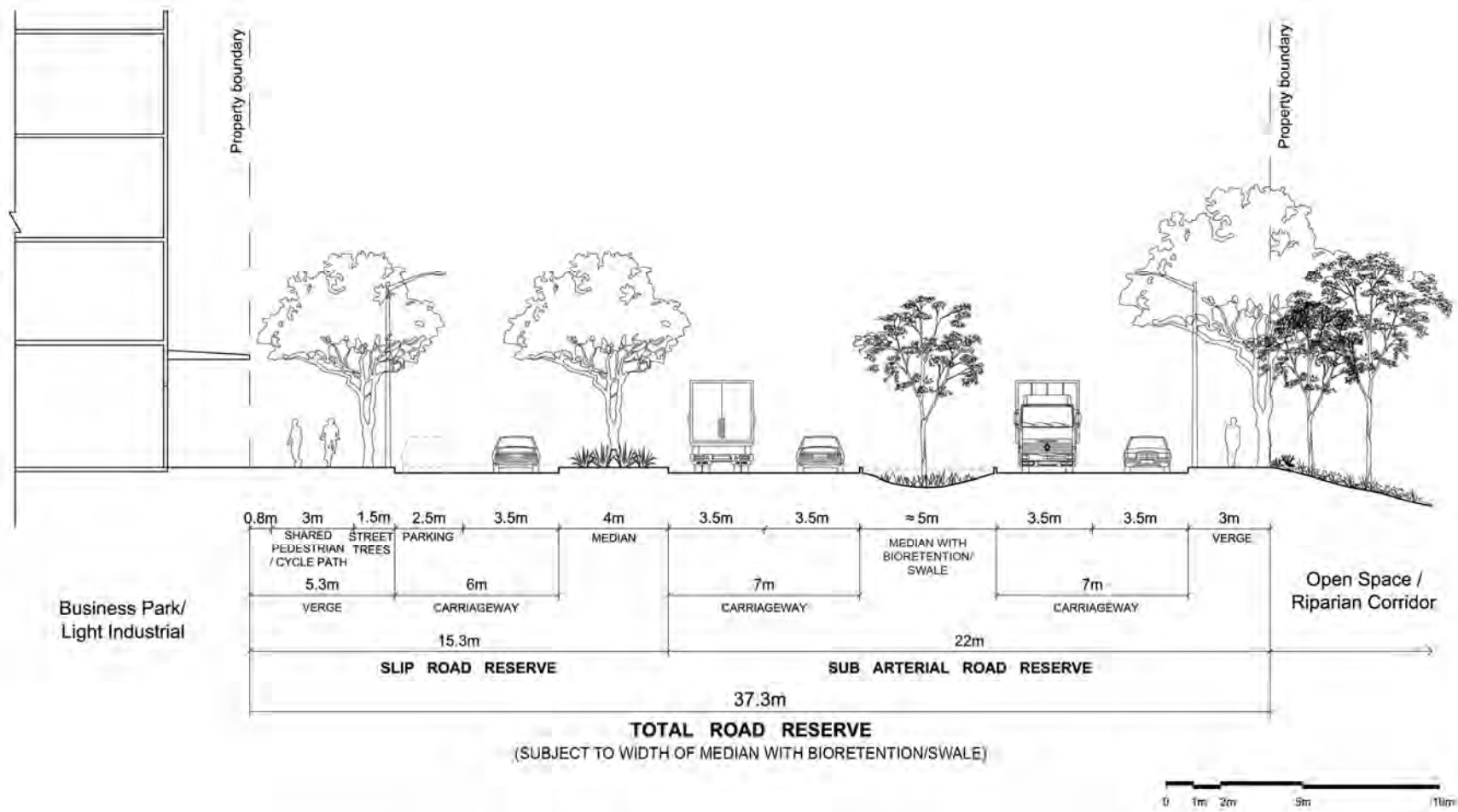


Figure 10: Sub-arterial road and Slip Road in Riverstone West Business Park

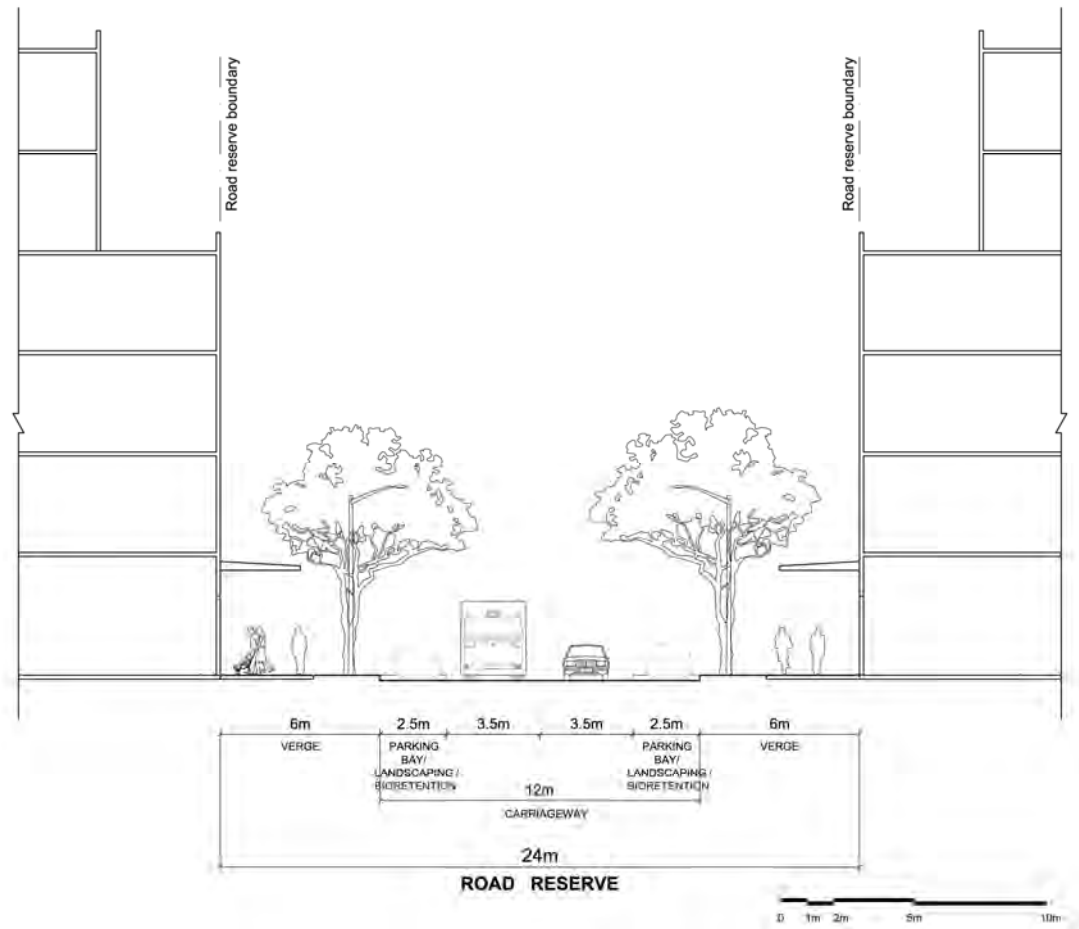


Figure 11: Riverstone Business Park Town Centre Street section

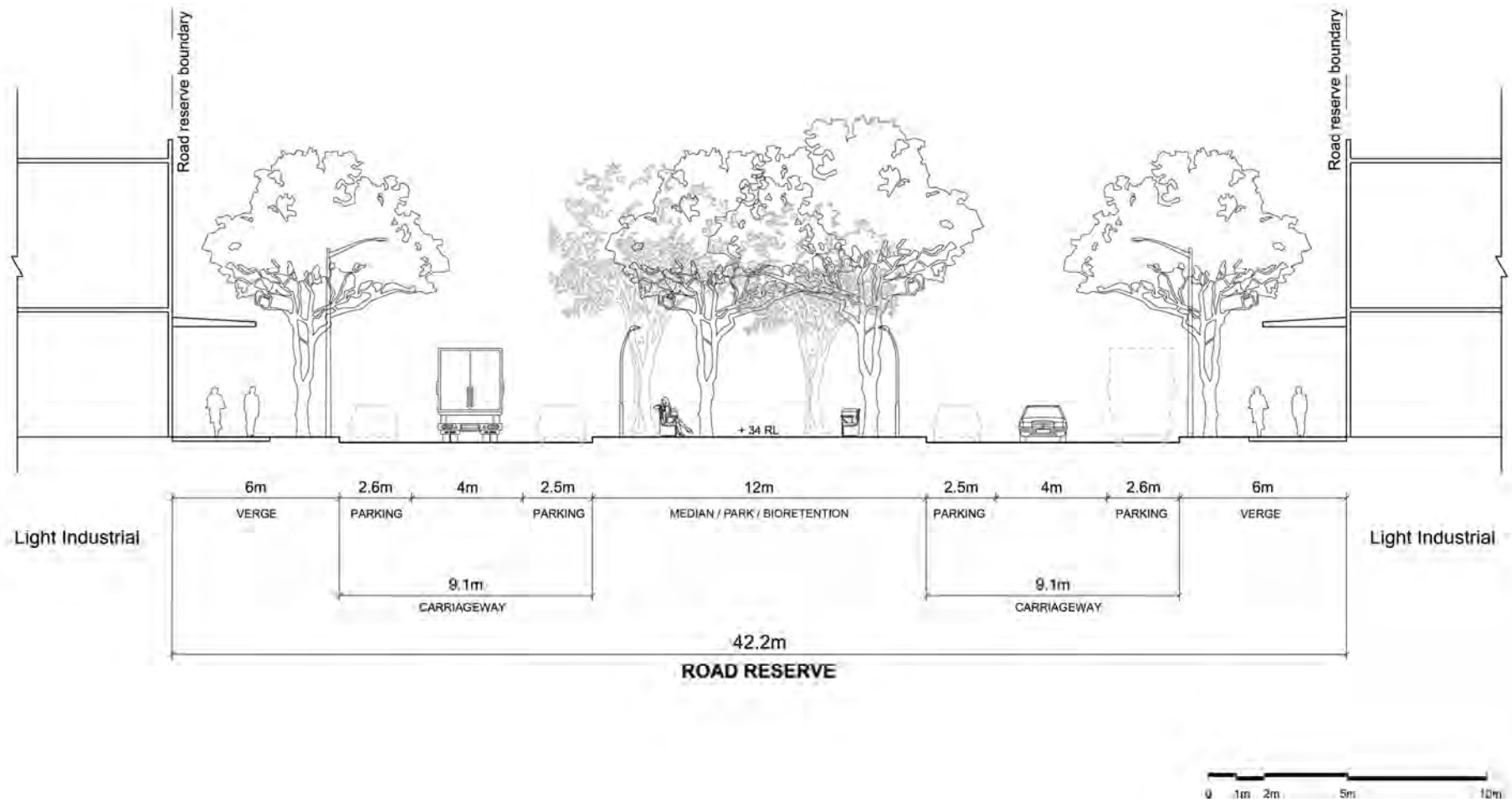


Figure 12: Vineyard Town Centre Street section

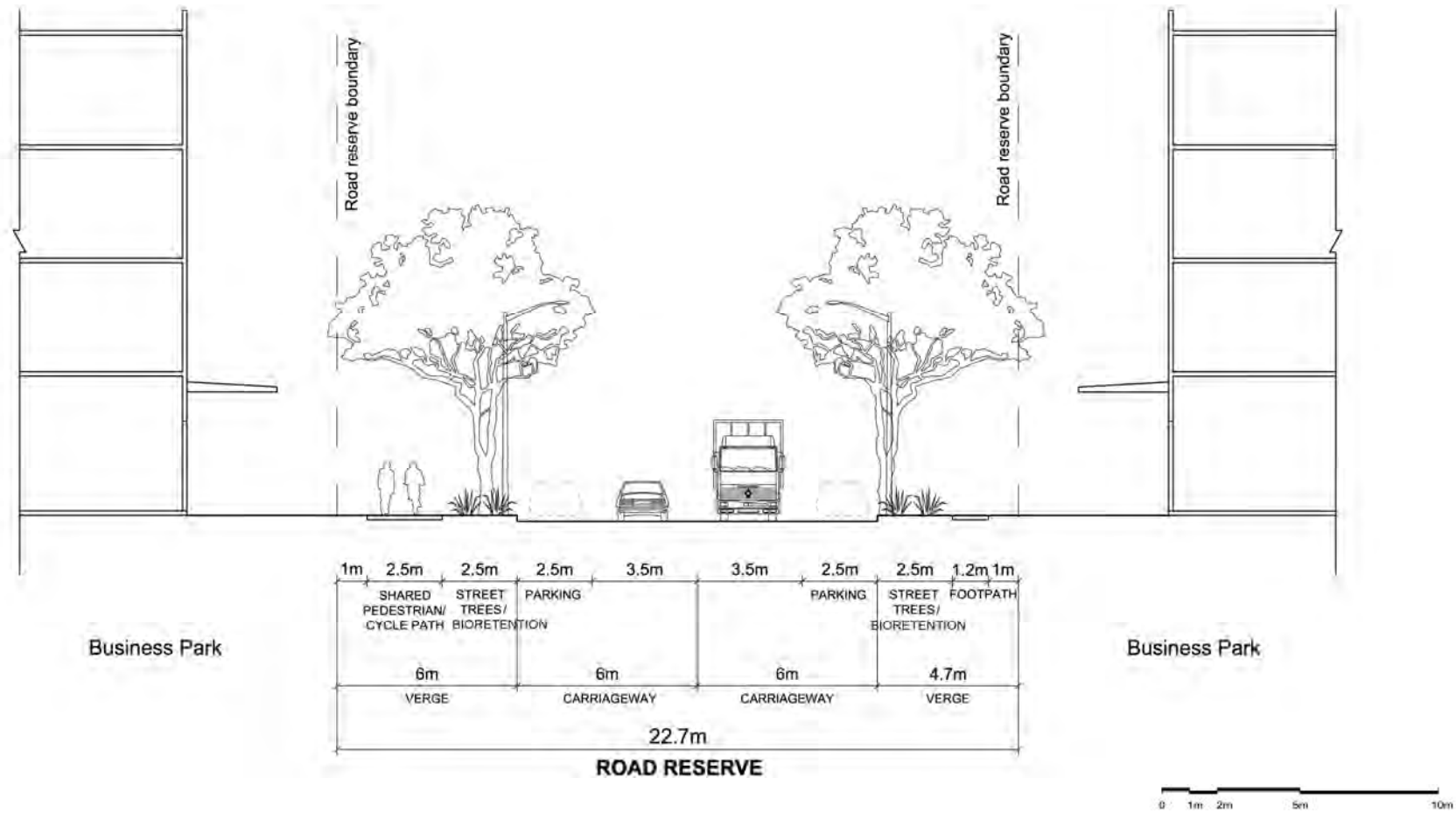


Figure 13: Typical local street section (Riverstone West Business Park)



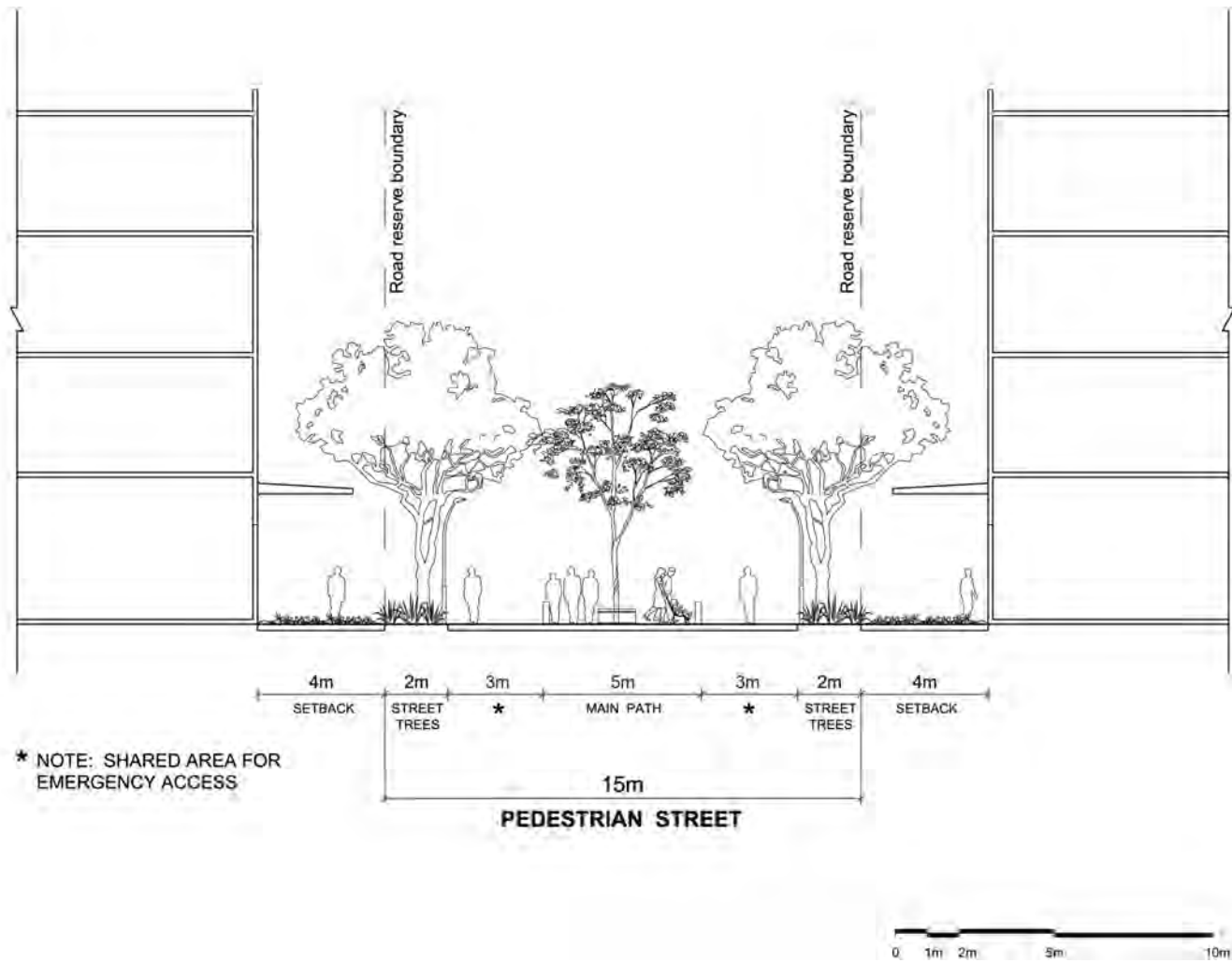


Figure 14: Pedestrian Street in Riverstone West Business Park

### 3.1.3 Street Design and Traffic Management

- 1) A **Transport Management and Accessibility Plan (TMAP)** must be prepared and adopted by Council prior to the DA process. Refer to **Table 3** in **Section 1.7.3 of this DCP**.
- 2) Streets are to be provided in accordance with the minimum cross-sections in **Figures 8 to 14**.
- 3) Spine Road intersections are to be T-intersections, roundabouts or controlled by other appropriate traffic management treatments to slow and control traffic. Refer to **Figure 15**.
- 4) No right-hand turns at T-intersections will be permitted along the Spine Road unless a controlled intersection treatment is provided to Council's satisfaction.
- 5) Intersection treatments at T-intersections along the Spine Road must demonstrate that traffic movement and pedestrian crossing can be catered for with minimal traffic impact on the Spine Road.
- 6) No direct vehicular access to Spine Road will be permitted.
- 7) Roundabouts, street crossfalls, longitudinal gradient, vehicle-turning movements and sight distances are to comply with *Blacktown City Council Engineering Guide for Developments (2005)* and relevant Australian Standards.
- 8) Barrier kerbs are to be used within the entire Precinct.
- 9) Any DA proposing trees within the road carriageway is to be accompanied by:
  - a) Details relating to services provision (for example location and designs of street lighting, the impact on manoeuvrability of trucks) and location of future driveway access points).
  - b) A Road Safety Audit prepared in accordance with RTA Guidelines.
- 10) Design measures such as physical barriers, landscape treatment and signage is required where threshold treatment is proposed to a public road so as to prevent pedestrians mistaking them for pedestrian crossings. As such, proposed design measures are to meet the requirements of the RTA's Technical Direction TDT 2001/4. Any proposed threshold treatments need to be approved by Council via the Local Traffic Committee.



Figure 15: Traffic Management

## 3.2 Block Layout

### OBJECTIVES

The block layout objectives are to:

- 1) provide efficient block sizes to accommodate a range of employment uses
- 2) provide a clear and walkable block layout in areas around the Riverstone and Vineyard Stations in order to encourage public transport use.

### CONTROLS

#### 3.2.1 General

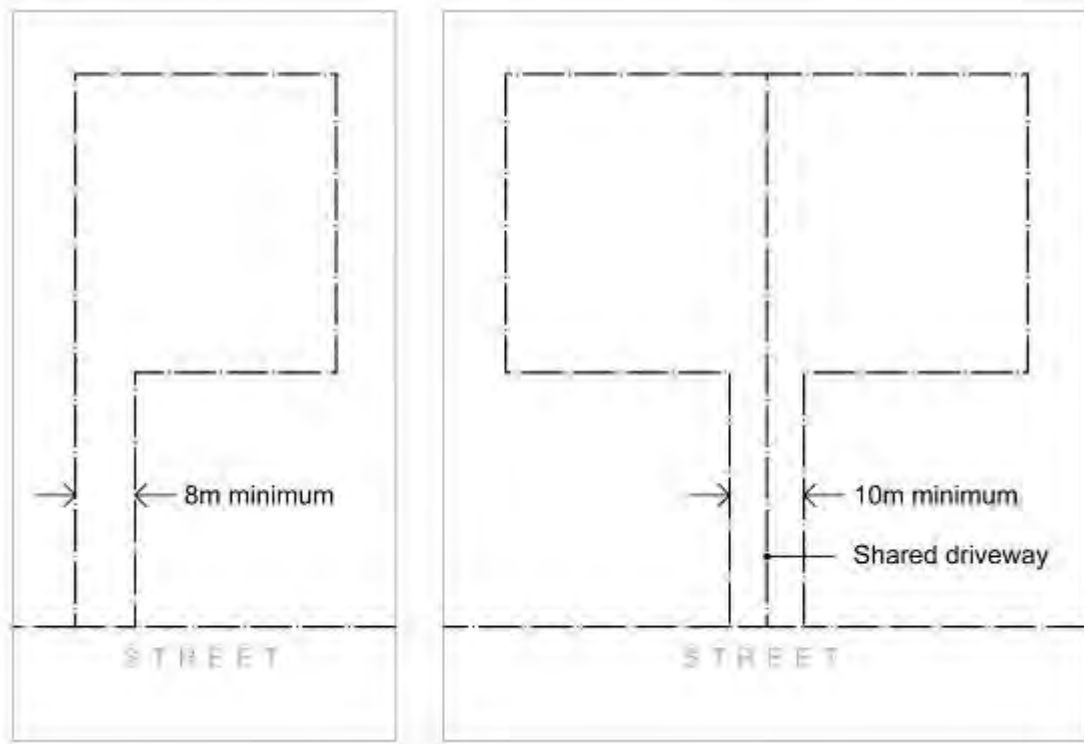
- 1) The maximum block dimensions in Vineyard Business Area are 200 metres by 350 metres.
- 2) The maximum block dimensions in Riverstone West Business Park are 120 metres by 220 metres.

#### 3.2.2 Battle Axe Lots

- 1) All battle axe handles should be provided with a minimum concrete pedestrian path 1.2 metres wide and set one metre off from the adjacent kerb face on one side of the handle.
- 2) A 1.2 metre high safety fence should be provided between the face of kerb and the concrete path to prevent any incursion by pedestrians into the path of vehicles. The one metre offset is required to prevent any overhanging objects such as wing mirrors from hitting pedestrians.
- 3) There shall be a maximum of two lots per battle axe handle.
- 4) A minimum eight metres by eight metres splay must be provided at each end of the handle. Bigger splays will be required where truck-turning movements cannot support the suggested splays. A truck swept path plan must be provided on lodgement of the initial DA to assist Council officers in determining the required minimum splay required.
- 5) Side access onto battle-axe handle from adjoining lots will not be permitted.
- 6) Battle axe handles must be drained through a stormwater treatment device that is acceptable to Council.
- 7) Battle-axe handles should be landscaped on both sides to improve the amenity of the approach into the rear sites.
- 8) The maximum length of a battle axe handle is 75 metres. The handle should have a concrete carriageway of seven metres. The total handle width should be set at 11 metres.
- 9) The minimum allotment dimensions for battle axe lots must be provided in accordance with **Table 6** and **Figure 16**.

**Table 6:** Battle axe allotment dimensions

Allotment Dimension	Minimum Width
Battle axe allotment, measured at the building line	35m
Battle axe handle, single access	8m
Battle axe handle, shared access	10m with additional turning area



**Figure 16:** Battle axe lot subdivision

### 3.3 Public Transport

#### OBJECTIVES

The public transport objectives are to:

- 1) encourage the use of public transport through the provision of integrated bus routes, pedestrian and cycle routes
- 2) encourage the provision and use of public transport within Riverstone West.
- 3) ensure clear, safe pedestrian links to public transport.

#### CONTROLS

- 1) Bus stops should be provided generally in accordance with **Figure 17** and be indicated on the subdivision DA drawings where the bus route is known. The final location of bus stops will be determined by bus operators and Blacktown City Council in consultation with Ministry of Transport.
- 2) Bus stops should be provided in accordance with subdivision/development staging timing, on-street, near the departure sides of signalised intersections and not within indented bays. Bus shelters are to be provided at key stops and installed at the subdivision construction stage by the developer.



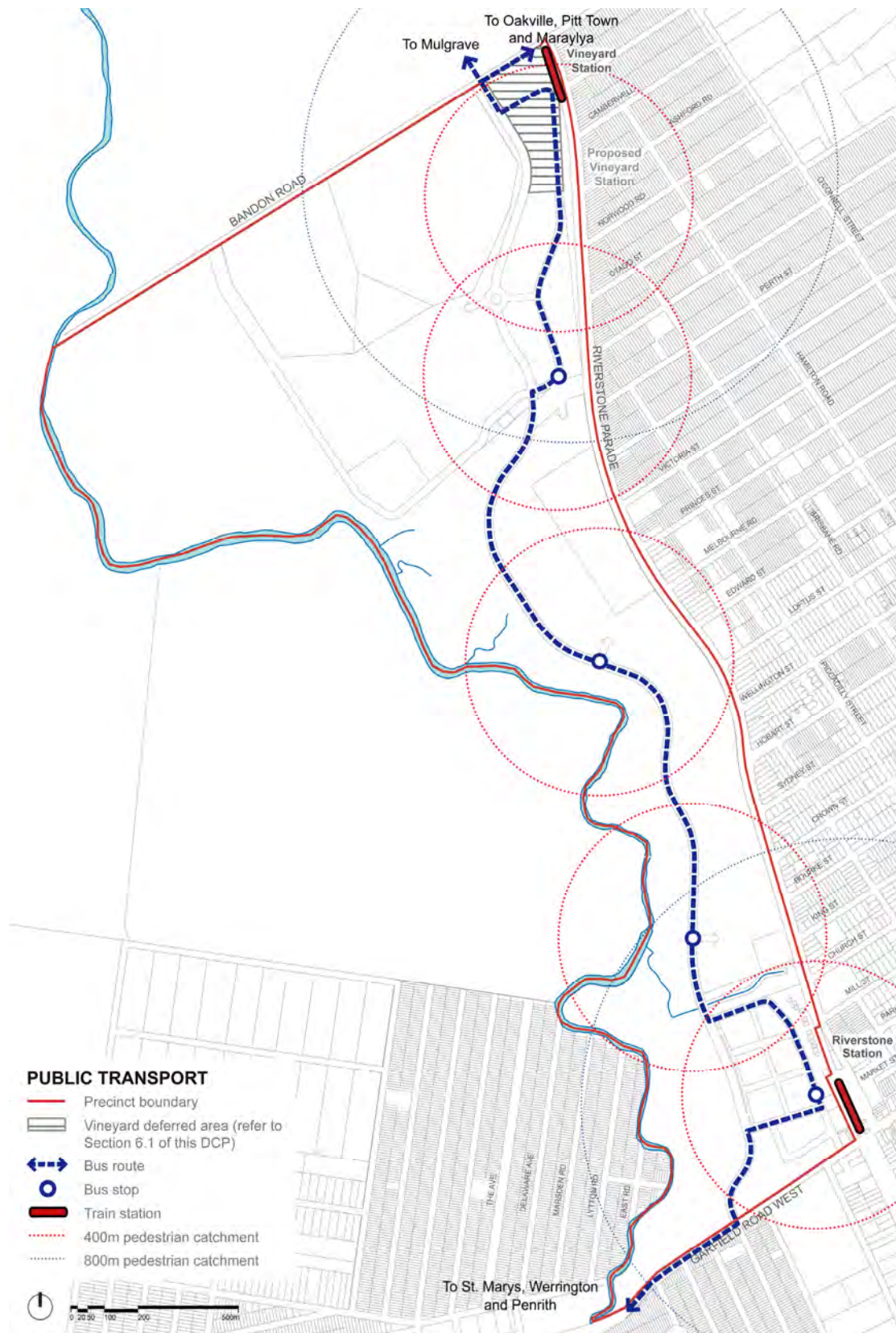


Figure 17: Public Transport network

### 3.4 Pedestrian and Cycle Network

#### OBJECTIVES

The pedestrian and cycle network objectives are to:

- 1) provide a convenient, efficient and safe network of pedestrian and cycleway paths for the use of the community
- 2) encourage walking or cycling, in preference to using motor vehicles, as a way of gaining access to work, local community and recreation facilities
- 3) ensure safe and efficient linkages to connections across rail corridors
- 4) provide linkages with the regional pedestrian cycle network.

#### CONTROLS

- 1) Footpaths and cycle paths are to be provided in accordance with street sections provided in **Section 3.1** Street Network and Design.
- 2) A minimum three metre wide pedestrian path is to be provided from Vineyard Business Area linking to the northern side of Bandon Road.
- 3) Development should be consistent with the Roads and Traffic Authority (RTA), *Action for Bikes – Bikeplan 2010*, and *Blacktown Bike Plan*.
- 4) Facilities for pedestrians and cyclists should be designed in accordance with *Austrroads Guidelines*, Parts 13 & 14, and the *RTA NSW Bicycle Guidelines (November 2003)*.
- 5) Pedestrian paths, cycle routes and facilities in public spaces are to be safe, appropriately lit, clearly defined, functional and accessible to all.
- 6) Pedestrian paths, cycle paths and pedestrian refuge islands are to be designed to be fully accessible by all in terms of access points and gradients, generally in accordance with *Australian Standard 1428:1-4*.
- 7) Pedestrian and cycle routes shall be in accordance with **Figure 18**.
- 8) The lighting of paths must be designed so as to minimise light spill into adjacent riparian corridors and disturbance of riparian habitat.
- 9) The off-road cycleway along Eastern Creek is to be constructed from concrete or similar material acceptable for a regional commuter cycleway.
- 10) Suitable crossing facilities must be provided for both the on-road and off-road cyclist when crossing Bandon Road and Garfield Road West via traffic signals, underpass or overpass.





Figure 18: Pedestrian and Cycle Network

### 3.5 Open Space and Public Domain Works

#### OBJECTIVES

The open space and public domain works objectives are to:

- 1) meet the public open space and recreational needs of the local community
- 2) provide an equitable distribution and diversity of public open space and recreation opportunities
- 3) ensure a high quality of design and embellishment of all public open space
- 4) ensure environmentally and visually sensitive land contributes to the landscape character of the precinct
- 5) ensure that all the public domain elements like street trees, paving, street furniture, lighting, and signage contribute to a consistent street character
- 6) ensure that adequate provision is made for utilities
- 7) ensure that all utilities are integrated into the development and are unobtrusive
- 8) promote the use of low maintenance, drought resistant plants and ground cover.

#### CONTROLS

- 1) Open space should be provided in accordance with **Figure 19**.
- 2) The Environmental Corridor area must provide for the protection and rehabilitation of the riparian corridors (core riparian zones and vegetated buffers). Opportunities for pedestrian and cycleways, fitness trails and other passive recreational activities may be located within the adjacent open space areas so as to maintain the environmental significance of this area. A range of themed elements such as boardwalks, eco-pathways, and educational tracks should be utilised in appropriate locations within the adjacent open space areas.
- 3) A **Landscape Plan Strategy** and **Landscape Plan** must be prepared in accordance with **Tables 3 and 4** in **Section 1.7.3** of this DCP.
- 4) Site landscape is to comprise trees, shrubs and groundcovers. Endemic species are generally preferred. Alternate species may be considered within open space areas to achieve seasonal landscape features where appropriate. Refer to **Appendix G** Prescribed Trees, Preferred Species and Street Trees.
- 5) A **Tree Survey Plan/Arborist Report** must be prepared in accordance with **Table 4** in **Section 1.7.3** of this DCP.



Figure 19: Open Space Network



# 4.0

## Environmental Management



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## **4.0 ENVIRONMENTAL MANAGEMENT**

### **4.1 Energy**

#### **OBJECTIVES**

The energy objectives are to:

- 1) improve energy efficiency through the design and siting of buildings
- 2) encourage the utilisation of ESD systems or solar design strategies of operating energy systems
- 3) encourage the utilisation of materials and construction techniques with low energy inputs in their production for construction energy systems.

#### **CONTROLS**

- 1) DAs are required to demonstrate consideration of:
  - a) utilising recycled materials and renewable building resources
  - b) promoting biological diversity through appropriate retention, planting and maintenance of endemic flora of the area
  - c) implementing a waste management strategy that promotes the overall reduction of waste levels while promoting the achievement of the 60 per cent waste reduction target for NSW
  - d) implementing energy conservation measures that include reducing energy consumption and increasing inherent energy efficiency through design and materials selection, and adopting energy management plans.
- 2) DAs are required to demonstrate that consideration has been given to promoting ecologically sustainable transport by complementing and reinforcing the development and use of the existing and planned integrated public transport, pedestrian and cycling networks servicing the site.
- 3) Consideration should be given to the feasibility of any measures to substitute grid-source power with environmentally sustainable alternatives such as tri-generation (green transformers), co-generation (recovery of waste energy) or photovoltaics.

## 4.2 Cut and Fill

### OBJECTIVES

The cut and fill objectives are to:

- 1) provide a landform that is capable of supporting a range of business and industrial uses
- 2) minimise the impact of earthworks on stormwater, salinity and groundwater
- 3) ensure that the extent of cut and fill required for large scale development does not detract from the appearance and design of the development
- 4) ensure that development is capable of visual integration with the surrounding environment
- 5) ensure that any imported fill material to a site is clean and complies with the contamination and salinity provisions of this section
- 6) ensure land is appropriately stabilised and retained
- 7) ensure that the extent of cut and fill does not encroach within, or adversely affect the function, integrity and stability of any open space west of the Spine Road
- 8) minimise the need to cut and fill at the subdivision phase of development
- 9) ensure accessibility where necessary
- 10) manage flooding impacts in accordance with the requirements of the *Growth Centres SEPP Amendment (Riverstone West Precinct) 2009*
- 11) ensure that any cut and fill does not adversely affect the conservation and rehabilitation of the riparian corridors.

### CONTROLS

- 1) A **Cut and Fill Plan** must be prepared in accordance with **Table 4** in **Section 1.7.3**.
- 2) Earthworks within the Subject Land (as shown in **Figure C1** of **Appendix C** Floodplain Management Strategy of this DCP) are to be undertaken to achieve a balance between cut and fill in accordance with the **Floodplain Management Strategy** (FMS) described in **Appendix C** of this DCP. The FMS will confirm the final Cut and Fill Plan, which will be based on the Preliminary Cut and Fill diagram shown as **Figure C2** of **Appendix C**.
- 3) The finished earthworks levels are to be generally in accordance with the Preliminary Cut and Fill contours shown in **Figure C3** of **Appendix C**. The FMS will confirm the final cut and fill levels.
- 4) Fill material borrowed from the Subject land is to be managed and sorted to ensure that materials with the least plasticity are used in the lower layers of fill and granular material are used in upper layer(s). Landfilled areas must be suitably compacted and stabilised with density tests to verify that compaction was achieved in accordance with Blacktown City Council requirements.
- 5) Any imported fill shall comply with *AS3798 (2007)* and the physical property and contamination acceptance criteria to be specified in the contract documents. All landfilled areas must comprise clean material free from contamination (imported material shall be certified "Virgin Excavated Natural Material (VENM)")
- 6) Particle sizes should not exceed 150 millimetres generally and should be less than 75 millimetres for the top one metre of any fill.
- 7) Fill should be placed in layers not greater than 200 millimetres loose. Testing for each lift is to be undertaken in accordance with *AS1289 (2001)* by a NATA registered laboratory to confirm the required compaction and moisture content has been achieved.
- 8) Earthworks associated with filling within the Precinct may be undertaken in accordance with the **Staging Plan** as required in **Appendix C**. DAs are to be lodged for each stage of the earthworks, and shall be supported by documentation that demonstrates conformance to the requirements of **Appendix C**.
- 9) A deviation from the **Staging Plan** developed through the **Floodplain Management Strategy**, for example if a requirement to reduce the compensatory cut to protect existing streams following

classification of streams traversing Lot 11, will need to demonstrate compliance with the *Growth Centres SEPP Amendment (Riverstone West Precinct) 2009*.

- 10) The **Staging Plan** in the **Floodplain Management Strategy** must be updated if there is a deviation from the most recent staging plan in **Appendix C**.
- 11) Minimum cut and fill levels must comply with **Figure 20**. The slope between the designated levels shall be a maximum three per cent.
- 12) All cut and fill works shall be in accordance with *Council's Engineering Guide of Development (2005)* and *Works Specification – Civil 2005*.
- 13) Embankment batters shall be located in accordance with **Figure 21**.
- 14) Embankment batters shall comply with **Table 7** and Figures **22** to **25**.

**Table 7:** Fill embankment guidelines

<b>Provisions</b>	<b>Control (Maximum)</b>
Embankment batters from property boundary	6m:1m (length to height ratio) and 4m:1m (length to height ratio) in areas indicated in <b>Figure 22</b> .
Maximum height of retaining wall elements	3m
Terraced fill less than 3m	1.8m:0.9m (minimum length to maximum height ratio) as shown in <b>Figure 24</b> .
Terraced fill greater than 3m	1.5m:3m (length to height ratio) as shown in <b>Figure 25</b> .

- 15) Embankment batters and retaining walls are to be landscaped to reduce erosion and provide a suitable screen. They should be vegetated with a diversity of local native ground covers, shrubs and small native trees with mature height of up to 10 metres.
- 16) Proposed cut and fill activities should not impact the structural integrity of the existing concrete bridge over Eastern Creek unless the existing bridge is being replaced.
- 17) Any imported fill must be certified in accordance with the NSW State Government requirements/guidelines to verify that the material is suitable for its intended use. Evidence of this certification must be provided to Council.

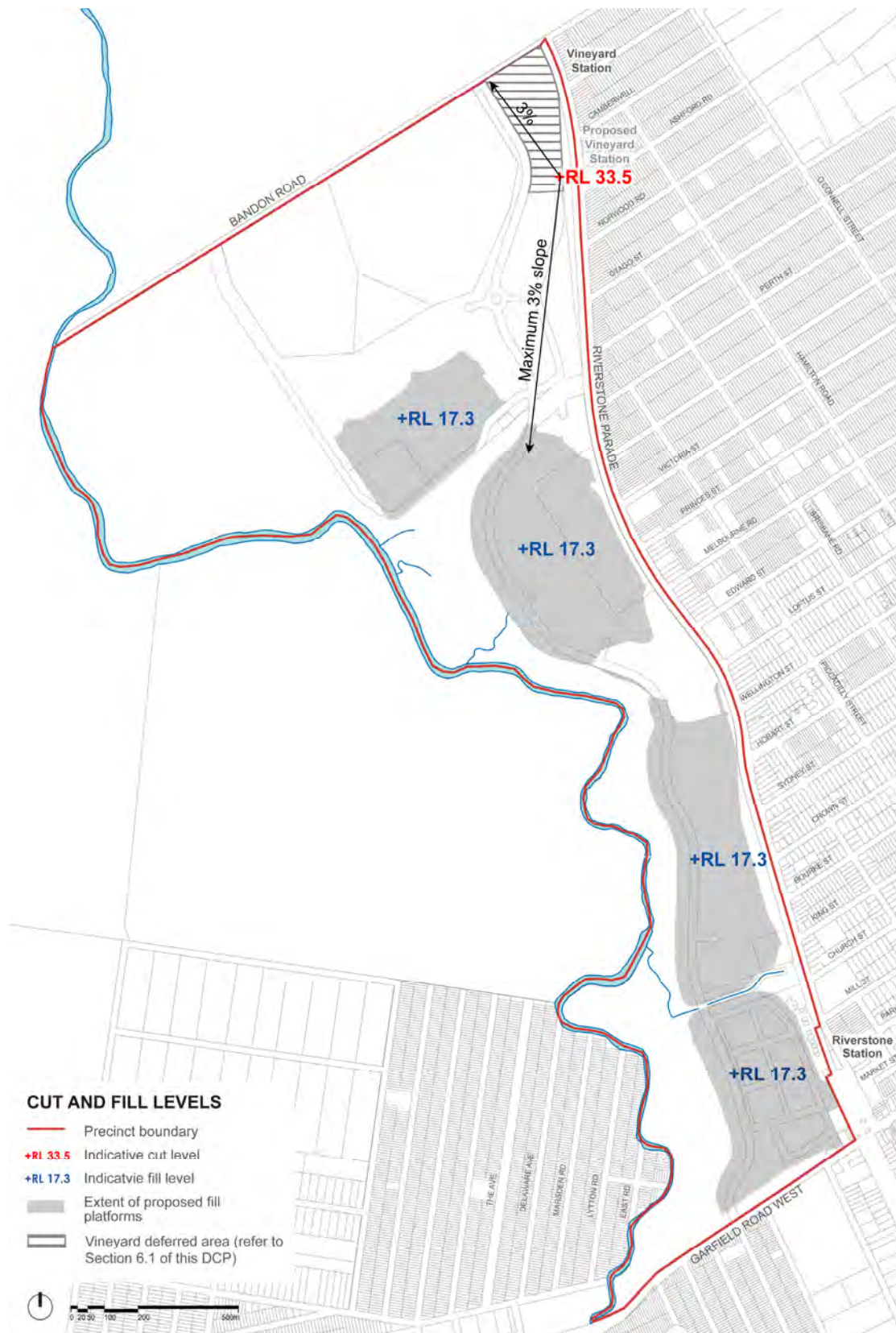


Figure 20: Indicative levels for cut and fill

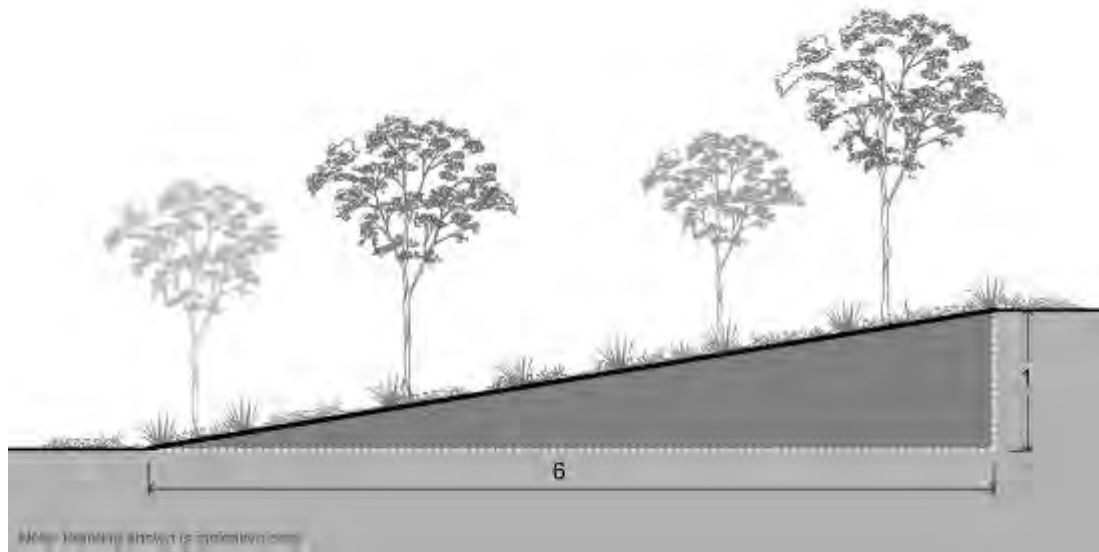




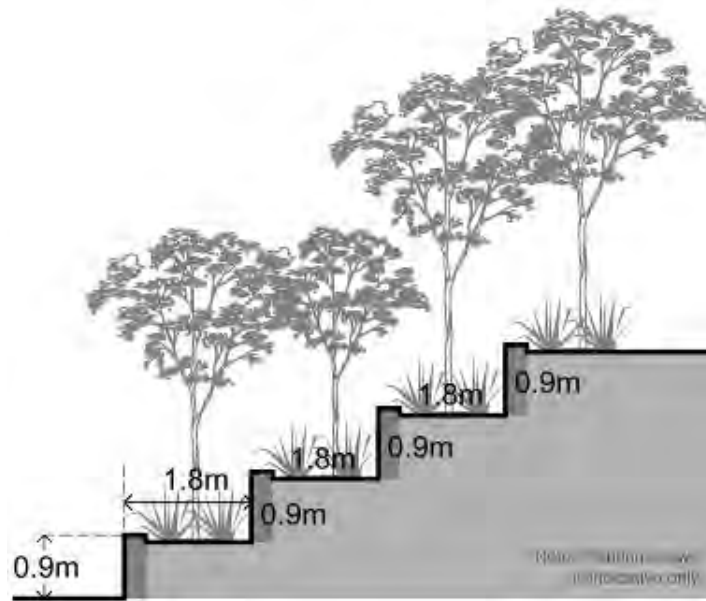
**Figure 21:** Location of embankment batters



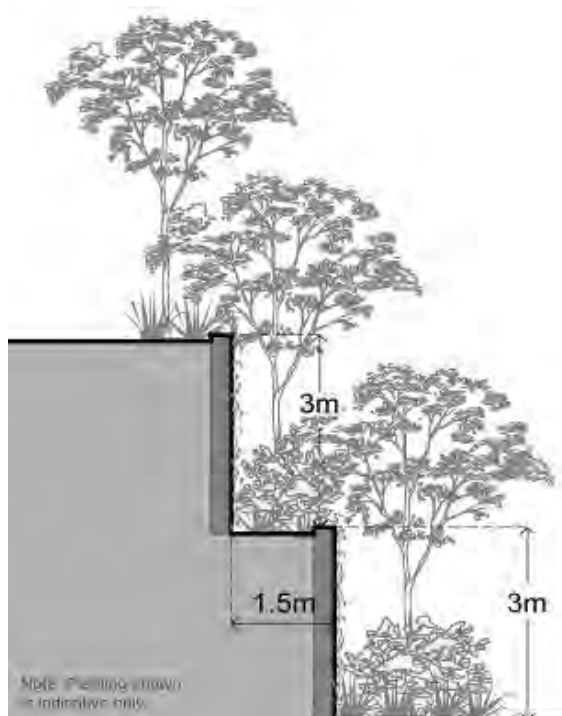
**Figure 22:** Indicative cross section of 1:4 embankment batter



**Figure 23:** Indicative cross section of 1:6 embankment batter



**Figure 24:** Indicative cross section of terraced fill below 3m



**Figure 25:** Indicative cross section of terraced fill above 3m

## 4.3 Integrated Water Cycle Management

### OBJECTIVES

The integrated water cycle management objectives are to:

- 1) manage flooding in accordance with the requirements of the *Growth Centres SEPP Amendment (Riverstone West Precinct) 2009*
- 2) protect and enhance natural water systems
- 3) minimise potable water demand and wastewater generation
- 4) mitigate the impacts of development on water quality
- 5) mitigate the impacts of development on groundwater
- 6) integrate water cycle management measures into the landscape
- 7) minimise the potential impacts of development and other activity on the aesthetic, recreational and ecological values of receiving waters
- 8) minimise soil erosion and sedimentation resulting from site disturbing activities
- 9) minimise the damage caused to property, vegetation and infrastructure by existing saline soils, or processes that may create saline soils
- 10) ensure development will not significantly increase the salt load in existing watercourses within the site
- 11) prevent degradation of the existing soil and groundwater environment, and in particular, to minimise erosion and sediment loss and water pollution due to siltation and sedimentation
- 12) address climate change impacts.

### CONTROLS

#### 4.3.1 General

- 1) An **Integrated Water Cycle Management Report** must be prepared in accordance with **Table 4** in **Section 1.7.3** of this DCP.
- 2) The procedures used to demonstrate compliance with the following development controls shall be in accordance with the procedures outlined for developing the Floodplain Management Strategy (**Appendix C**) and the Integrated Water Cycle Management Strategy (**Appendix D**);
- 3) All subdivision and development applications must comply with:
  - a) *Blacktown City Council Engineering Guide for Development 2005*
  - b) *Blacktown City Council Works Specification – Civil 2005*
- 4) The development must limit as far as practicable any changes in flow rate and flow duration within the receiving waterways as a result of the development.
- 5) Impervious areas directly connected to the stormwater system shall be minimised. Runoff from impervious areas such as roofs, driveways and rainwater tank overflows shall be directed onto grassed and other landscaped areas designed to accept such flows.
- 6) Structural stormwater treatment measures must be able to bypass flows in excess of the design discharge with negligible afflux resulting from overtopping or blockage of the device.
- 7) Prior to the issue of any type of a Subdivision Certificate, Occupation Certificate or upon completion of works the relevant Certificate and Plans must be lodged in accordance with the *Blacktown City Council Engineering Guide for Development 2005*.

#### 4.3.2 Flood Management

- 1) The management of floods must comply with *Growth Centres SEPP Amendment (Riverstone West) 2009* and demonstrate compliance according with the requirements in **Appendix C** of this DCP.
- 2) The minimum fill level must be above the existing climate flood level (100 year Annual Recurrence Interval (ARI)) and the floor level of a habitable room must be a minimum of 300 millimetres above the future climate flood planning level, for commercial and industrial development. The future climate flood planning level will be determined through the **Floodplain Management Strategy** as described in **Appendix C** of this DCP. All buildings are to be constructed with a minimum floor level of 17.9 metres AHD.
- 3) The gutter invert on roads must be a minimum of RL 17.3 metres AHD.
- 4) If a Flood Impact Assessment of any stage of the earthworks is required then the assessment shall in accordance with the procedures outlined in **Appendix C**.
- 5) Pedestrian and cycle pathways and open space may extend within the 1 in 100 year ARI flood level, provided that the safe access criteria contained in the *NSW Floodplain Manual 2005* are met.
- 6) Fencing within the E2 Environmental Conservation Zone and the RE2 Private Recreation Zone will not be permitted except for appropriate security or safety fence.
- 7) All development must be consistent with **Table 8** Flood Risk Precinct and **Table 9** Flood Risk Precincts Controls.

**Table 8:** Flood Risk Precinct

Land Use Category <sup>1</sup>	Flood Risk Precinct <sup>2</sup>	Planning Consideration <sup>3</sup>			
		Building Component <sup>4</sup>	Evacuation	Flood Awareness	Management and Design
Sensitive uses and facilities	Low (outside or up to the HHF)	3	2	4	1
Critical uses	Low outside HHF	3	4	4	1
	Low up to HHF	3	4	4	1
Commercial and industrial	Low outside HHF	N/A	N/A	4	N/A
	Low up to HHF	2	4	4	
	Medium	2	3, 4	3, 4	1, 2, 3
Recreation and non-urban	Low outside HHF	N/A	N/A	4	N/A
	Low up to HHF	N/A	N/A	4	N/A
	Medium	1		3, 4	1, 3
	High	1	4	2, 3, 4	1, 2, 3

<sup>1</sup> Land Use Categories are described in **Appendix E**.

<sup>2</sup> Flood Risk Precincts:

**Low (outside HHF):** Flood Risk Greater than the HHF and up to the PMF.

**Low (up to HHF):** Flood Risk Greater than the 1 in 100 year and up to the HHF.

**Medium Flood Risk:** Below the 100 year flood level subject to low hydraulic hazard (in accordance with the provisional criteria outlined by the *Floodplain Development Manual 2005*) that is not defined as high flood risk.

**High Flood Risk:** Within the envelope of land subject to a high hydraulic hazard (in accordance with the provisional criteria outlined in the *Floodplain Development Manual 2005*) in a 100 year flood event or subject to potential evacuation difficulties during a flood.

**HHF:** Refer to definition in **Appendix A** of this DCP.

<sup>3</sup> Relates to Flood Risk Precincts Controls in **Table 9**.

<sup>4</sup> Building Structures to be designed to withstand flood debris and impact loads in accordance with relevant Australian Standards and Building Codes

**Table 9:** Flood Risk Precincts Controls

<b>Planning Consideration</b>		<b>Control</b>
Building Component	1	All structures to have flood compatible building components below or at the one per cent AEP flood level as listed in <b>Appendix F</b> .
	2	All structures to have flood compatible building components below or at the HHF level.
	3	All structures to have flood compatible building components below or at the PMF level.
Evacuation	1	Reliable access for pedestrians required during the one per cent AEP flood.
	2	Reliable access for pedestrians and vehicles required during a PMF flood.
	3	Electronic flood warning devices to be installed on allotment and connected to NSW State Emergency Services Headquarters.
	4	Consideration required regarding appropriate flood evacuation strategy and pedestrian/vehicular access route for both before and during a flood which is consistent with the <i>Hawkesbury Nepean Flood Emergency Sub Plan</i> .
Flood awareness	1	Restriction to be placed on title advising of minimum floor level required relative to flood level.
	2	Section 149 Certificates to notify affection by the High Flood Risk Precinct.
	3	Section 149 Certificates to notify affection by the Medium Flood Risk Precinct.
	4	Blacktown City Council to have notification of affection by the Low Flood Risk Precinct.
Management and Design	1	Flood plan required where floor levels are below the design floor level.
	2	Applicant to demonstrate that area is available to store goods above the one per cent AEP flood plus freeboard.
	3	No external storage of material below the design floor level which may cause pollution or be potentially hazardous during any flood.
	4	Applicant to demonstrate that potential development as a consequence of a subdivision proposal can be undertaken in accordance with this Plan.

- 8) Development with a high sensitivity (such as critical public utilities) must be sited and designed with no or minimal risk from flooding.
- 9) Development with a low sensitivity to flood hazard may be located within the floodplain, subject to appropriate design and siting controls and provided any risks from flooding are acceptable.
- 10) There must not be any increase in intensification of the use of High Flood Risk Precincts and wherever appropriate and where possible, allowance be made for their conversion to natural waterway corridors.
- 11) Basement car parking extended more than one level below the habitable floor level shall be supported by advanced warning controls.

- 12) The product of flow velocity and flow depth must not exceed 0.4 metres square per second for pedestrian accessible areas including car parks and 0.6 metres square per second in non accessible areas.
- 13) Fencing must not affect or impede the flow of floods or detrimentally increase flood affection of surrounding land.
- 14) Fencing located in an area affected by flooding must be permeable.
- 15) Brick or masonry fence will not be permitted in flood affected areas.
- 16) Any building or structure within the E2 – Environment Conservation or RE2 – Private Recreation must consider the use of flood compatible materials as outlined in **Appendix F**.
- 17) As part of the **Integrated Water Cycle Management Report**, a **Structural Assessment** must be prepared in accordance with **Appendix D** with regards to the Land Use Categories described in **Appendix E**.

#### 4.3.3 Water Conservation

- 1) Buildings that are installing any water use fittings must demonstrate minimum standards defined by the Water Efficiency Labelling and Standards (WELS) Scheme. Minimum WELS ratings are four star dual-flush toilets, three star showerheads, four star taps (for all taps other than bath outlets and garden taps) and three star urinals. Water efficient washing machines and dishwashers are to be used wherever possible.
- 2) Development must connect to a dual reticulation for toilet flushing, laundry and irrigation.
- 3) All developments must install rainwater tanks to meet a minimum of 80 per cent of their non potable water demand including toilet flushing, laundry and outdoor uses from alternative sources.
- 4) The roof area directed to a rainwater tank should be maximised to both increase the effectiveness and reliability of the reuse system.
- 5) Where cooling towers are used they are:
  - a) to be connected to a conductivity meter to ensure optimum circulation before discharge.
  - b) to include a water meter connected to a building energy and water metering system to monitor water usage
  - c) to employ alternative water sources for cooling towers where practical.

#### 4.3.4 Surface Water Quality and Quantity

- 1) All commercial and industrial developments must provide for all stormwater treatment measures to be contained on lots under community title unless otherwise agreed to by Council.
- 2) There shall be:
  - a) a 90 per cent reduction in the post development average annual gross pollutant load
  - b) an 85 per cent reduction in the post development average annual load of Total Suspended Solids load
  - c) a 65 per cent reduction in the post development average annual load of Total Phosphorus load
  - d) a 45 per cent reduction in the post development average annual load of Total Nitrogen load
  - e) a 90 per cent reduction in the post development average annual load of Total Hydrocarbon load
- 3) The post development duration of stream forming flows shall be no greater than 3.5 to five times the pre developed duration of stream forming flows.
- 4) Impervious areas directly connecting to the stormwater system shall be minimised. Runoff from impervious areas such as roofs, driveways and rainwater tank overflows shall be directed onto grassed and other landscaped areas designed to accept such flows.



- 5) Any proposed stormwater treatment measures must be located to minimise the potential re-suspension of pollutants and damage.
- 6) Where practicable trunk drainage is to be provided as a natural stable channel. Natural stable channels shall not be considered as a treatment measure for water quality.
- 7) Stormwater treatment measures must consider mosquito control in their design.
- 8) Stormwater treatment measures must be located outside of the core riparian zone and vegetated buffer on waterfront lands. No adverse impact from discharges into the bushland must occur.
- 9) Any proposed stormwater treatment measures in commercial and industrial developments that are located in the road reserve must only treat surface flows from within that road reserve.
- 10) Any stormwater treatment measures should be located, and configured to maximise the impervious area that is treated.
- 11) Where kerbside stormwater treatment measures are proposed, the footway must be extended to the additional width of the measure. That is the prescribed footway width is not to include the width of the measure and the road reserve must be widened to cater for the measure.
- 12) The pollutant retention efficiency of structural stormwater treatment measures must be maintained up to the design discharge and must not decrease with the build up of materials.
- 13) Structural stormwater treatment measures must not allow the release of any previously trapped material in the event of a stormwater discharge and be designed to prevent or manage any additional surcharge from any inlet or manhole.
- 14) Structural stormwater treatment measures must be able to bypass flows in excess of the design discharge with negligible afflux resulting from overtopping or blockage of the device.
- 15) All filter media used in stormwater treatment measures must meet the current specifications of the *Bioretention Filter Media Guidelines* produced by the Facility for Advancing Water Filtration or demonstrated equivalent.
- 16) Construction of the stormwater treatment measures must be completed once 90 per cent of the catchment is developed. If the development is to be staged sacrificial zones must be included in the design and rectified upon completion of development within the catchment.
- 17) A **Drainage Plan** is to be prepared as part of the **Integrated Water Cycle Management Report** in accordance with the requirements in **Appendix D**.
- 18) No anaerobic zones on integrated water cycle management measures will be permitted.

#### 4.3.5 Erosion and Sediment Control

- 1) An **Erosion and Sediment Control Plan** or a **Soil and Water Management Plan**, as appropriate, must be prepared as part of the **Integrated Water Cycle Management Report** in accordance with **Appendix D**.

#### 4.3.6 Groundwater

- 1) As part of the **Integrated Water Cycle Management Report**, a **Groundwater Management Report** must be prepared with every DA in accordance with **Appendix D**. The report must be prepared in accordance with the *Sydney Coast Councils Group Groundwater Management Handbook 2006* as amended or superseded.
- 2) Any dewatering activities require concurrence from the State Government's Department of Water and Energy (DWE) or other subsequent approval body. DWE or subsequent Approval Body must be consulted if dewatering is proposed.
- 3) The applicant must demonstrate that there will be no adverse impact on surrounding or adjacent properties or infrastructure:
- 4) As a result of changes in the behaviour of groundwater created by the method of construction chosen.

- 5) From changes to the behaviour of groundwater of the surrounding area, created by the nature of the constructed form and groundwater management system used.
- 6) Where there is the potential for a damming effect on groundwater to be created by several consecutive structures constructed below the existing ground levels:
  - a) the cumulative impact will require groundwater modelling to demonstrate no adverse impact on the surrounding properties or infrastructure. The extent of the modelling must consider the potential for future development to extend the damming effect and must, as a minimum extend between street blocks.
  - b) where structures constructed below the existing ground levels are in close proximity to each other (typically less than three metres) there shall be no allowance provided for natural flow of groundwater through these narrow corridors. Provision must be made for these flows to be included in the design of perimeter or through drainage.
- 7) Where an impediment to the natural flow paths is created as a result of the nature of the construction methods utilised or the bulk of the below-ground structure, artificial drains may be utilised. These systems may only be utilised where it can be demonstrated that the natural groundwater flow regime is restored both up-gradient and down-gradient of the site, without any adverse effects on surrounding property or infrastructure.
- 8) Any groundwater management systems proposed shall have a design life of 50 years.
- 9) Where construction is to occur on a hillside details of the method of construction for any development proposal involving construction of permanent structures below the water table, other than pile or footing installation must be provided. The details provided must be sufficient to demonstrate compliance with the following:
  - a) all components of the structure including subsoil drainage must be located entirely within the property boundary.
  - b) disposal of collected sub soil water must be achieved through a gravity drainage system.
- 10) The existing groundwater regime including flow, levels and quality must be determined prior to construction.
- 11) Construction techniques, where possible shall eliminate the need for dewatering.
- 12) For all development involving construction into perched aquifers in porous or fractured rock aquifers such as shale areas, construction techniques that eliminate the need for pumping shall be employed.
- 13) All groundwater management activities including monitoring must be conducted in accordance with the precinct-wide **Groundwater Assessment and Management Plan** (as described in **Appendix D**) and as agreed to by Blacktown City Council.

## 4.4 Salinity Management

### OBJECTIVES

The salinity management objectives are to:

- 1) manage and mitigate the impacts of development on salinity and vice versa.

### CONTROLS

- 1) A **Salinity Assessment and Management Plan** and **Salinity Report** must be prepared in accordance with **Tables 3** and **4** in **Section 1.7.3** of this DCP.
- 2) Development must comply with the *Western Sydney Salinity Code of Practice 2004* as amended or superseded.
- 3) Development must be in accordance with the following salinity guidelines:
  - a) Local Government Salinity Initiative documents
  - b) *Building in a Saline Environment*, Building Code of Australia
  - c) *Australian Standards* relevant for construction in a saline environment

## 4.5 Contamination Management

### OBJECTIVES

The contamination management objectives are to:

- 1) ensure that the site is free of contamination that could pose a risk to human health and the environment
- 2) ensure that potential site contamination issues are adequately addressed at the subdivision stages.

### Controls

- 1) A **Contamination Assessment and Management Plan** must be conducted and prepared in accordance with in **Table 3** in **Section 1.7.3** of this DCP.
- 2) Development should be designed and managed through appropriate site management techniques to minimise the potential for polluting discharges, fugitive emissions and controlled spillages.
- 3) All development must comply with the requirements in *Part Q Contaminated Land Guidelines of Blacktown DCP 2006* and relevant government guidelines.

## 4.6 Environmental Corridor

The controls contained in this section of the DCP relate to the Environmental Corridor shown on the Riverstone West ILP.

### OBJECTIVES

The environmental corridor objectives are to:

- 1) protect, restore and enhance the environmental values and functions of watercourses and riparian corridors (including the core riparian zone and vegetated buffer) within the environmental corridor in accordance with the *North West Growth Centre Waterfront Land Strategy*
- 2) promote environmental protection works that have a neutral or beneficial impact on the environmental values of the Environmental Corridor
- 3) provide significant improvement in the sites ecological attributes where appropriate.

### CONTROLS

- 1) An Environmental Corridor is to be provided in accordance with **Figure 26**.
- 2) The Environmental Corridor must be rehabilitated and revegetated in accordance with the **North West Growth Centre Waterfront Lands Strategy** and the **Vegetation Management Plan**, as described in Section 1.4.4 and **Table 4** in **Section 1.7.3** of this DCP respectively.
- 2) The provision of riparian corridors within the Environmental Corridor must be in accordance with the *North West Growth Centre Waterfront Land Strategy*.
- 3) Category 1 river (watercourse) must have a 40 metre wide core riparian zone either side of the river as measured from the top of each of the highest banks. A 10 metre vegetated buffer must also be provided that extends out from the edge of the core riparian zone.
- 4) Category 2 river (watercourse) must have a 20 metre wide core riparian zone either side of the river as measured from the top of each of the highest banks. A 10 metre vegetated buffer must also be provided that extends out from the edge of the core riparian zone.
- 5) Category 3 river (watercourse) must have a 10 metre wide core riparian zone either side of the river as measured from the top of each of the highest banks, with the exception of the Category 3 tributary from stream W5 as agreed upon with Department of Water and Energy. No vegetated buffer is required.
- 6) Core riparian zones must be rehabilitated to the extent of the core riparian zone using locally endemic and indigenous species and include full structural floristics of the endemic vegetation community such as canopy, understorey and groundcover species.
- 7) The vegetated buffer must be rehabilitated to the extent of the core riparian zone using locally endemic and indigenous species and include full structural floristics of the endemic vegetation community such as canopy, understorey and groundcover species.
- 8) Applicants must provide for the appropriate re-use of top soil from development sites that contain known or potential native seed bank.
- 9) Services such as sewer, electricity, gas, communication or transport must be located outside the core riparian zone where traversing the core riparian zone is not required. Where services are required to traverse the core riparian zone the installation process should be limited to non destructive techniques such as direct drilling or boring and be designed to minimise the impact of maintenance or repair work.
- 10) Any activities or other land uses associated with lands classified under the Local Government Act 1993 as amended as a Park or Sportsground are not permitted in the core riparian zone or vegetated buffer. This includes a range of leisure, recreation or sporting activities and includes facilities such as amenities blocks and car parks. Pathways and cycleways or pervious recreational areas that do not support formal organised activities are excluded from this clause.
- 11) Pathways, cycleways and pervious recreational areas that do not support formal organised activities cannot exceed 40 per cent of the area of the vegetated buffer and must be designed to

ensure no reduction in the function of the core riparian zone. In general, pathways, cycleways and pervious recreational areas are not permitted in the core riparian zone, except where an opportunity presents for the community to connect with and explore the river in a strategic location. It shall be demonstrated that any pathway, cycleway or pervious recreational area proposed will not compromise the ecological integrity of the river, its surrounding vegetation and bed and bank stability.

- 3) Integrated water cycle management measures are not permitted in the core riparian zone, however, measures are permitted in the vegetated buffer provided that the measure is fully vegetated. Measures which are not fully vegetated must be located outside the vegetated buffer.
- 4) Bush fire asset protection zones (APZs) are not permitted within the core riparian zone or vegetated buffer.
- 5) Subdivisions (via perimeter roads) and new developments should front onto riparian land. Subdivisions (via perimeter roads) and new developments must not back onto riparian lands. That is, the road should be placed between the riparian land and the lots forming a perimeter to the development separating the development from the riparian lands.
- 6) Rehabilitation or revegetation of the core riparian zone or vegetated buffer must not increase the impacts of flooding. This clause, however, shall not be used to prevent the restoration or rehabilitation of the core riparian zone or vegetated buffer in accordance with other clauses in this Part.
- 7) Any filling of streams must be undertaken in accordance **Figure 26**.

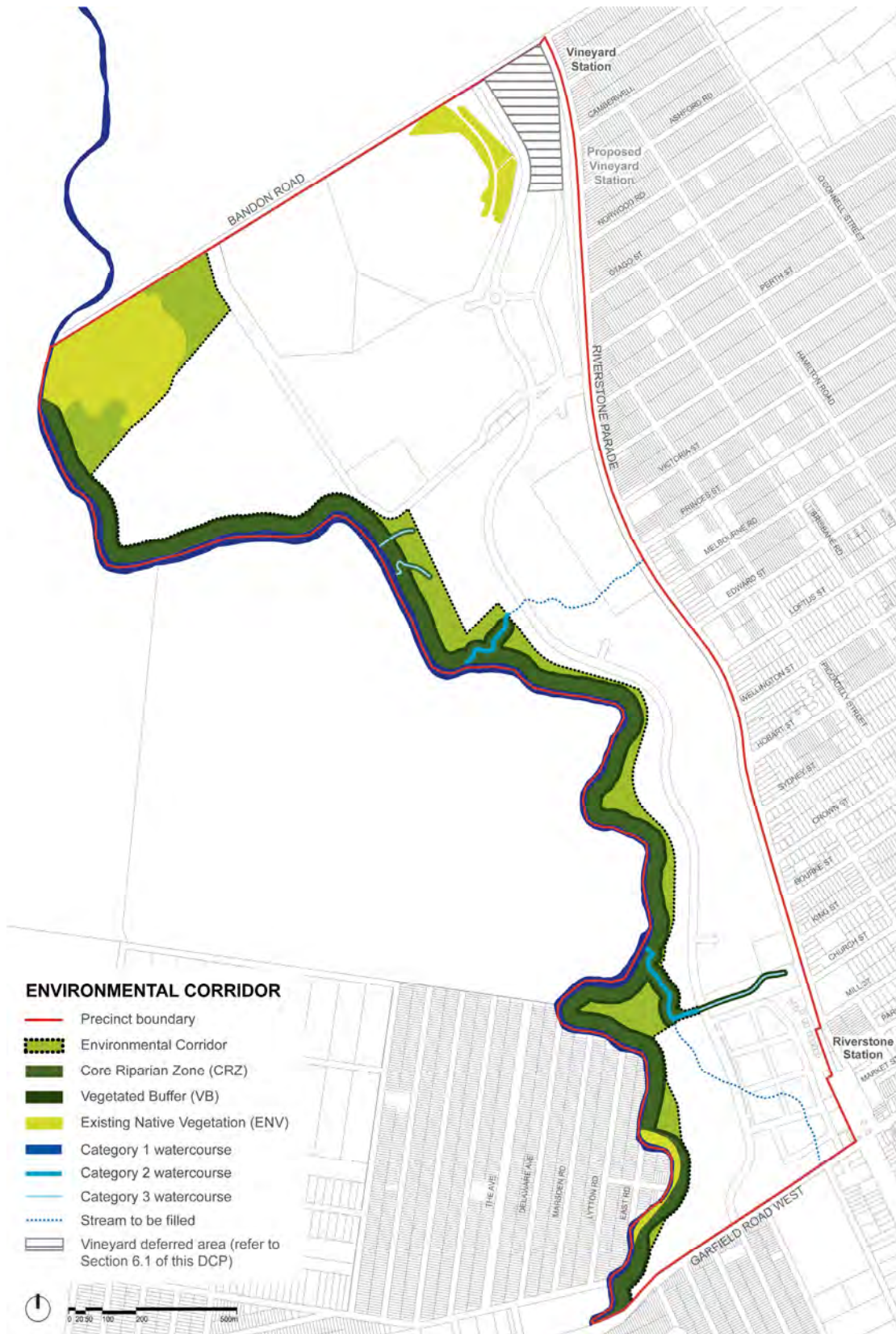


Figure 26: Riverstone West Environmental Corridor

## 4.7 Bushfire Management

### OBJECTIVES

The bush fire management objectives are to:

- 1) prevent loss of life and property due to bushfires
- 2) ensure land will not allow bush fires to approach buildings
- 3) ensure that any fire occurring within a building cannot escape through unprepared property
- 4) To ensure grounds are cleared of all combustible material, especially long grass and fine fuels that would aid the spread of bushfires.

### CONTROLS

- 1) Commercial and industrial development (Class 5-8 and 10B of the *BCA*) must comply with the *NSW Planning for Bush Fire Protection 2006* requirements for access, water and services, defensible space, emergency planning and landscaping/vegetation management.
- 2) The provision of defensible spaces to industrial and commercial buildings shall comply with **Table 10** and **Figure 27**.

**Table 10:** Provision of defensible spaces

Location of Bush Fire Threat	Width of Defendable Space to be provided from the bush fire threat
Eastern Creek Riparian Corridor – Industrial Development / Business Park precinct with perimeter road	Minimum 60 metres defensible space along Spine Road and to that part of the Business Park Precinct which directly adjoins the riparian corridor.
Eastern Creek Riparian Corridor – Business Park	Minimum 30 metres
Tributary/Floodway to Eastern Creek (southeast of transmission line easement)	Minimum 30 metres defensible space.
Cumberland Plain Woodland to Sydney Water STP	Minimum 30 metres defensible space.
Cumberland Plain Woodland within rural development to the northwest of Bandon Road	Minimum 30 metres defensible space.
Bushland on vacant land to the northeast of Riverstone Parade	Minimum 60m metre wide separation provided by Riverstone Parade carriageway and railway line.

- 3) The landscaping within the boundary setbacks to the buildings adjoining the bush fire hazard interface shall be maintained as an Inner Protection Area, in accordance with Appendix A5.4 & Appendix A5.5 of *Planning for Bushfire Protection 2006* and the *Rural Fire Service Standards for Asset Protection Zones*.
- 4) Any fill batter between the Spine Road carriageway and the Eastern Creek Environmental Corridor shall be managed to minimise the accumulation of combustible bush fire fuels. The dry weight of litter shall be maintained at less than eight tonnes per hectare and grassland vegetation shall be slashed to a maximum height of 100mm during the bushfire danger period.



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- 5) The construction of the future buildings which will be exposed to the bush fire hazard interface shall address the provisions of Appendix 3 of *Planning for Bushfire Protection 2006* and Australian Standard A.S. 3959 – 1999 – *Construction of Buildings in Bushfire Prone Areas*.
- 6) A reticulated water supply shall be extended to service the industrial and commercial development in accordance with the specifications of *Australian Standard A.S 2419.2 - 2005*. Hydrants shall have a flow rate of 10 litres per second.
- 7) Fire hydrants shall be accessible and located such that a fire appliance can park within a maximum distance of 20 metres from the hydrant and the habitable building must be located such that a fire at the furthest extremity can be attacked by fire-fighters using two 30 metre hose lines and a 10 metre water jet. A clear unobstructed path between the hydrant and the most distant point of the building cannot exceed 90 metres.
- 8) Blue hydrant markers shall be provided to locate the positions of the hydrants.
- 9) The markers shall be positioned on the hydrant side of the centre line of the road pavement.
- 10) A “layby” parking bay should be provided at the booster assembly (when installed) and that external “Millcock” valves (Landing Valves) be provided in locations which will assist in the extinguishment of bush fires that occur in the Eastern Creek riparian corridor.
- 11) The public road network within the Riverstone West Precinct and the private access roads to the proposed allotments shall comply, as minimum, with the deemed-to-satisfy provisions of Section 4.1.3(a) “Public Roads” and Section 4.1.3(b) “Private Roads” as defined by *Planning for Bushfire Protection 2006*.
- 12) Internal access roads shall be designed to facilitate fire operational access for NSW Fire Brigade Appliances.
- 13) The internal road network within the southern Business Park and Industrial precinct shall provide alternate means of egress from the precinct.
- 14) A four metre wide compacted gravel fire trail/service access shall be constructed within the transmission line easement, from the Spine Road to the gas pipeline easement, turning to the northwest linking with the proposed access road from Bandon Road. A compacted gravel fire trail shall be constructed between the Eastern Creek riparian corridor and the Business Park precinct. Locked gates shall be provided at the entry points to these trails. The fire trail must not comprise the core riparian zone or vegetated buffer.
- 15) A site specific **Bush Fire Evacuation Plan** must be prepared as described in **Table 4** in **Section 1.7.3** of this DCP.
- 16) Areas identified as within the bush fire prone buffer as on the *Blacktown Bush Fire Prone Land Map* will be required to comply with either section 79BA or section 91 100B of the *Rural Fires Act 1997*.



Figure 27: Defendable space for bush fire protection

## 4.8 Indigenous Heritage

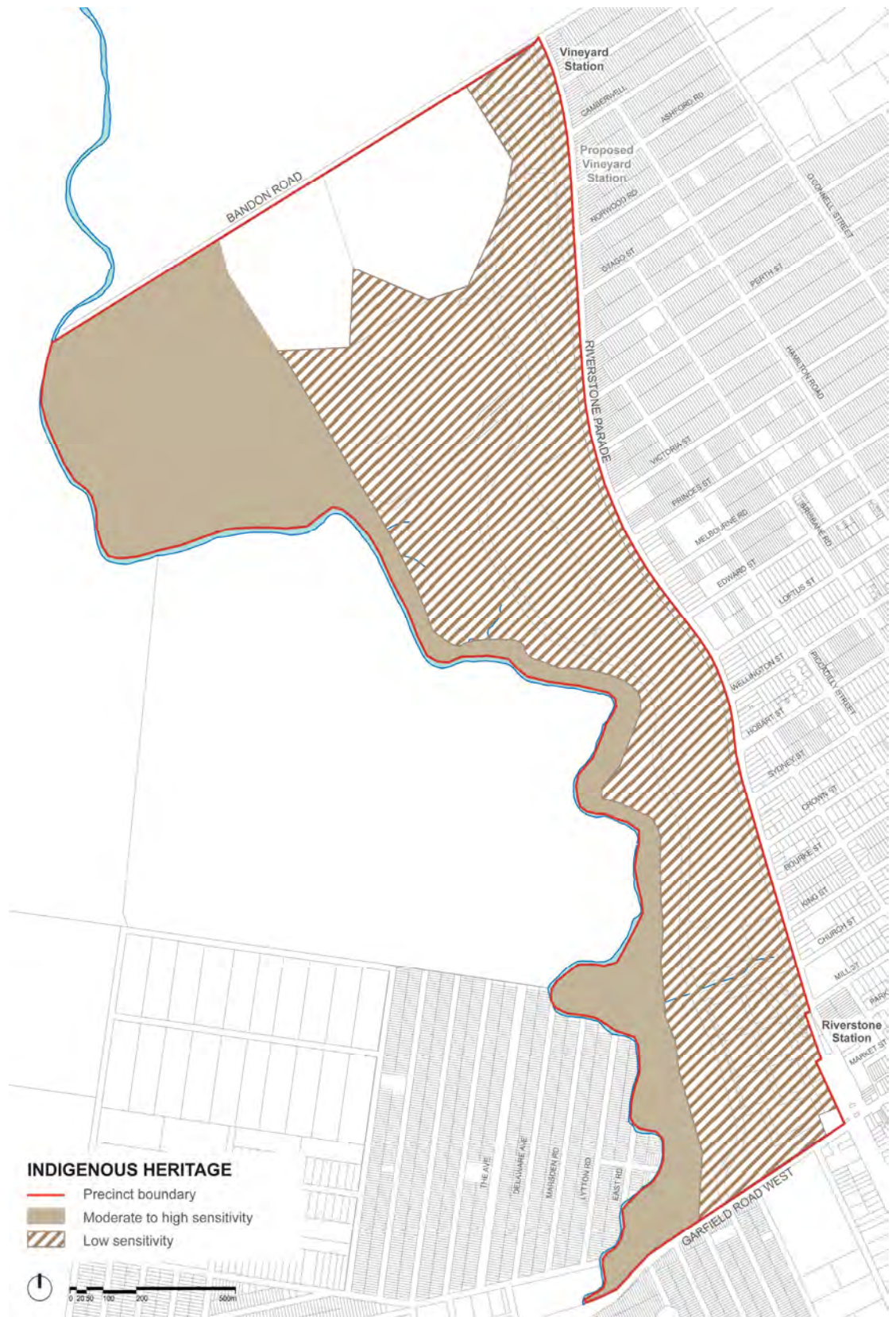
### OBJECTIVES

The Indigenous heritage objectives are to:

- 1) protect and manage areas and elements of identified Aboriginal archaeological heritage within the precinct
- 2) incorporate elements of Aboriginal heritage within the riparian corridor.

### CONTROLS

- 1) Areas with high to moderate Aboriginal archaeological significance are shown in **Figure 28**.
- 2) Development within areas of high to moderate Aboriginal archaeological significance shall not proceed without:
  - a) appropriate investigation and consultation with the relevant local Aboriginal groups
  - b) a Plan of Management that addresses the ongoing management of any archaeological deposits.
- 3) Section 90 consent under the *National Parks and Wildlife Act 1974* will be required for all impacted archaeological sites. Section 90 consent should only cover that part of the site that will be impacted. Consent should be obtained prior to any works which will directly affect these sites. It will be necessary to obtain an excavation permit pursuant to Section 60 or Section 140 of the *Heritage Act 1977*.
- 4) Test/salvage excavation of Aboriginal sites or areas of archaeological potential is warranted for some of the recorded archaeological sites and potential archaeological deposits (PADs) which will be impacted by future development. A section 87(1) permit under the *National Parks and Wildlife Act 1974* should be obtained for sites identified as having moderate to high archaeological significance.



**Figure 28:** Indigenous Heritage



## 4.9 European Heritage

### OBJECTIVES

The European heritage objectives are to:

- 1) recognise the heritage significance of the European heritage items in Riverstone West
- 2) create a good quality urban environment around Riverstone Station that acknowledges the heritage significance of the area
- 3) ensure the future of heritage items in the Precinct is considered in the context of the development potential of the site
- 4) provide guidance for new development in relation to nearby heritage items.

### CONTROLS

- 1) A detailed **Conservation Management Plan (CMP)** must be prepared and adopted by Council prior to any DA approval for works in the vicinity of the heritage items identified in **Table 11**, in accordance with **Table 3** in **Section 1.7.3** and **Figures 29 and 30**.

**Table 11:** European heritage items in Riverstone West.

Listed Item	Address/Location
House	Former Manager's Residence, No. 17 Richards Avenue
Group of Workers Cottages	Nos. 17, 23, 25, 27, 29, 31, 33, 37, 39, 43, 45, 47 and 49 Richards Avenue
Former Butcher's Shop	4 Garfield Road West

- 2) A **Heritage Interpretation Strategy (HIS)** for the Riverstone West Precinct must be prepared in accordance with **Table 3** in **Section 1.7.3** of this DCP for the items identified in **Table 12**:

**Table 12:** Items of European heritage interest

The following table should be read in conjunction with *Heritage Assessment: The Riverstone West Precinct, September 2008* prepared by Urbis.

Items of Interest	Address/Location
House	No. 7 Richards Avenue
Former Riverstone Meatworks buildings, structures and associated features	Off Riverstone Parade
Railway sidings	Throughout the site
Fences	Fence and gate associated with No. 49 Richards Avenue Timber picket fence of No. 17 Richards Avenue Remnant early timber fencing along Eastern Creek Remnant early timber fencing along western side of Richards Avenue associated with the cottages (particularly Nos. 7 and 17)
Bridges	Stone pedestrian bridge from Richard Avenue cottages over tributary Concrete pedestrian bridge from former meatworks buildings across Eastern Creek
Weirs	Along Eastern Creek

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Former Tennis Court and Pepper Trees	West of Richards Avenue
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- 3) Photographic recording of any heritage buildings and site elements identified in **Table 12** proposed to be altered or demolished shall be undertaken prior to any alteration or demolition by a suitably qualified heritage consultant. This photographic recording should be in accordance with the Heritage Office guidelines *How to Prepare Archival Records of Heritage Items (1998)* and *Photographic Recording of Heritage Items Using Film and Digital Capture (2006)*. The appropriate level of recording should be determined by Council.
- 4) Site interpretation of items identified in **Table 12** shall be in accordance with the HIS and the Heritage Office guidelines entitled *Interpreting Heritage Place and Items: Guidelines (2005)*.



Figure 29: European heritage items

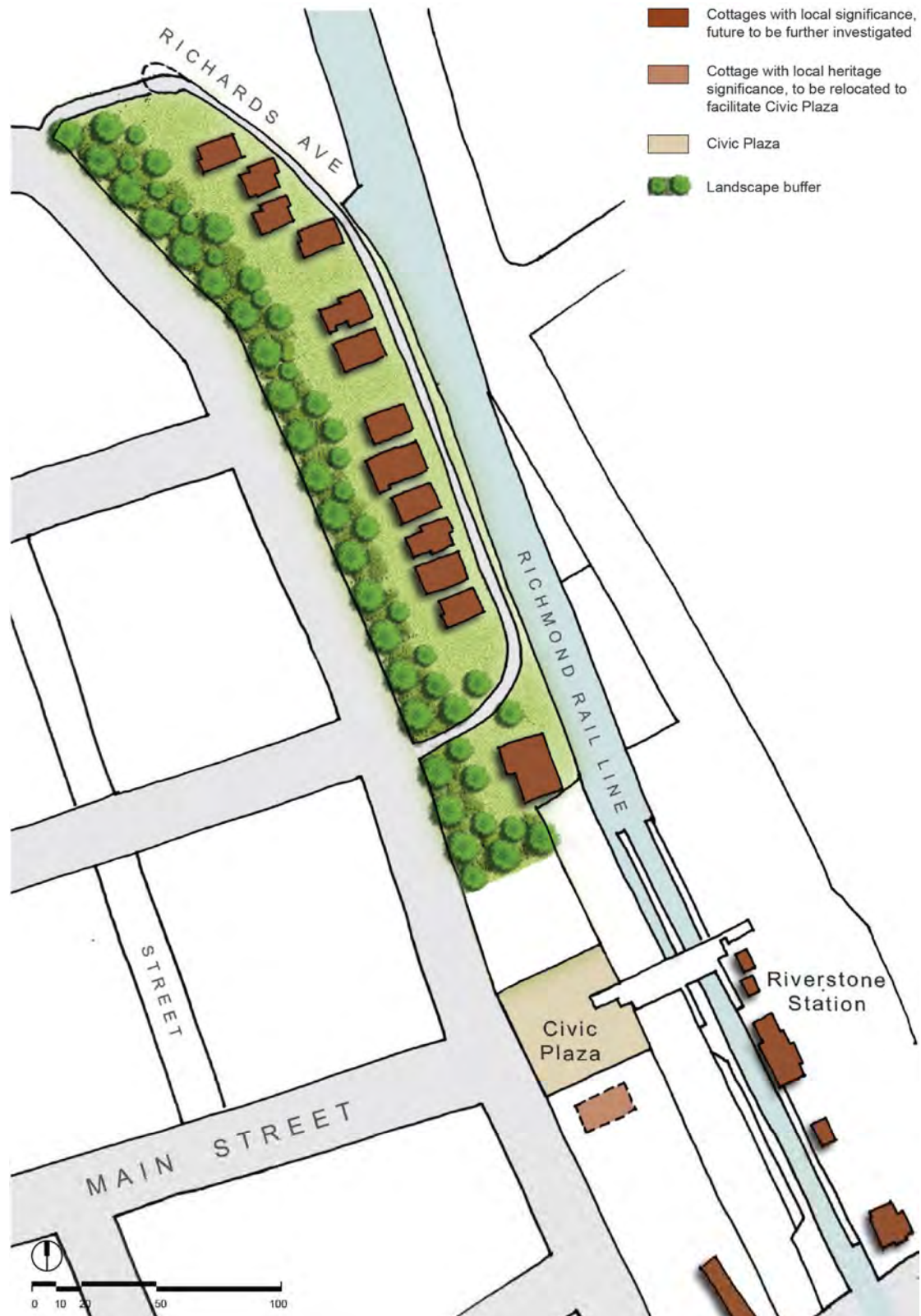


Figure 30: European heritage concept plan



## 4.10 Air Quality and Odour Management

### OBJECTIVES

The air quality and odour management objectives are to:

- 1) ensure that the construction and operation of the development does not cause adverse environmental impacts from air pollutants
- 2) minimise the impact of odour from the Sydney Water Sewerage Treatment Plant (STP)
- 3) encourage appropriate land uses within the STP odour buffer
- 4) minimise odour emission from future development.

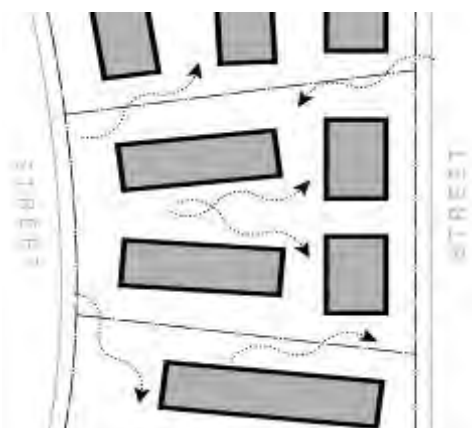
### CONTROLS

#### 4.10.1 Air Quality

- 1) For development within the 2OU odour buffer (shown in **Figure 32**), an **Air and Odour Report** must be prepared at DA stage in accordance with **Table 4** in **Section 1.7.3**,
- 2) DAs must comply with *Action for Air - The NSW Government's 25 Year Air Quality Management Plan* and any other relevant NSW Government and Blacktown City Council documents.
- 3) The development must not have an adverse impact on air quality during or post development.

#### 4.10.2 Odour

- 1) Sensitive uses must be located outside the 2OU odour buffer. Refer to **Figure 32**.
- 2) Buildings located in the Vineyard Business Area must be orientated to provide adequate air flow through buildings. Dead end courtyards between buildings, long narrow spaces or corners between buildings where air may stagnate must be avoided. Creating spaces and staggering spaces between buildings will allow for air movement around buildings. Refer to **Figure 31**.
- 3) Continuous, dense landscaping should be provided around the STP site to assist in reducing odour.



**Figure 31:** Layout of buildings (in Vineyard) to permit air movement around buildings



Figure 32: Odour buffer

## 4.11 Noise and Vibration Management

### OBJECTIVES

The noise and vibration management objectives are to:

- 1) minimise the impact of noise and vibration and ensure no adverse impacts on surrounding land uses
- 2) ensure that development is designed to protect occupants from noise and vibration from the proposed development and surrounding uses
- 3) ensure that development is designed in a manner that minimises the impact of noise, vibration and stray currents generated by the rail line on occupants.

### CONTROLS

- 1) A **Noise and Vibration Impact Assessment and Management Plan** must be prepared in accordance with **Table 4** in **Section 1.7.3** of this DCP.
- 2) DAs must comply with *NSW Industrial Noise Policy 2000* and other relevant Council and government authority guidelines.
- 3) Loading and service areas should not back into areas fronting residential buildings in Riverstone. A merits based assessment approach will be adopted where this cannot be achieved.
- 4) DAs must comply with RailCorp's *Interim Guidelines for Applicants – consideration of rail noise and vibration in the planning process* which aims at managing rail noise and vibration impacts associated with development near rail corridors.
- 5) DAs adjoining the rail corridor should consider the impact of stray currents from rail operations on the foundation structure of the development. All DAs adjoining the rail corridor also include assessment of electrolysis risk as part of the **Noise and Vibration Impact Assessment and Management Plan**.

## 4.12 Waste Management

### OBJECTIVES

The waste management objectives are to:

- 1) maximise opportunities for re-use through source separation and on-site storage.
- 2) minimise waste generation and maximise re-use and recycling
- 3) minimise waste generation through design, material selection and building practices.
- 4) ensure efficient storage and collection of waste and quality design of facilities.
- 5) help minimise the overall environmental impacts of waste.
- 6) assist in achieving Federal and State Government waste minimisation targets.

### CONTROLS

- 1) A **Waste Management Plan** must be prepared in accordance with **Table 4** in **Section 1.7.3** of this DCP.
- 2) Facilities to allow on-site source separation and re-use of materials on-site should be provided.
- 3) Appropriate disposal of special waste is to be detailed by the relevant authority.
- 4) Waste collection should be provided on-site at the street frontage with clear access to facilitate pick up.
- 5) The siting of any stockpile must take into account environmental factors such as slope, drainage, location of watercourses and native vegetation.
- 6) Sufficient space must be provided for the storage of garden waste and other waste materials on site.
- 7) Re-use of stockpile materials on-site is should be facilitated for.
- 8) Sufficient space for storage of recyclables and garbage should be provided on-site.
- 9) Adequate space should be provided for the temporary storage of recyclables, garbage and compostable materials in each unit.
- 10) Waste cupboards should be designed and located so as to be accessible, useable and cater for change of use.
- 11) The area or room allocated for garbage and recycling is to be of a sufficient size to store Council's standard bins in an efficient manner.
- 12) Garbage and recycling areas/rooms must be accessible to all users and have unobstructed access to Council's standard bins in an efficient manner.
- 13) Areas for the storage of bulky waste (for example, clean-up materials) should be provided.
- 14) Volume reduction equipment is permitted with consent.
- 15) Where the development is large or where the site characteristics warrant, multiple garbage and recycling areas should be provided.
- 16) External space for compostable materials should be provided and located separate to the garbage and recycling room.
- 17) Composting facilities should be purpose built and be incorporated into the landscape plan for development.
- 18) The siting of composting facilities should take into account the potential impact on neighbouring properties.
- 19) Composting facilities should be adequately signposted to indicate availability of composting facilities on-site.

# 5.0

## Development Controls



NSW GOVERNMENT  
**Department of Planning**

## 5.0 DEVELOPMENT CONTROLS

### 5.1 Lot Subdivision

#### 5.1.1 Lot Size and Orientation

##### OBJECTIVES

The lot size and orientation objectives are to:

- 1) ensure adequate opportunity for perimeter planting, landscape design and attractive buildings to be located around entrances and visible areas
- 2) allow for a range of allotment sizes that caters for a diversity of land uses and employment opportunities within the Precinct
- 3) ensure allotments are oriented to ensure buildings appropriately address the street and public domain areas.

##### CONTROLS

- 1) Lots are to be relatively regular in shape, although lot sizes should also be diverse to meet a range of land uses. These may range from those requiring wide street frontages and a minimum depth to those that require less frontage but a greater depth. Irregular shaped allotments with narrow street frontages should be avoided, particularly where several of these are proposed in an adjoining manner.
- 2) Lots should be orientated and aligned:
  - a) so that future buildings can face the Spine Road, main streets and local streets to increase visual surveillance and to avoid streetscapes with loading docks and long blank walls
  - b) to facilitate solar efficiency
  - c) to encourage building design that has frontage to landscaped areas and riparian corridors.
- 3) Access to lots shall be sited to ensure sight lines are unimpeded when entering and exiting the lot.
- 4) Subdivisional roads should incorporate a road hierarchy that will accommodate the anticipated traffic volumes and vehicle types and be practical and legible for users.
- 5) Where a residue lot is created through subdivision, the applicant must demonstrate that future development of that residue lot can meet the controls in this DCP.

## 5.1.2 Site Coverage and Landscaped Area

### OBJECTIVES

The site coverage and landscaped area objectives are to:

- 20) ensure a balance between built form and landscape in order to provide a high level of amenity and landscape character
- 21) ensure an integrated design solution which takes into consideration provisions for deep soil planting, shade/solar access and drainage
- 22) allow for future tree planting
- 23) facilitate viable commercial floor plates in Riverstone West Business Park.

### CONTROLS

- 1) The site coverage for any development must comply with **Table 13**:

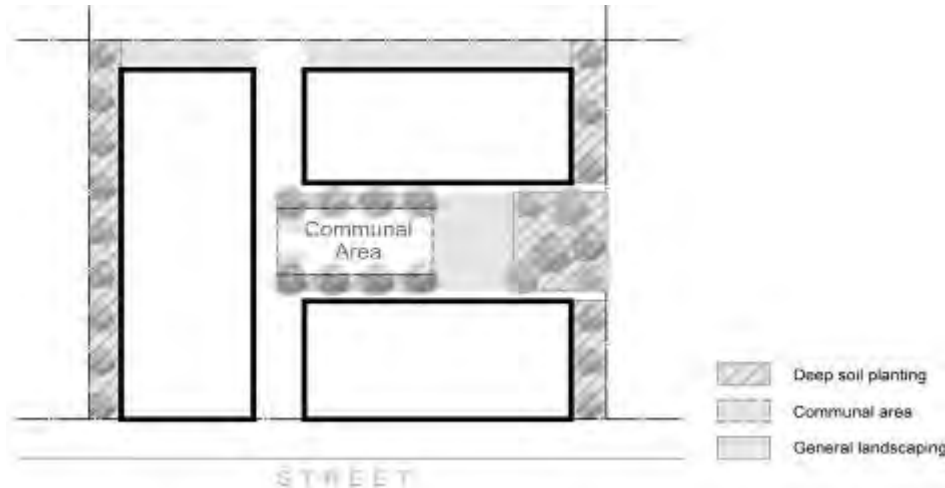
**Table 13:** Site coverage

Sub-precinct	Maximum site coverage
Riverstone West Business Park	60%
Riverstone West Industrial and Intermodal Precinct	65%
Vineyard Business Area	60% or 65% if active uses are provided addressing local streets

- 2) For buildings in the Riverstone West Business Park, the minimum building footprint shall be 1200m<sup>2</sup> with minimum tenancies of 500m<sup>2</sup>.
- 3) Deep soil planting must be provided in accordance with **Table 14** below. Refer to **Figure 33**.

**Table 14:** Deep soil planting

Sub-precinct	Minimum Deep Soil Planting Area
Riverstone West Business Park	25% of total site area
Riverstone West Industrial and Intermodal Precinct	All setback areas
Vineyard Business Area	10% of total site area



**Figure 33:** Deep soil planting

- 4) The minimum width of landscaped areas is two metres, with the exception of landscaping within battle axe handles. The minimum width of landscaped areas within battle axe handles is half a metre on each side of the handle.
- 5) For development in Riverstone West Business Park, one area of at least 20 metres by 20 metres must be provided as part of the deep soil planting requirement.
- 6) Landscaped areas are required between buildings (that is, within the building separation zone)

### 5.1.3 Strata or Community Title

- 1) Where a Strata or Community Title subdivision is proposed, any space for parking or other purposes forming part of a sole occupancy unit required by Council must be included in the same strata lot as the unit. All landscaping, access areas and directory board signs not forming part of an individual unit will be required by Council to be included in any strata plan of subdivision as common property.



## 5.2 Built Form

### 5.2.1 Setbacks

#### OBJECTIVES

The setbacks objectives are to:

- 1) define building envelopes within each allotment by specifying minimum setbacks
- 2) achieve attractive streetscapes
- 3) ensure buildings present an acceptable scale and bulk when viewed from the street and public domain areas.

#### CONTROLS

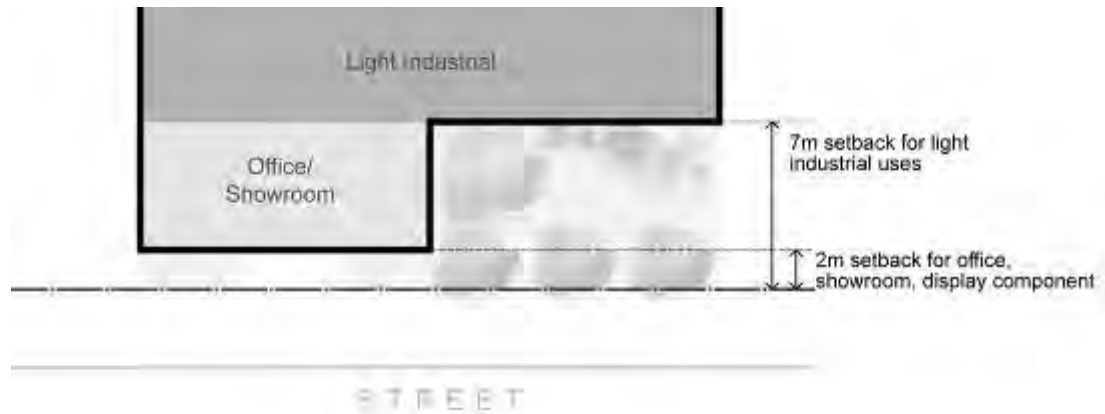
- 1) In commercial areas, no building or hardstand area (concrete or bitumen pavement) other than a public utility undertaking shall be erected within any setback.
- 2) All setback areas should be landscaped and maintained in accordance with the landscape provisions in **Section 5.4**.
- 3) Pedestrian access should be provided to all landscaped setback areas for maintenance and security purposes, but is not to be included in the designated landscape setback area.
- 4) Storage, apart from water storage integrated with the landscape design, is not permitted within the landscaped setback areas.
- 5) The landscape setback areas should be designed to create attractive views from the street and public domain areas and reduce the bulk and scale of development.
- 6) Council may increase the minimum setback where the proposed development is of a bulk and scale out of character with existing development within the zone, or where the proposed landscape techniques are not sufficient to ameliorate the visual impact of the proposed development.
- 7) All development is to be consistent with the front setback controls and principles in **Table 15** and **Figures 34, 35** and **36**.

**Table 15:** Front setbacks

Sub-precinct	Building Facade Line
Riverstone West Business Park	Zero setback from centre main streets, slip roads, and local roads. 4m setback from the pedestrian street 5m setback from Spine Road south of the main street
Riverstone West Industrial and Intermodal Precinct	10m from Spine Road 5m from local roads
Vineyard Business Area	Zero setback from town centre main streets 7m from local roads; or 2m setback from local roads if the office, showroom or display room component (or any other use that provides for street address) of the building addresses the street. Refer to <b>Figure 34</b> .

- 8) Front setback areas to public roads are to be landscaped and maintained as open areas only, so as to enhance the streetscape appearance of all industrial areas.

- 9) Front setbacks for buildings in the vicinity of heritage items must be in accordance with **Figures 35** and **36**.



**Figure 34:** Front setbacks in Vineyard Business Area



**Figure 35:** Front setbacks in the vicinity of heritage items



**Figure 36:** Front setbacks in the vicinity of heritage items

- 10) All development is to be consistent with the side and rear setback controls in **Table 16**.

**Table 16:** Side and rear setbacks

Sub-precinct			Side setback	Rear Setback
Riverstone Park	West Business		6m	6m
Riverstone and Intermodal Precinct	West Industrial		3m	3m
Vineyard Business Area			6m	6m

- 11) A minimum two metres width of paved area will be permitted within side and rear setbacks for the purposes of providing for pedestrian links through properties.

## 5.2.2 Building Layout and Orientation

### OBJECTIVES

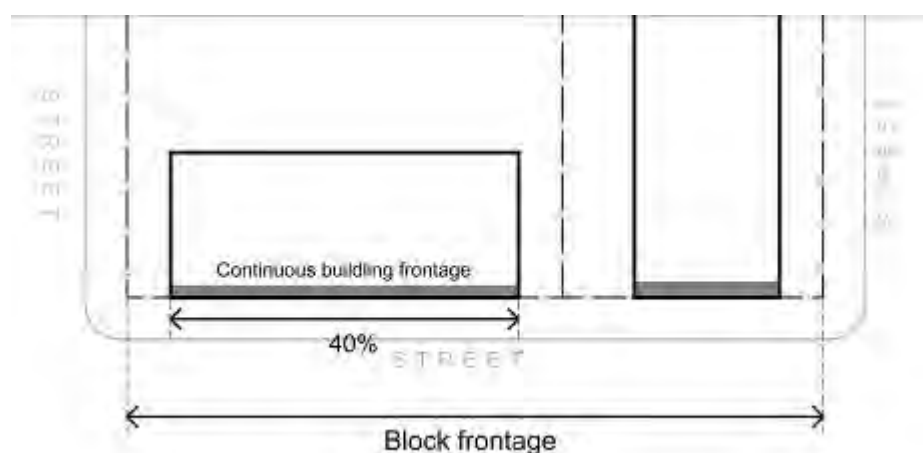
The building layout and orientation objectives are to:

- 1) provide a variety of building orientation
- 2) ensure buildings maximise aspect and take advantages of views within and beyond the Precinct
- 3) optimise building orientation and siting to natural elements such as topography, wind and sunlight
- 4) create defined streetscapes
- 5) activate streets with building frontages.

### CONTROLS

#### Riverstone West Business Park

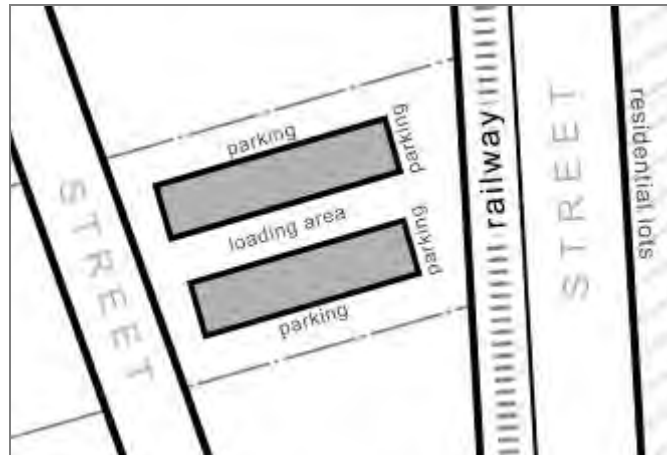
- 1) At least 40 per cent of the block frontage must be addressed by continuous building frontage. Refer to **Figure 37**.
- 2) West facing elevations must provide for effective sunshading.



**Figure 37:** Buildings addressing the street in Riverstone West Business Park

**Vineyard Business Area**

- 3) The layout and orientation of buildings should minimise lengthy or deep areas of car parking along the street front, as well as lengthy loading areas facing residential areas over the railway line. Refer to **Figure 38**.
- 4) The orientation of buildings should consider odour impacts from the Sydney Water STP in the manner described under **Section 4.10** of this DCP.



**Figure 38:** Typical building layout in Vineyard Business Area

### 5.2.3 Building Separation

#### OBJECTIVES

The building separation objectives are to:

- 1) allow solar access to buildings and communal areas
- 2) allow for deep soil planting between buildings
- 3) provide a visual break between buildings and reduce the perceived bulk and scale of the built environment
- 4) provide outlook from buildings
- 5) allow for adequate air flow between buildings particularly in odour affected areas.

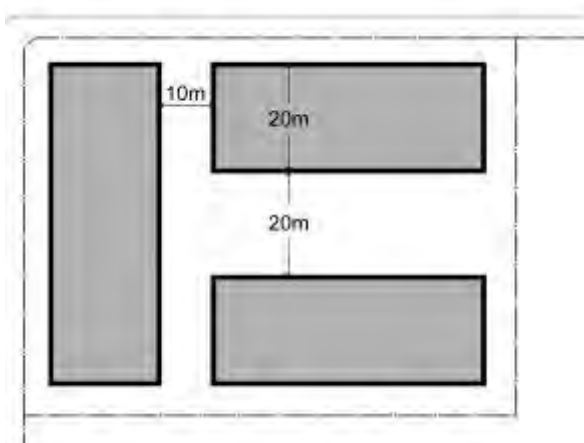
#### CONTROLS

- 1) Building separation must comply with **Table 17**:

**Table 17:** Building separation

Sub-precinct	Minimum Building Separation
Riverstone West Business Park and Vineyard Business Area	<p>20m separation between buildings facing each other.</p> <p>10m separation between buildings perpendicular to each other where the width of the facing facades is 20m or less.</p> <p>12m separation between buildings perpendicular to each other within a site where the width of the facing facades exceeds 20m.</p>
Riverstone West Industrial and Intermodal Precinct	6m separation between buildings

- 2) Separation between buildings must be sufficient so as to enable solar access, as shown in **Figure 39**.



**Figure 39:** Building separation

## 5.2.4 Floor to Ceiling Height

### OBJECTIVES

The floor to ceiling height objectives are to:

- 1) encourage creative and innovative building design of a high architectural standard that reflects natural, functional and aesthetic opportunities
- 2) encourage quality and consistency in the treatment of facades, external finishes and the like
- 3) ensure sufficient visual relief is achieved on facades visible from adjoining sites and the public domain, including major thoroughfares
- 4) achieve an appropriate mix of scale and form.

### CONTROLS

- 1) The minimum floor to ceiling height of buildings must comply with **Table 18**.

**Table 18:** Floor to ceiling height

Sub-precinct	Minimum Ceiling Height
Riverstone West Business Park	Commercial uses: <ul style="list-style-type: none"> <li>• Ground level – 3.6m</li> <li>• Upper levels – 2.7m</li> </ul>
Riverstone West Industrial and Intermodal Precinct	N/A
Vineyard Business Area	Commercial uses: <ul style="list-style-type: none"> <li>• Ground level – 3.6m</li> <li>• Upper levels – 2.7m</li> </ul>

## 5.2.5 Sustainable Building Design

### OBJECTIVES

The sustainable building design objectives are to:

- 1) ensure development is environmentally sustainable in terms of energy and water use
- 2) minimise consumption of potable water and waste water discharge
- 3) maximise opportunities for natural ventilation where appropriate in the Riverstone West Business Park
- 4) prevent air pollution or disturbance to amenity of nearby residents from the use of open fire places and slow combustion stoves
- 5) ensure development incorporates water conservation and re-use measures into design and operation
- 6) ensure building depth allows for adequate solar access.

### CONTROLS

- 1) New commercial buildings must achieve a minimum four star Green Star rating from the Green Building Council of Australia. Refer to the '*Green Star – Office As Built Technical Manual*'

- 2) New industrial and light industrial buildings must achieve a minimum four star Green Star rating from the Green Building Council of Australia from such time that an industrial tool has been adopted.
- 3) Development shall incorporate water efficient fixtures such as taps, showerheads, and toilets. The fixtures must be rated to at least AAA under the National Water Conservation Rating and Labelling Scheme. Where the building or development is water intensive, specific water conservation objectives must be resolved with Council.
- 4) Appropriate use of energy efficient materials during construction is to be demonstrated.
- 5) Development should incorporate energy efficient hot water systems, air-conditioning, lighting and lighting control systems.
- 6) Any building with a depth greater than 20 metres shall have an atrium to permit solar access and natural ventilation, unless it is demonstrated that at least 60 per cent of the Net Lettable Area (NLA) has a Daylight Illuminance (DI) of 250 lux.

## 5.2.6 Architectural Design

### OBJECTIVES

The architectural design objectives are to:

- 1) enhance the visual quality of development through the selection of appropriate materials and colours
- 2) encourage the use of materials that minimise impact on the environment
- 3) ensure that any reflective materials are used with sensitivity to neighbouring development, vehicular traffic and public domain areas
- 4) ensure that ancillary buildings, storage and service areas are considered part of the overall design, and do not detract from the amenity and appearance of the development
- 5) create distinctive high quality gateways to the zone
- 6) create identifiable, attractive and safe entrances to buildings
- 7) use fencing to define boundaries and provide security, as well as contribute to streetscape and amenity of the zone
- 8) ensure that signage and lighting supports the visual appearance of the building and the visual appeal of the zone.

### CONTROLS

#### Building Design and Siting

- 1) Building designs within the Riverstone West Business Park, Vineyard Business Areas and Recreation Precinct will be assessed based on aesthetic merit and technology, based on the following design principles:
  - a) Buildings should provide variety to facades by projecting upper storeys over building entries using upper storey display windows, emphasising street corners and varying roof forms.
  - b) Buildings should provide effective sunshading for windows, wall surfaces and building entries, (other than loading docks) by the use of design elements such as overhanging eaves and awnings, undercrofts, colonnades and external sunshading devices including screens.
  - c) Building design should be integrated with landscape elements.
  - d) The bulk and scale of the building should minimise impact on district views.
  - e) Building facades should be articulated by elements such as:
    - external structures, finishes, etchings and recessed patterns
    - decorative features, textures and colours



- locating offices and highlighting entries within front facades
  - emphasised customer entries and service access doors
  - protrusions and penetrations in building elements.
- f) Buildings with dual street frontage should be designed to ensure:
- the building addresses the primary street frontage
  - distinctive identifying architectural elements are incorporated to provide sufficiently interesting and varied facades.
- g) The building design should consider the amenity of any adjoining landscaped areas.
- h) The location of roller shutters, loading docks and other building openings should not detract from the overall appearance of the building. Where possible, roller shutters and the like should not be located on the primary street frontage.
- i) Roof design should be visually interesting and provide for natural lighting and compatibility with the overall building design. Where visible from a public area, all rooftop or exposed structures such as lift motor rooms, plant rooms, must be suitably screened and integrated with the building.
- 2) Blank building facades facing the primary street frontage are not permitted.

#### **External Building Materials and Colours**

- 3) Applicants are required to submit with all DAs a materials sample board detailing external colours and finishes.
- 4) External finishes should be constructed of durable, high-quality and low maintenance materials.
- 5) All external walls of buildings used for office/showroom purposes should be constructed of brick, glass, steel, concrete, textured block work, pre-cast exposed aggregate panels or other materials approved by Council.
- 6) External finishes should contain a combination of materials.
- 7) Any wall visible from the public domain must be finished with a suitable material to enhance the appearance of that facade.
- 8) Building materials should be selected such that reflection is minimised and will not adversely affect adjacent development, vehicular traffic and public domain areas.
- 9) The following should be considered in the choice of building materials in all developments:
- a) Energy efficiency
  - b) use of renewable resources
  - c) low maintenance
  - d) recycled or recyclable
  - e) non-polluting
  - f) minimal PVC content
- 10) Where concrete roofs are proposed for the purpose of additional parking, parapeted edge conditions are preferred, with concealment of car parking with perforated materials.
- 11) Materials that are likely to contribute to poor internal air quality and those containing Volatile Organic Compounds (VoCs) should be avoided.

#### **Entrance Treatment**

- 12) Entrances should be clearly visible, well sign posted, well lit and landscaped.
- 13) Entries to buildings should be clearly visible to pedestrians and motorists and be integrated into the form of the building.
- 14) Architectural features are to be provided at ground level giving an entrance element to the building and addressing the primary street frontage.

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- 15) All entrance treatments, such as directory boards, must be located on private property, with appropriate positive covenants and restrictions on title to ensure that the ongoing management of such treatments.
- 16) No form of advertising will be permitted on any entrance treatment facility.

### 5.2.7 Ancillary Buildings, Storage and Service Areas

#### OBJECTIVES

The ancillary buildings, storage and service areas objectives are to:

- 1) ensure that site facilities are functional and accessible and are easy to maintain
- 2) ensure that site facilities are thoughtfully integrated into the development and are visually and physically unobtrusive
- 3) minimise the impact of service access on pedestrians and industrial, commercial and retail frontage
- 4) To minimise the visual and acoustic impact of site servicing.

#### CONTROLS

- 1) Ancillary buildings and storage sheds are to be located behind the setback lines and be consistent with the design of the main building.
- 2) Details of any proposed ancillary buildings, open storage and services areas must be submitted with all DAs.
- 3) Where possible, storage areas should be located within the confines of the primary building. Appropriate screening must be provided otherwise.
- 4) Above ground open storage areas visible from the public domain are not permissible.
- 5) Above ground open storage areas should not compromise truck or vehicle manoeuvring and car parking areas.
- 6) Vehicular access to loading facilities is to be provided from secondary and tertiary streets where possible.
- 7) Rubbish and recycling areas must be provided in accordance with *Part O Site Waste Management and Minimisation of Blacktown DCP 2006*. These areas must:
  - a) be integrated with the development
  - b) minimise the visibility of these facilities from the street
  - c) be located away from openable windows to habitable rooms.
- 8) Barrier free access is to be provided to all shared facilities.
- 9) At least one shower and changing facility accessible to the building users must be provided.
- 10) The following information must be provided at DA stage for outdoor storage areas:
  - a) size of outdoor storage area
  - b) maximum storage height
  - c) types of goods, materials and equipment being stored outdoors
  - d) details on landscaping and screening structures.
- 11) Sunken loading docks should be avoided.
- 12) A minimum 225 millimetres clearance is required between finished floor level and finished ground level.
- 13) Above ground water tanks must not be located forward of the front facade of the primary buildings. They should not be visible from the public domain and must be suitably screened. Details (including elevations) of all water tanks must be submitted with the DA.

## 5.3 Streetscape

### OBJECTIVES

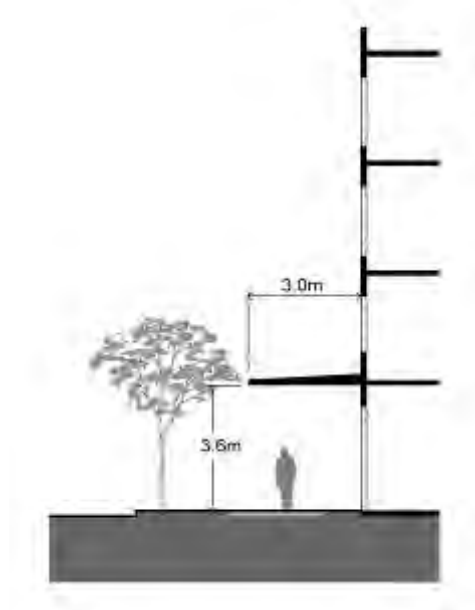
The streetscape objectives are to:

- 1) create vibrant streetscapes around areas of high pedestrian traffic
- 2) provide a mix of uses to support an increasing employment population over time
- 3) enhance pedestrian safety, security and amenity within the Precinct
- 4) create a unified streetscape
- 5) provide weather protection, safety and security for pedestrians
- 6) demarcate building entries and contribute to the image and identity of development.

### CONTROLS

#### 5.3.1 Awnings, Colonnades and Canopies

- 1) Awnings and colonnades should be provided in accordance with **Figures 40** and **41**.
- 2) Awnings must be provided for at least 50 per cent of the building frontage along the Slip Road. Colonnades will also be considered.
- 3) Awning width is to be three metres with a soffit height of 3.6 metres above finished ground floor level.
- 4) Glazing is not permitted in continuous awnings.
- 5) Under awning lighting is to be provided to achieve appropriate luminance levels (refer to relevant Australian Standards).
- 6) Entry canopies and discontinuous awnings are to be provided for all commercial buildings.
- 7) Entry canopies may be glazed or solid, and are to be coordinated with the overall facade design.
- 8) Canopies with a soffit height of 3.6 metres to 4.2 metres must be provided.



**Figure 40:** Awnings in Riverstone West Business Park and Vineyard Business Area



Figure 41: Provision of awnings, colonnades and canopies

### 5.3.2 Fencing

- 1) Low feature walls are encouraged at entry driveways. These walls should be used for retaining purposes, as garden beds or as landscaped features and should be integrated into the overall design of the development.
- 2) Front and side boundary fences forward of the building line shall consist of an open wrought iron palisade style fence, finished in either dark green or black.
- 3) Side fencing behind the building line may comprise chain wire mesh or similar open style fence, plastic coated in dark green or black.
- 4) Pre-painted solid metal fencing and other solid fencing is not permissible.
- 5) Fencing must be set back one metre from the property boundary.
- 6) Fencing should be sited so it does not impede sightlines for drivers.
- 7) Fencing along boundaries should not exceed a height greater than three metres, measured from finished ground level.
- 8) Pedestrian fencing within the road reserve is to be RTA Type 1, without embellishment and coloured black.
- 9) The use of timber fencing or bollards within public reserves or roads is not permitted.

### 5.3.3 Signage and Lighting

- 1) Signage is to relate to the use occurring on the respective property, and should identify the relevant business name.
- 2) Business identification signage should be attached to the wall of the main building and be designed to complement the architectural style of the building. Free standing signs will only be permitted where signs are integrated with the landscaping and visual character of the site and surrounding area.
- 3) Directional signs for car parking areas, loading docks, delivery areas and the like should be located close to the main access of a development site. The design, colouring, type and scale of signage within individual properties should be consistent with signage across the zone as a whole.
- 4) Signage is only to display corporate logos and company names and is not to occupy more than 10 per cent of any facade or wall of a building, unless it can be demonstrated that characteristics of the site or the building require a larger area of signage.
- 5) Details of all signage, including free standing, fascia, and wall signs must accompany DAs.
- 6) The design and lux of any internal or spot lighting shall be designed to avoid off-site or traffic safety impacts.
- 7) No form of moving or flashing signage or lighting is permitted.
- 8) Signage is not to have a detrimental impact on the visual character of the site or surrounding area.

## 5.4 Landscape Design

### OBJECTIVES

The landscape design objectives are to:

- 1) encourage a high standard of landscape design that enhances the streetscape and amenity of the zone
- 2) enhance the appearance, amenity, energy and water efficiency of development through integrated landscape design
- 3) ensure that the public domain and outdoor staff area are landscaped.

### CONTROLS

#### 5.4.1 General

- 1) A **Landscape Plan** must be prepared in accordance with **Table 4** in **Section 1.7.3** of this DCP, in accordance with the **Landscape Strategy** (also described in **Table 3** in **Section 1.7.3**), and be submitted at with all DAs.
- 2) Landscaping must accord with Appendix 5 of *Planning for Bush Fire Protection 2006*.

#### 5.4.2 Streetscape and Allotment Frontages

- 1) The streetscape design is to integrate vertical elements (trees, light poles and allotment signage) to provide consistency of elements and materials across the zone.
- 2) Service lids and above ground structures are to be minimised in street frontages. Where possible, service lids are to be located adjoining pavement or kerbs to avoid small areas of turf or planting beds.
- 3) Street tree planting should be implemented at the subdivision stage to ensure plantings are visually consistent in height, spread and form across the zone.
- 4) In Vineyard Business Are, a minimum seven metre wide landscape area must be provided along street front, except where zero setback controls apply.
- 5) The selection of plant species for street tree planting must be in accordance with **Appendix G** Prescribed Trees, Preferred Species and Street Trees.

#### 5.4.3 Allotment Landscape

- 1) Allotment landscape is to be undertaken as part of an integrated design with site planning and building design to:
  - a) reduce the scale of built form from the street
  - b) reduce visual impact and the extent of continuous building facades
  - c) highlight architectural features and complement facade articulation
  - d) identify site and building entries, car park entries and parking areas, in coordination with signage
  - e) mitigate adverse site conditions through buffering of western sun, provision of shade, wind protection, and screening of poor views
  - f) maximise northern sun exposure
  - g) integrate usable and attractive external seating and amenity areas for staff incorporating paved areas, soft landscape, and shade planting (and canopies where necessary).

- 2) Allotment landscape should incorporate hard and soft landscape elements in pavements, retaining walls, low walls and terracing, trees, garden bed planting, turfed areas and irrigation.
- 3) Endemic species from the area are encouraged for all landscape plantings, however, non-native species may be considered in limited use to external courtyard areas to achieve seasonal climate management. Tree plantings should be a minimum height of one metre at the time of planting. Mass plantings may use a variety of sizes including viro tubes.
- 4) The allotment landscape is to be provided with an automatic trickle irrigation system installed below mulch level. The system is to be supplied by the rainwater tanks on site.
- 5) Irrigation systems are to incorporate soil moisture monitoring where possible to ensure that moisture levels are maintained at an appropriate level.
- 6) Landscaped areas are to be separated from vehicular access areas by an appropriate edge, preferably a raised kerb.
- 7) Landscaped areas are to be separated from storage areas by an appropriate edge, preferably low walls. Signage and management strategies are to be put in place to ensure that storage activities do not impact on, and extend into, landscaped areas. No storage is allowed in landscaped setback areas.

**5.4.4 Landscaping of Car Parking Areas**

- 1) Landscaping of car parking areas is to comply with **Table 19** below:

**Table 19:** Landscape car parking

Large canopy tree plantings	Maximum intervals of 25m (9 parking bays)
Tree plantings	Minimum 2m bay of deep soil condition
Car parking bays	Raised kerb barrier (rounded adjoining accessways) and native groundcover planting.

- 2) Allotment car parking areas are to be effectively landscaped to:
  - a) reduce their visual impact
  - b) reduce heat generation and glare from hard paved surfaces
  - c) provide shade for parked vehicles
  - d) maximise potential for soft drainage (non-piped) to soft landscaped areas or collection zones.
- 3) Car park lighting design is to be coordinated with the preferred tree layout.
- 4) Dividing zones between parking bays should be landscaped as applicable to specific site conditions:
  - a) where pedestrian access will generate desire lines across the dividing zone, pedestrian traffickable wearing surface is required (for example, stabilised gravel)
  - b) where pedestrian access is not required and some infiltration drainage may be provided, mass planted landscape areas (requiring flush kerb edge and wheel stops to car parking bays) must be provided
  - c) where a major drainage role is envisaged and pedestrian access is not required, a gravel surfaced trench with collection pipework draining to on site storage or stormwater must be provided.
- 5) Clearly defined and appropriately surfaced pedestrian access links from parking areas to building entry points must be provided, incorporating kerb crossing ramps as required.
- 6) Car park landscaping is to be provided with an automatic trickle irrigation system installed below mulch level. Irrigation services provision must be implemented before car park surfacing. The system is to be supplied by the rainwater tanks on site.
- 7) Irrigation systems are to incorporate soil moisture monitoring where possible to ensure that moisture levels are maintained at an appropriate level.



**5.4.5 Communal Areas**

**OBJECTIVES**

The communal areas objectives are to:

- 1) ensure adequate open space areas are provided within development sites for the use and enjoyment of employees and visitors
- 2) ensure the size, location, configuration and embellishment of private open space areas encourages use by employees and visitors.

**CONTROLS**

- 1) Provision of communal areas must comply with **Table 20**. Communal areas must include soft landscaping.

**Table 20:** Communal area provision

Sub-precinct	Communal Area as % of total site area
Riverstone West Business Park	5%
Riverstone West Industrial and Intermodal Precinct and	1%
Vineyard Business Area	3%

- 2) Each development shall be provided with at least one private open space area for the use and enjoyment of employees and visitors to that development. The area shall be suitably landscaped and accessible from the main office component of the development.
- 3) Small pockets of open space designed to enhance the appearance of the development will not be counted in the private open space allocation, neither will car parking areas, manoeuvring areas or landscaped setback areas.
- 4) In locating private open space areas, consideration should be given to the outlook, natural features of the site and neighbouring buildings.
- 5) Private open space areas shall be embellished with appropriate landscaping, shade, paving, tables, chairs and the like.
- 6) Private open space areas shall be relatively flat and not contain impediments which divide the area or create physical barriers which may impede use.
- 7) The area should be screened so it is not directly visible from the public domain but is provided with adequate sunlight access.
- 8) Solar access to communal open spaces is to be maximised. Communal areas must receive a minimum of two hours direct sunlight between 11am and 3pm on 21 June.
- 9) Appropriate shading is to be provided so that communal spaces are useable during summer.
- 10) Communal open spaces are to incorporate the primary deep soil area where possible. The landscaping of courtyard spaces is to provide for the growth of mid to large size trees.
- 11) Landscaped areas are to incorporate trees, shrubs and ground covers endemic to the area where appropriate.

## 5.5 Access and Parking

### 5.5.1 Pedestrian Access

#### OBJECTIVES

The pedestrian access objectives are to:

- 1) ensure pedestrian permeability throughout the precinct, particularly in Riverstone West Business Park.

#### CONTROLS

- 1) Pedestrian Streets must be provided in accordance with **Section 3.4** of this DCP.

### 5.5.2 Vehicular Access

#### OBJECTIVES

The vehicular access objectives are to:

- 1) ensure that vehicles can enter and exit premises in a safe and efficient manner in a forward direction
- 2) minimise the impact of vehicle access points on the quality of the public domain and pedestrian safety
- 3) provide off-street manoeuvring, loading and docking facilities that are adequate for the operational needs of the activity and use.

#### CONTROLS

- 1) A site specific **Traffic Impact Report** must be prepared in accordance with **Table 4** in **Section 1.7.3** of this DCP.
- 2) Vehicular driveway access is denied in the locations shown in **Figure 42**.

#### Business Parks

- 3) Vehicular access should be designed to avoid conflicts with pedestrians.
- 4) Adequate space shall be provided within any development site for the loading and unloading of service vehicles. The standard of loading facilities required will depend upon the nature of the development and the uses to be carried out.
- 5) For certain developments Council may require the provision of parking for courier vehicles. Where possible loading facilities should be located at the rear of developments.
- 6) Vehicular movements associated with loading facilities and customer parking should be separated wherever possible and all pedestrian movements should be segregated from vehicular movements to avoid possible conflict and congestion.
- 7) Ingress to and egress from a site should be located where they will cause least interference with vehicular and pedestrian movement on public roads. Direct access will not be permitted off higher order roads. Road access to parking areas will not be permitted in close proximity to traffic signals, intersections or where sight distance is inadequate.

- 8) The potential for on-street queuing should be eliminated by the provision of sufficient standing areas on-site for vehicles entering the car parking and loading areas. Provision is to be made for all vehicles to enter and leave a site in a forward direction.

#### **Industrial Areas**

- 9) Applicants are required to submit plans and details of proposed vehicular access and circulation for Council's approval with the DA. Details must specifically relate to vehicular movement, layout and turning circles.
- 10) Adequate vehicular entrance to and exit from the development is to be provided and designed in order to provide safety for pedestrians and vehicles using the site and adjacent roadways. In some cases combined ingress and egress will be permitted.
- 11) Vehicular ingress and egress to the site must be in a forward direction at all times.
- 12) Driveway crossovers accesses by heavy vehicles should be a minimum of 9m wide, when measured at the kerb alignment.
- 13) Turning circles will not be permitted to encroach upon any building.
- 14) Adequate space is to be provided within the site for the loading, unloading and fuelling (if applicable) of vehicles. These areas may need to be screened from the road.
- 15) All parking areas and access roadways must be provided with a drainage system comprising surface inlet pits. Details of pipe sizes (with calculations) and drainage layouts (including discharge points) must be submitted with the DA.
- 16) On-street overnight parking of heavy vehicles is not permitted. Where necessary, provisions for on-site overnight parking of heavy vehicles must be provided.

#### **Manoeuvring, Loading and Docking**

- 17) Loading and docking facilities should be located and designed to minimise interference with internal traffic circulation.
- 18) Loading and docking facilities are to allow the forward entry to and exit from the site for all vehicles.



Figure 42: Vehicular driveway access denied



### 5.5.3 Car parking

#### OBJECTIVES

The car parking objectives are to:

- 1) provide an appropriate level of on-site car and bicycle parking provision in Riverstone West
- 2) minimise the visual impact of on-site parking
- 3) integrate parking facilities with the overall site planning and landscape
- 4) encourage the use of other modes of transport including bicycles and public transport.

#### CONTROLS

##### General

- 1) The provision of car parking must comply with **Table 21**.

**Table 21:** Specific land use requirements for car parking

Employment Sub Precinct	Car Parking Requirements	Bicycle Requirements	Parking
Riverstone West Business Park	For commercial buildings: <ul style="list-style-type: none"> <li>• Minimum: 1 space per 70sqm GFA</li> <li>• Maximum: 1 space per 46sqm GFA</li> </ul>	1 bicycle locker or other suitable form of secure bicycle accommodation is to be provided for every 200sqm GFA.	
Riverstone West Industrial and Intermodal Precinct and	For industrial buildings: <ul style="list-style-type: none"> <li>• 1 space per 46sqm GFA of office component</li> <li>• 1 space per 250sqm GFA of factory, warehouse and bulk storage component</li> </ul>	2 male and 2 female showers are to be provided for buildings above 1000sqm  1 male and 1 female shower is to be provided for buildings under 1000 sqm	
Vineyard Business Area	For commercial buildings: <ul style="list-style-type: none"> <li>• Minimum: 1 space per 70sqm GFA</li> <li>• Maximum: 1 space per 46sqm GFA</li> </ul> For industrial/light industrial: <ul style="list-style-type: none"> <li>• 1 space per 70sqm GFA of office component</li> <li>• 1 space per 250sqm GFA of factory, warehouse and bulk storage component</li> </ul>		

- 2) Sections 5.4 to 5.7 of Part A of *Blacktown DCP 2006* should be referred to for general guidelines and principles for car parking, including design, materials, signs and monetary contributions.
- 3) Safe and secure 24 hour access to car parking areas is to be provided for building users.

### At-grade parking

- 4) At-grade parking areas are to be located so as to minimise visual impacts from the street, public domain and communal open space areas, using site planning and appropriate screen planting or structures.
- 5) Large parking areas are to be located generally behind front building lines.
- 6) In Riverstone West Business Park and Vineyard Business Area, parking areas must not be located within the front setback area.
- 7) In the Vineyard Business Area parking will not be permitted forward of the front facade line of the building unless it can be demonstrated that parking will be appropriately located so as to not dominate the streetscape and will occupy a maximum of 40 per cent of the front setback. Refer to **Figure 43**.
- 8) Provide safe and direct access from parking areas to building entry points.
- 9) Provide appropriate mature vegetation between parking bays to provide shade and enhance visual impact.



**Figure 43:** Parking in Vineyard Business Area

### Basement parking in Riverstone West Business Park

- 10) Basement parking areas are to be located primarily under building footprints to maximise opportunities for deep soil areas. Refer to **Figure 44**.
- 11) Basement parking areas must not extend forward of the building line along a street. Refer to **Figure 45**.
- 12) Along active frontages, basement parking must be located fully below the level of the footpath. Refer to **Figure 45**.
- 13) The minimum level at the apex of the driveway into the basement should be at or above 17.9 metres to protect the entry of rain and surface water (1 in 100 year flood or overland flow).
- 14) Semi-basement parking must protrude no more than 1.2 metres above ground level for no more than 60 per cent of the building frontage along a public street. Refer to **Figure 46**.
- 15) Ventilation grills or screening devices of car park openings are to be integrated into the overall facade and landscape design of the development.
- 16) An Emergency Flood Evacuation Warning System must be installed.

- 17) The lowest basement level must not be lower than the natural ground water level unless approved by Department of Environment and Climate Change and Department of Water and Energy.
- 18) The basement level stormwater pumps must discharge via a stormwater treatment device to prevent the discharge of pollutants into streams.

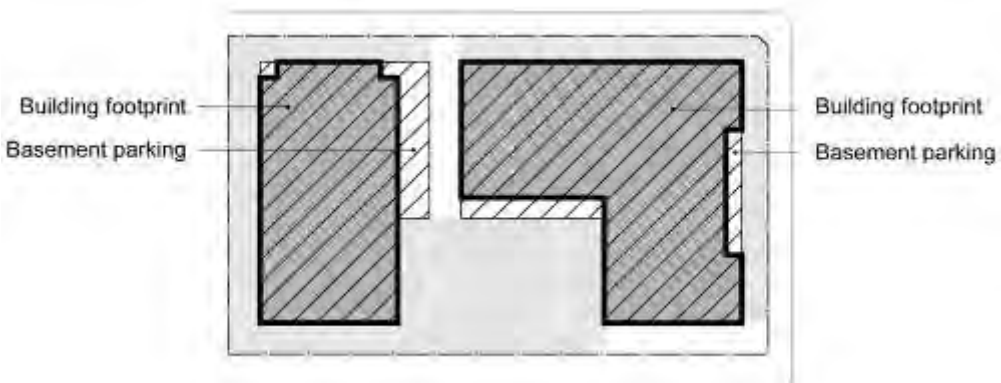


Figure 44: Basement parking located primarily under building footprints

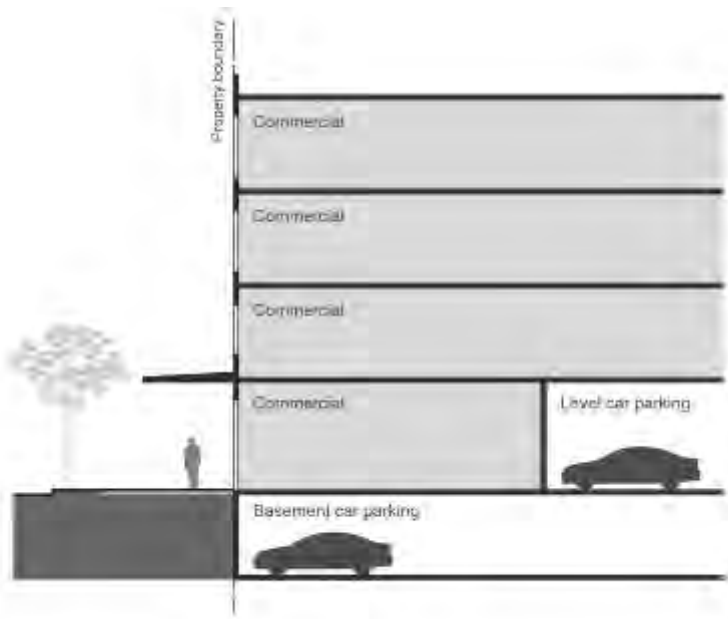


Figure 45: Basement parking behind front building line and located fully below footpath



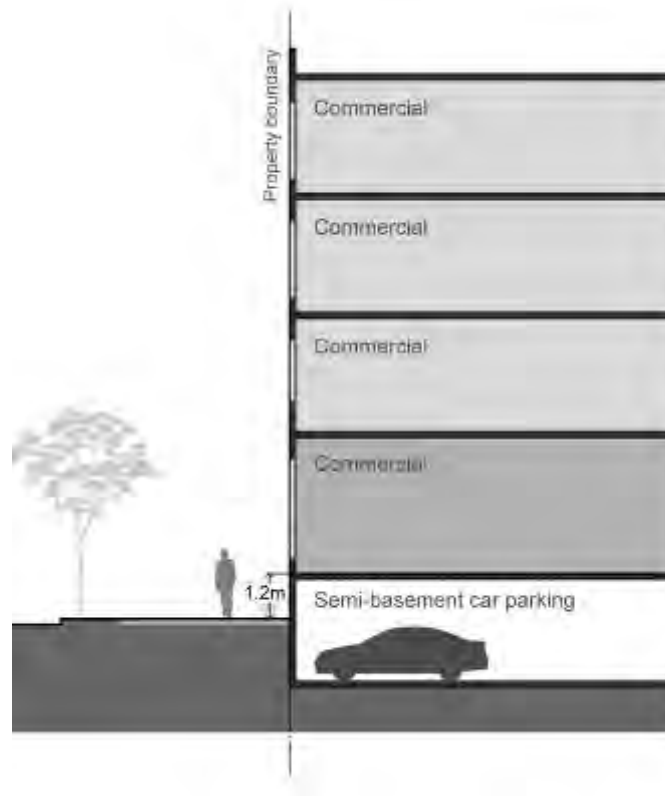


Figure 46: Semi-basement parking

### Industrial Areas

- 19) The car parking area, if possible, should be located immediately behind the minimum setback area and in front of any activity on the site. This arrangement encourages the use of off-street car parking, making the development more attractive to visitors and employees. In addition, the car parking area should be accessible to all parts of the industrial development which it serves.
- 20) Where a building is intended to be divided into lettable units, parking will be calculated for each unit and the appropriate spaces must be nominated on the DA plan and/or strata plan in respect of each unit.
- 21) The use of stack parking is not favoured and may only be permitted in special circumstances.
- 22) Parking facilities for commercial vehicles should be designed to accommodate the largest type of truck which could reasonably be expected to park on the site.
- 23) Sufficient spaces should be provided for disabled parking. All developments providing 50 parking spaces or more must provide at least 2 per cent or part thereof of those spaces for disabled drivers, clearly marked and signposted for this purpose and located as close as possible to the building's entrance.
- 24) All parking areas shall be constructed of hard-standing, all-weather material, with parking bays and circulation aisles clearly delineated.
- 25) Additional guidelines for the design of parking areas can be found within the RTA publication *Guide to Traffic Generating Developments*.

## 5.6 Safety and Surveillance

### OBJECTIVES

The safety and surveillance objectives are to:

- 1) ensure personal safety for workers and visitors to the development
- 2) ensure design minimises the opportunity for crime and maximises opportunities for passive surveillance.

### CONTROLS

- 1) A **Crime Risk Assessment Report** must be prepared for each relevant development in accordance with **Table 4** in **Section 1.7.3** of this DCP and **Appendix H** Crime Prevention through Environmental Design.
- 2) Buildings should be designed to overlook public domain areas and provide casual surveillance.
- 3) Building entrances should be orientated towards the street to ensure visibility between entrances, foyers, car parking areas and the street.
- 4) Appropriate lighting should be provided to all cycle and pedestrian paths, bus stops, car parks and buildings.
- 5) Development should provide clear sight lines and well-lit routes between buildings and the street, and along pedestrian and cycle networks within the public domain.
- 6) Consideration should be given to the use of landscape elements so as to not compromise the perceived level of safety.

## 5.7 Community Needs

### 5.7.1 Neighbourhood Shops

#### OBJECTIVES

The neighbourhood shops objectives are to:

- 1) enable the provision of neighbourhood shops in business zones which serve the daily convenience needs of the local workforce, or for the benefit of the local workforce.

#### CONTROLS

- 1) DAs must demonstrate that the size, function and proposed use serves the daily convenience needs of the workforce in the zone, or is for the benefit of the local workforce.
- 2) Neighbourhood shops must not detrimentally affect the viability of any other centre within a business zone, including established and approved centre. This means that Council requires evidence that the scale (floor space and turnover), location (in relation to other centres) and type of development (goods to be sold) in relation to the proposal will not adversely affect nearby centres.
- 3) In order for Council to consider neighbourhood shops within the zone, applicants will need to demonstrate that the proposed retailing use falls into either of the following categories:
  - a) retailing associated with, and ancillary to, manufacturing development on the same land. Such retailing may include activities such as small shops attached to a factory and selling items such as “seconds” of goods produced in that factory or products which are “made to order” in the factory.
  - b) individual small shops serving the daily convenience needs of the workforce in the zone (such as professional or personal services, cafes, sandwich shops, chemists, newsagents, convenience stores, and the like) but not including uses of a scale of a supermarket or similar developments.

### 5.7.2 Child Care Centres

#### OBJECTIVES

The child care centres objectives are to:

- 1) enable the provision of child care centres to address the needs of the local workforce within the zone.

#### CONTROLS

- 19) The minimum site area is 900 square metres.
- 20) There will be a maximum of 40 places provided for each centre for the purpose of retaining appropriate bulk and scale.
- 21) Due to the nature of the usage, such developments should be sited on allotments which provide buffering from adjoining developments so as to minimise possible conflicts such as noise and invasion of privacy.
- 22) In order to ensure or protect the privacy of staff and children adequate noise abatement, site landscaping and fencing may be required. Such landscaping is to be in keeping with adjoining developments.
- 23) Lodgement of DAs for child care centres must be in accordance with **Figure 47**.
- 24) Child care sites must not have direct frontage and/or direct access to Spine Road.

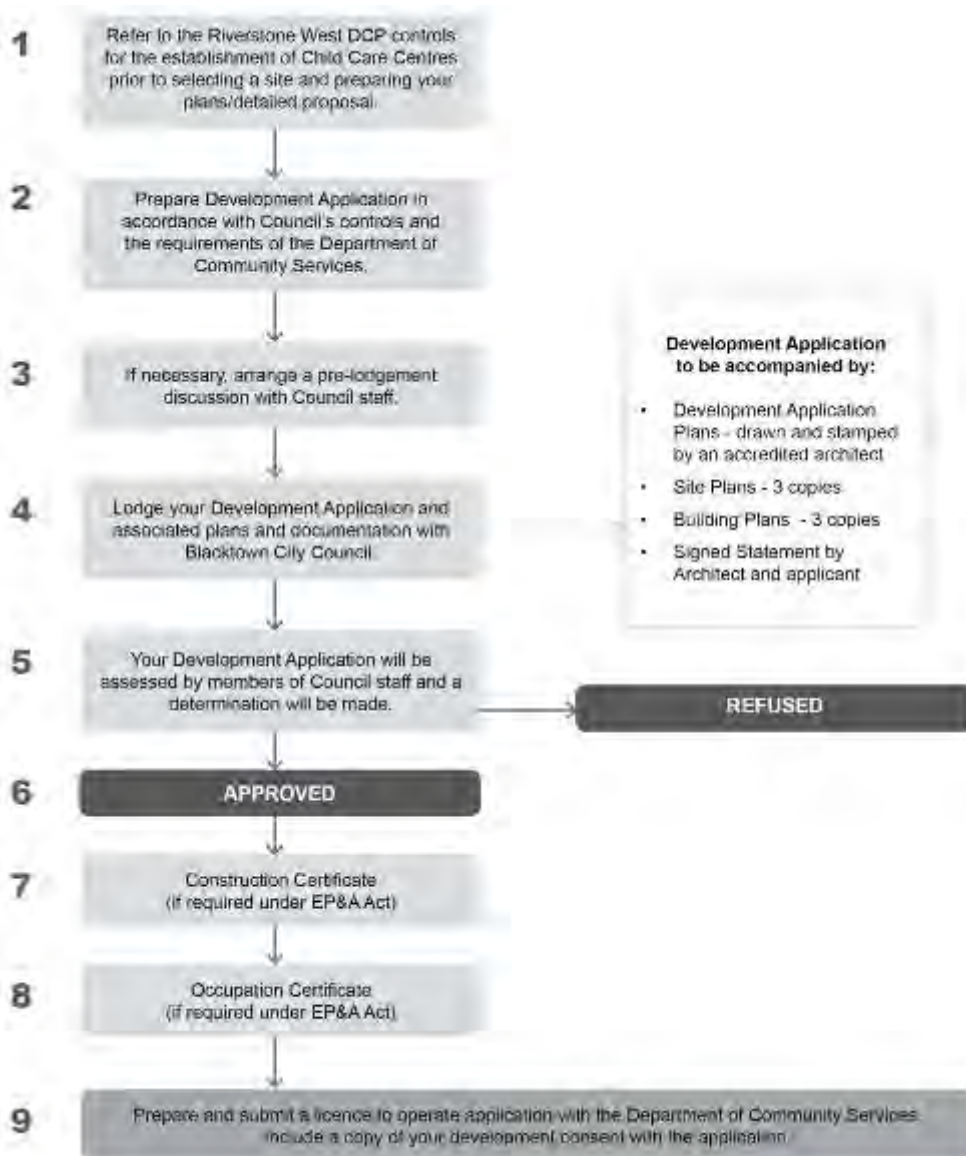


Figure 47: Child Care Development Approval Process

# 6.0

## Special Area Controls



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## 6.0 SPECIAL AREA CONTROLS

This section contains site specific controls which apply to the areas mapped in **Figure 48**.



Figure 48: Special areas with site specific controls

## 6.1 Vineyard Business Area

The vision for Vineyard Business Area is for an active and pedestrian-friendly hub situated at Vineyard Station.

The precinct planning for Riverstone West has been undertaken in the context of State Government commitment to deliver key infrastructure for the North West Growth Centre when it is required. At the time of writing this DCP, the concept plan for the proposed Richmond railway duplication from Quakers Hill to Vineyard had been publicly exhibited but not yet determined. Pending the decision on the duplication and the proposed relocation of the Vineyard station, the detailed road layout plans around the station have been deferred from the DCP.

### OBJECTIVES

The Vineyard Business Area objectives are to:

- 1) maximise employment that is compatible with the 20U odour buffer within a five to 10 minute walking distance from Vineyard Station
- 2) provide a pedestrian friendly environment to and from the station, particularly to the Recreation Precinct
- 3) provide for areas for bicycle parking, bus stops, taxi zones, kiss 'n' ride and commuter parking.

### CONTROLS

- 1) A master plan is required for the Vineyard Deferred Area (as shown in **Figure 49**) once the final location of Vineyard Station has been confirmed. The master plan must be prepared for the Stage 1 DA of the site, having regard to the following design principles:
  - a) provision of a main street connection to the station
  - b) continuous, active uses should be provided along the Main Street, including:
    - display/showroom windows
    - retail/service facilities with a street entrance`
    - commercial lobbies with a street entrance
  - c) provision of parallel parking
  - d) provision of a focal pocket park.
- 2) The design of the southern side area Vineyard Business Area should be in accordance with **Figure 50**.





Figure 49: Vineyard Deferred Area



Figure 50: Vineyard Business Area (southern side) concept plan

### 6.2 Riverstone West Business Park

The vision for Riverstone West Business Park is to be a vibrant and pedestrian friendly environment, focused along a main street with key active frontages. The area will be characterised by four to six storey commercial buildings with active ground floor uses focused along a main street.

The main street will terminate at a civic plaza adjoining the entry to Riverstone Station, providing clear and direct visual connection to the station and the Riverstone town centre beyond. The civic plaza will be defined by new buildings on the southern and northern sides, providing for passive surveillance and a sense of safety for people utilising the plaza.



Figure 51: Civic plaza



Figure 52: Riverstone West Business Park integrated with Riverstone Station

## OBJECTIVES

The Riverstone West Business Park objectives are to:

- 1) maximise employment within a five to 10 minute walking distance of Riverstone Station
- 2) provide visual and physical access to Riverstone Station within an active and pedestrian-friendly environment
- 3) create a focal point for the Riverstone West Precinct
- 4) ensure the development of an active interface with Riverstone Station and Riverstone Town Centre beyond
- 5) provide for areas for bicycle parking, bus stops, taxi zones, kiss 'n' ride and commuter parking.

## CONTROLS

- 1) The design of Riverstone West Business Park should be in accordance with **Figure 53**.



**Figure 53:** Riverstone West Business Park concept plan

- 2) A civic plaza shall be provided at the entry to Riverstone Station, as shown on the Riverstone West ILP (**Figure 5** in **Section 2.2** of this DCP) and in **Figure 53**.
- 3) Continuous ground level active uses should be provided along the main street. Active uses include:
  - a) shop fronts
  - b) retail / service facilities with a street entrance
  - c) cafe or restaurants with street entrance
  - d) community and civic uses with a street entrance
  - e) recreation and leisure facilities with a street entrance
  - f) commercial lobbies with a street entrance.
- 4) Commercial lobbies must not occupy more than 25 per cent of the total length of the building's street frontage. Refer to **Figure 54**.



**Figure 54:** Commercial lobby entry

- 5) Commercial buildings must provide an 'open face' to the public domain, especially at pedestrian level (for example, windows at street level so that the public may view in).
- 6) Commercial buildings along the main pedestrian routes should provide interest at the pedestrian level by providing reception areas, meeting areas, 'break out' spaces, cafes and the like.
- 7) Pedestrian through site links are to be provided and must:
  - a) be a minimum of 10 metres wide and a minimum height of 3.6 metres
  - b) be publicly accessible between the hours of 6am and 7pm
  - c) be continuous, straight and with clear views from street to street
  - d) be integrated with the design of the open space if the pedestrian through-site link is located adjacent to a courtyard or public space, with access provided between the two spaces.
  - e) have a high level of transparency between the internal ground floor space of the building and the pedestrian link.
  - f) have disabled access.
- 8) Active ground level uses are encouraged along pedestrian through-site links.
- 9) Through-site links that encourage a diverse built form and create interesting ground floor spaces are encouraged.
- 10) **Figures 55 to 59** illustrate the possible scenarios for building layout in Riverstone West Business Park which meet the objectives and requirements of this DCP.





Figure 55: Scenario 1



Figure 56: Scenario 2

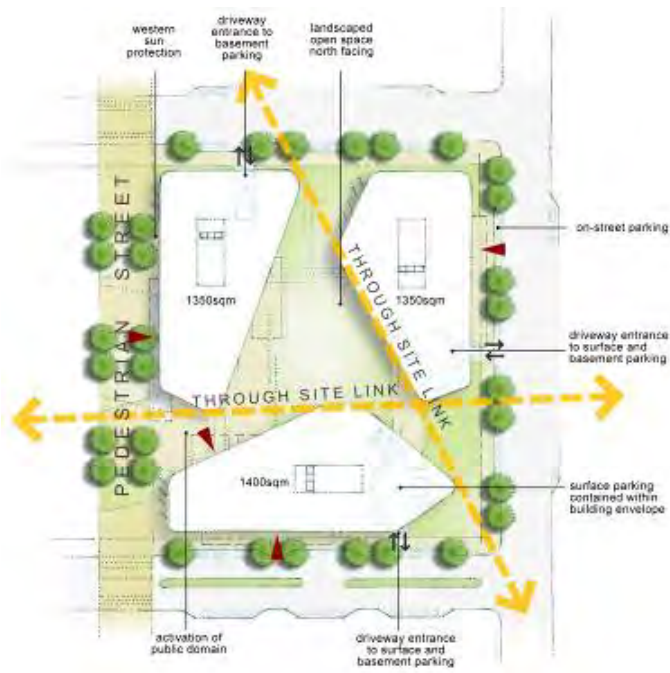


Figure 57: Scenario 3



Figure 58: Scenario 4



Figure 59: Scenario 5

### 6.3 Sports Centre

A sports centre is envisaged in the north-western area of the Precinct, which will adjoin a number of football fields. The sport centre could include a club, offices, education facilities, indoor recreation facilities and hotel accommodation.

#### CONTROLS

- 1) A master plan of the site must be prepared for the Stage 1 DA of the site. The master plan must include:
  - a) Building envelopes
  - b) General layout of the site
  - c) Building form, scale and massing
  - d) Heights, in storeys.
- 2) Development controls applying to Riverstone West Business Park, as detailed in **Section 5** of this DCP, shall apply to this area.
- 3) Pedestrian connection from Vineyard Station must be provided for the development.



## 6.4 Intermodal Terminal (IMT)

Riverstone West Intermodal Terminal (IMT) would be situated between the Vineyard Business Area and the Riverstone West Business Park. It would take advantage of the Precinct's location along Richmond rail line and provide positive benefits in carbon and externality cost reductions by maximising rail access for freight movement.

### CONTROLS

- 1) The size, shape and location of the Riverstone West IMT must be in accordance with **Figure 60**.
- 2) A master plan of the IMT must be prepared for the Stage 1 DA of the site. The master plan must include details of:
  - a) rail sidings
  - b) loading/unloading apron
  - c) container storage
  - d) truck queuing/operations
  - e) container stuffing/de-stuffing
  - f) ancillary warehousing.
- 3) The facility would have a capacity for between 1.5 and 2.5 million tonnes of freight per annum.
- 4) An **Environmental Assessment** of the proposed IMT must also be prepared and submitted to Council. Refer to **Table 4** in **Section 1.7.3** of this DCP.
- 5) Refer to **Section 4.11** for other considerations.



Figure 60: Size, shape and location for potential IMT



# Appendix A

## Glossary



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## APPENDIX A – GLOSSARY

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

“**Activity**” means any development on land and may include any one of the following:

- The erection of a building.
- The carrying out of work in, on, over or under land.
- The use of land or of a building or work.
- The subdivision of land involving earthworks.
- Any soil disturbing activity in or on a public place or on lands owned by Blacktown City Council which may or may not be the subject of an approval.
- Any act, matter or thing for which provision may be made under Section 26 of the *NSW Environmental Planning and Assessment Act 1979* and which is prescribed for the purposes of this definition but does not include act, matter or thing:
  - referred to in Section 26 of the *NSW Environmental Planning and Assessment Act 1979* for which development consent is required.
  - which is prohibited under an environmental planning instrument.

“**Active Frontages**” are defined as one or a combination of the following:

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

“**Annual Exceedence Probability (AEP)**” means the chance of a flood of a given or larger size occurring in any one year, usually expressed as a percentage. For example, if a peak flood discharge of greater than or equal to 500 cubic metres per second has an AEP of 5 per cent, it means that there is a 5 per cent chance (that is one-in-20 chance) of a peak flood discharge of greater than or equal to 500 cubic metres per second or larger occurring in any one year (see average recurrence interval).

“**Aquifer**” means a body of saturate rock or soil containing a system of interconnected voids from which significant (economic) quantities of groundwater may be extracted.

“**Australian Height Datum (AHD)**” is a common national level corresponding approximately to mean sea level.

“**Average Recurrence Interval (ARI)**” means the long-term average number of years between the occurrences of a flood as big as or larger than, the selected event. For example, floods with a discharge as great as, or greater than, the 20 year ARI flood event will occur on average once every 20 years. ARI is another way of expressing the likelihood of occurrence of a flood event.

“**Bioretention Filter Media Guidelines**” means the document from the Facility for Advancing Water Filtration and entitled Bioretention Filter Media Guidelines (version 2.01) as amended.

**“Building”** means any part of a building, and also includes any structure or part of a structure (including any temporary structure or part of a temporary structure), but does not include a manufactured home, moveable dwelling or associated structure or part of a manufactured home, moveable dwelling or associated structure.

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

**“Conventional stormwater treatment”** means addressing the impacts of urban development on local waterways in a manner that takes an end of pipe approach. Conventional stormwater treatment measures includes for example proprietary gross pollutant devices and regional wetlands.

**“Communal area”** means the portion of private land which is conveniently accessible from the building which provides open space for relaxation, dining and recreation. Communal areas may include deep soil planting and soft landscaping as part of the require minimum landscape area.

**“Cooling towers”** are heat removal devices used to transfer process waste heat to the atmosphere by evaporating water to remove process heat and cool the working fluid to near the wet-bulb air temperature or by relying solely on air to cool the working fluid to near the dry-bulb air temperature. Common applications include cooling the circulating water used in oil refineries, chemical plants, power plants and building cooling.

**“Daylight Illuminance”** is the annual occurrence of illuminance across the work plane, as predicted using climate-based daylight modelling. Compliance on the basis of DI must be provided on the basis of dynamic simulation of daylight for a whole year.

**“Defendable space”** is an area within the asset protection zone that provides an environment in which a person can undertake property protection after the passage of a bush fire with some level of safety.

**“Design floor level or surface level”** means the level specified in this Plan, which applies to the relevant land use type within the relevant Flood Risk Precinct.

**“Design flow”** means the peak volumetric flow rate used to size a hydraulic structure.

**“Detention”** means the temporary storage of stormwater generated within an allotment to restrict the discharge leaving the site to a determined rate to prevent an increase in flooding downstream both in the local drainage system immediately downstream and along the creeks and rivers further downstream.

**“Dewatering”** means the removal of water from solid material or soil by a solid-liquid separation process. This is often done during the site development phase of a major construction project due to a high water table and may involve the use of pumps.

**“Disaster Plan (DISPLAN)”** means a step by step sequence of previously agreed roles, responsibilities, functions, actions and management arrangements for the conduct of a single or series of connected emergency operations, with the object of ensuring the coordinated response by all agencies having responsibilities and functions in emergencies.

**“Downpipes”** are a narrow channel, or trough that forms part of the roof and collects and diverts rainwater shed by the roof. In many buildings, the purpose of this diversion is to prevent water from falling off the roof edges. This uncontrolled water can cause structural damage to the outside walls and/or the foundation of a building over time. Another purpose of rain gutter is to harvest rainwater for household or garden use.

**“Drainage”** means the natural or artificial movement of surface and sub-surface water from a given area.

**“Dual reticulation”** involves the delivery of the supply of water from two different sources using separate pipes for example when recycled water (sewage or stormwater) is used for non potable purposes such as irrigation and toilet flushing and drinking water is used for potable purposes such as drinking and cooking are delivered through separate water networks.

**“Effective warning time”** is the time available after receiving advice of an impending flood and before the floodwaters prevent appropriate flood response actions being undertaken. The effective warning time is typically used to move farm equipment, move stock, raise furniture, evacuate people and transport their possessions.

**“Environmental Corridor”** refers to the area shown on the Riverstone West ILP as “Environmental Corridor”. This area incorporates the riparian corridors associated with Eastern Creek, identified Ecologically Endangered Communities as well as areas of additional vegetation to be restored and conserved.

**“Erosion”** means the process by which the detachment, entrainment, suspension and transport of soil occurs by wind, water or gravitational effects. Erosion leads to sedimentation.

**“Extreme flood”** means an estimate of the PMF, which is the largest flood likely to ever occur.

**“Flood”** is a relatively high stream flow, which overtops the natural or artificial banks in any part of a stream, river, estuary, lake or dam, and/or local overland flooding associated with major drainage as defined by the Floodplain Development Manual 2005 before entering a watercourse. A flood includes all floods up to and including the PMF.

**“Flood awareness”** is an appreciation of the likely effects of flooding and knowledge of the relevant flood warning and evacuation procedures.

**“Flood compatible building components”** means a combination of measures incorporated in the design and/or construction and alteration of individual buildings or structures subject to flooding, and the use of flood compatible materials for the reduction or elimination of flood damage.

**“Flood compatible materials”** include those materials used in a building which are resistant to damage when inundated. A list of flood compatible materials is provided in Appendix 3.

**“Flood Emergency Response Plan”** is a management plan prepared in consultation with the SES and approved by Blacktown City Council, which demonstrates the means to minimise the likelihood of flood damage, including demonstrated ability to move goods above flood level within the likely available flood warning time and a requirement for flood drills for larger commercial/industrial premises. This could be in the form of an individual site plan, but would need to be consistent with a local flood plan.

**“Flood Evacuation Strategy”** means the proposed strategy for the evacuation of areas within the effective warning time during periods of flood, as specified within any Plan of Blacktown City Council, the relevant State Government DISPLAN, by advices received from the State Emergency Services (SES) or as determined in the assessment of individual proposals.

**“Flood planning levels”** are the combinations of flood levels (derived from significant historical flood events or floods of specific AEP) and freeboards selected for floodplain risk management purposes, as determined in management studies and incorporated in management plans.

**“Flood prone land”** (being synonymous with **flood liable** and **floodplain**) is the area of land which is subject to inundation by floods up to and including an extreme flood such as a PMF.

**“Floodplain Development Manual 2005”** refers to the document dated April 2005, notified in Gazette No. 51 of 6 May 2005 by the New South Wales Government and entitled Floodplain Development Manual: the management of flood liable land or subsequent amendments.

**“Flood Plan”** is a sub-plan of a DISPLAN that deals specifically with floodways. Local flood plans are prepared under the leadership of the SES.

**“Flood Planning Level(s)”** are the combinations of flood levels (derived from significant historical flood events or floods specific to AEPs) and freeboards selected for floodplain risk management purposes as determined in flood studies and incorporated in flood plans.

**“Floodplain Risk Management Plan”** means a plan prepared for one or more floodplains in accordance with the requirements of the Floodplain Development Manual 2005 or its predecessor.

**“Floodplain Risk Management Study”** means a study prepared for one or more floodplains in accordance with the requirements of the Floodplain Development Manual 2005 or its predecessor.

**“Flow path”** means the route which water draining from an area will take.

**“Flow rate”** means the volume of fluid in this instance water that which passes through a given surface area per unit of time.

**“Flow duration”** means the time period over which flows occur.

**“Freeboard”** is a factor of safety expressed as the height above the design flood level or ground level and the flood used to determine that level. Freeboard provides a factor of safety to compensate for uncertainties in the estimation of flood levels across the floodplain, such as wave action, localised hydraulic behaviour and impacts that are specific event related, such as levee and embankment settlement, and other effects such as ‘greenhouse’ and climate change. The freeboard height for the purposes of this DCP is 0.6 metres for Eastern Creek flooding and in accordance with the *Blacktown City Council Engineering Guide for Development 2005* or subsequent amendment for local overland flooding.

**“Future Climate Flood Levels”** means flood levels determined in accordance with DECC’s *Floodplain Risk Management Guidelines – Practical considerations of Climate Change, 2007* or updated guidelines and policies.

**“Groundwater”** means water contained within the voids and spaces in rocks or soils.

**“Groundwater management system”** means the processes or practices used to control groundwater.

**“Gross pollutant”** means contaminants equal to or greater than 5 millimeters in diameter that when introduced into an environment cause instability, disorder, harm or discomfort to the physical systems or living organisms. This may include for example trash, litter and vegetation.

**“Habitable floor area”** means: an area used for offices, retailing, amenities, storage, warehousing, factory uses or the like, or to store valuable possessions susceptible to flood damage in the event of a flood.

**“Hazard”** is a source of potential harm or a situation with a potential to cause loss. In relation to this manual, the hazard is flooding which has the potential to cause damage to the community.

**“HHF”** means the highest historical backwater flood recorded in the Hawkesbury/Nepean Catchment, being the 1867 flood with a recorded level of 19.7 m AHD or 2.4 m above the current 100 year backwater level of 17.3 m AHD for that catchment.

**“Hydrogeology”** means the area of geology that deals with the distribution and movement of groundwater (commonly in aquifers). Some make the minor distinction between a hydrologist or engineer applying themselves to geology (geohydrology), and a geologist applying themselves to hydrology (hydrogeology).

**“Hydrogeologist or Geohydrologist”** means a person or persons that study or work in the areas of hydrogeology. Often it referred to as a hydrologist or engineer applying themselves to geology (geohydrology), or a geologist applying themselves to hydrology (hydrogeology).

**“Hydrological modelling”** means the conceptual representation of parts of the hydrologic cycle and is primarily used for hydrologic prediction and for understanding hydrologic processes.

**“Hydrology”** refers to the movement, distribution, and quality of water throughout the Earth, and thus addresses both the hydrologic cycle and water resources.

**“Impervious areas”** means areas which have no or limited ability to transmit fluids. Impervious areas occur where the soil surface is sealed eliminating rainwater infiltration and natural groundwater recharge. They consist mainly of artificial structures such as pavements, rooftops, sidewalks, roads, and parking lots covered by materials such as asphalt, concrete, brick, and stone. Soils compacted by urban development are also highly impervious.



“**Integrated treatment train**” means measures which are organized or structured so that the individual measures designed or constructed to improve total water cycle management function cooperatively.

“**Integrated Water Cycle Management**” means the processes or practices used to control the natural cyclical process whereby atmospheric water falls as rain and infiltrates to groundwater or runs off as stormwater to receiving waters and is then evaporated back into the atmosphere. At various stages of the process, water may also be released into the atmosphere (transpired) by living things.

“**Landscaped area**” means any part of a site, at ground level, that is permeable and consists of soft landscaping, turf or planted areas and the like. It does not include driveways, parking areas, hard paved drying yards or other service areas, swimming pools, tennis courts, undercroft areas, roofed areas (excluding eaves <450mm to fascia board), outdoor rooms, rooftop gardens, terraces, decks, balconies and the like.

“**Local flood extents**” means the local flooding conditions that would occur independent of the backwater flooding from the Hawkesbury Nepean.

“**Local overland flooding**” means inundation by local runoff rather than overbank discharge from a stream, river, estuary, lake or dam.

“**Local overland flow path**” means a Surface drainage system that caters for minor flow from an upstream catchment and the drainage system that caters for surcharges from the OSD storage in events larger than the 1 per cent AEP flow or when a blockage occurs.

“**Merit approach**” is an approach that weighs social, economic, ecological and cultural impacts of land use options for different flood prone areas together with flood damage, hazard and behaviour implications, as well as environmental protection and the well being of the State's rivers and floodplains.

“**Net Lettable Area**” is the sum of the whole floor Lettable areas (i.e. the tenancy areas) as defined in Section 3 of the Property Council of Australia's 'Method of Measurement for Lettable Area'

“**Outbuilding**” means a building, which is ancillary to a principal residential building and includes sheds, garages, carparks and similar buildings.

“**Overland flow path**” means the low lying areas of the local topography along which surface flows are conveyed.

“**Perched aquifer**” is an aquifer in which infiltrating water remains separated from an underlying main body of groundwater, with an unsaturated zone existing between the two.

“**Probable Maximum Flood (PMF)**” is the largest flood that could conceivably occur at a particular location, usually estimated from probable maximum precipitation.

“**Probable Maximum Precipitation**” is the greatest depth of precipitation for a given duration meteorologically possible over a given size storm area at a particular location at a particular time of the year, with no allowance made for long-term climatic trends (World Meteorological Organisation, 1986). It is the primary input to the estimation of the probable maximum flood.

“**Rainwater tank**” means a reservoir or container that is used to collect and store (harvest) rain that runs off roofs via gutters.

“**Receiving rivers**” means any river to which water is delivered from an area. The method of delivery may include for example subsoil drainage, local overland flow paths, pipes or other waterways.

“**Reliable access**” during a flood means the ability for people to safely evacuate an area subject to imminent flooding within effective warning time and without a need to travel through areas where water depths increase.

“**Residential dwelling**” means any type of development permissible under Zone 2 (a, b or c) of the *Blacktown Local Environment Plan 1988* or relevant equivalent zoning in subsequent editions of the Plan.

**“Responsible person(s)”** means the person with suitable qualifications, experience or ability to correctly install and adequately maintain erosion and sediment control measures

**“Riparian Corridor”** means the core riparian zone and vegetated buffer as shown in the ILP. Riparian corridors are to be consistent with the agreed surveyed riparian corridor maps which are included in the North West Growth Centres Waterfront Land Strategy.

**“Risk”** means the chance of something happening that will have an impact. It is measured in terms of consequences and probability (likelihood). In the context of this plan, it is the likelihood of consequences arising from the interaction of floods, communities and the environment.

**“River”** has the same meaning as the *NSW Water Management Act 2000* as amended or superseded.

**“Secondary Containment Area”** means any area used to contain liquids in the event that the primary container (liquid storage container) or transfer mechanism fails or liquids otherwise leaks or spills. Secondary containment can include: following:

- bunds which are raised, impermeable barriers forming the perimeter of secondary containment areas (for example, walls, speed humps, guttering, curbing, flexible rubber barriers).
- encasement, for example storage containers with integral secondary containment.
- grading of sealed surface areas to form a contained area, either as part of a building or an external structure.

**“Sediment”** means material of varying size, both mineral and organic, that is being, or has been moved from its site of origin by the action of wind, water or gravity and comes to rest.

**“Sedimentation”** means the deposition of sediment, usually in locations such as a channel, along a fence line, in an area of low slope, depression, watercourse or sediment trap.

**“Site Coverage”** is the portion of the site, which is built on and is a ratio determined by dividing the total site area by the ground floor area of the building.

**“Soil”** means a natural material consisting of layers, amalgamates or individual particles or mineral and/or organic constituents, or variable thickness, that differs from its parent material in morphological, physical, chemical and mineralogical properties and biological characteristics.

**“Stormwater”** is pure rainwater plus anything the rain carries along with it. In urban areas this includes the rain that falls on the roof of houses, or collects on paved areas like driveways, roads and footpaths and is carried away through a system of pipes that is separate from the sewerage system.

**“Stormwater harvesting and reuse schemes”** are a process of collection, treatment, storage and use of stormwater.

**“Stormwater management”** means the processes or practices used to control stormwater.

**“Stream forming flow”** is defined as the following percentage of the 2 year ARI flow rate estimated for the catchment under natural conditions:

- 10 per cent – cohesion less (for example sandy) bed and banks.
- 25 per cent – moderately cohesive bed and banks. Moderately cohesive bed and banks. Main one to be used in the Blacktown LGA due to dispersive soils.
- 50 per cent – cohesive (for example stiff clay) bed and banks.

**“Subsoil drainage”** means drainage of the layer of soil under the topsoil on the surface of the ground. The subsoil may include substances such as clay and has only been partially broken down by air, sunlight, water.

**“Subsoil water”** means water that is located in the layer of soil under the topsoil on the surface of the ground. The subsoil may include substances such as clay and has only been partially broken down by air, sunlight, water.

**“Total Nitrogen”** is the sum of the nitrogen present in all nitrogen-containing components in the water column including large and small phytoplankton and zooplankton, suspended microphytobenthos, dissolved inorganic nitrogen (nitrate and ammonia), dissolved organic nitrogen, labile detritus (both at the Redfield ratio and the

Atkinson ratio) and refractory detritus. Total nitrogen concentration is determined by a balance between inputs (diffuse catchment loads, point source loads) and loss terms (export from the site to a waterway and within the sediments).

**“Total Phosphorous”** is the sum of the phosphorus present in all phosphorus-containing components in the water column including large and small phytoplankton and zooplankton, suspended microphytobenthos, dissolved inorganic phosphorus (both absorbed and desorbed), dissolved organic phosphorus, labile detritus (both at the Redfield ratio and the Atkinson ratio) and refractory detritus. Total phosphorus concentration is determined by a balance between inputs (diffuse catchment loads and point source loads) and loss terms (export from the site to a waterway and within the sediments).

**“Total Suspended Solids”** is a measure of the mass of fine inorganic particles suspended in the water.

**“Treatable flow rate”** means the minimum flow that a stormwater treatment measure must be capable of treating without bypass.

**“Trunk drainage”** means drainage systems where the catchment area exceeds 15 hectares.

**“Walking Distance”** is typically 400m or a 5 minute walk.

**“Water Sensitive Urban Design (WSUD)”** means addressing the impacts of urban development on local waterways in a manner that seeks to integrate the sustainable management of the urban water cycle into the planning and design of built form in urban environments. WSUD includes on-site collection, treatment and utilisation of stormwater flows as part of an integrated ‘treatment train’ that may be applied in addition to, or in lieu of, conventional stormwater and that can supplement water supply measures. WSUD can include:

- Reuse of rainwater, stormwater or treated effluent for toilet flushing, washing machines, garden watering, car washing or industrial purposes.
- Specially designed landscaping and other treatment systems for conveying and treating stormwater runoff including the use of wetlands, grass swales and bioretention systems.
- Protection and restoration of stream and riparian corridors for their environmental, recreational and cultural values.

**“Water table”** means the top level of water stored underground; the surface of groundwater in the soil.

**“Waterway stability”** refers to the ability of a waterway to withstand erosive forces.

# Appendix B

## Exempt and Complying Development



NSW GOVERNMENT  
**Department of Planning**

## APPENDIX B – EXEMPT AND COMPLYING DEVELOPMENT

### SCHEDULE 1: EXEMPT DEVELOPMENT

Type of Activity	Exemption Requirements	Advisory Notes
<b>Access Ramps for the Disabled</b>	<ol style="list-style-type: none"> <li>1. Meets the specification of “what is and is not exempt development” outlined in this DCP.</li> <li>2. Maximum height 1m above natural ground level.</li> <li>3. Maximum grade 1:14 and otherwise in compliance with AS 1428.1.</li> <li>4. No closer than 500mm from the adjoining property.</li> <li>5. Maximum length of ramp 9m.</li> <li>6. Does not obstruct or interfere with vehicular access to existing car parking behind the building line.</li> <li>7.</li> </ol>	
<b>Advertising Signs/ Advertising Structures</b>	<p>General Requirements:</p> <ol style="list-style-type: none"> <li>1. Meets the specification of “what is and is not exempt development” outlined in this DCP.</li> <li>2. Non-moving sign.</li> <li>3. Advertising structures over public road to be at least 3m above and 600mm from the outside of the carriageway.</li> <li>4. The advertising must relate to the use of the building (except for temporary signs).</li> <li>5. Must be located within the boundaries of the property to which they apply, unless in a commercial or retail area.</li> <li>6. Must reflect the character and style of the building on which it is located.</li> <li>7. The erection of the advertising structure must comply with the requirements of the Building Code of Australia, including section B – Structural Provisions.</li> <li>8. The sign must not be detrimental to the character and functioning of the building.</li> <li>9. Not erected on an item of environmental heritage, unless replacing an existing sign, that has a lawful approval, with a sign of the same, or lesser size sign and in the same location.</li> <li>10. Must not cause offence to the public.</li> </ol>	<p>Covers a display of symbols, messages or other devices for promotion or for conveying information, instruction, directions or the like, whether or not the display includes the erection of a structure, or the carrying out of a work which relates to the use of the building or property.</p>

Type of Activity	Exemption Requirements	Advisory Notes
(a) Business Park Zone	<p>I. Under awning signs:</p> <ul style="list-style-type: none"> <li>- attached to the underside of an awning (other than the fascia or return end);</li> <li>- non illuminated;</li> <li>- is a maximum of 2.5m in length, 0.5m in height and 0.08m in width;</li> <li>- is erected at a horizontal angle no less than 2.6m to the ground;</li> <li>- is erected at a right angle to the building to which it is attached;</li> <li>- does not project beyond the edge of the awning;</li> <li>- does not extend or project beyond a point 600mm within the vertical projection of the kerb line;</li> <li>- only one sign per premises per street frontage.</li> </ul> <p>II. Window signs:</p> <ul style="list-style-type: none"> <li>- does not obscure more than 20% of the area of any window;</li> <li>- street level windows only;</li> <li>- only one sign per premises per street frontage.</li> </ul> <p>III. Fascia signs:</p> <ul style="list-style-type: none"> <li>- attached to the fascia or return of the awning;</li> <li>- does not project above, below, or extend from, the fascia or return end of the awning;</li> <li>- does not extend or project beyond a point 600mm within the vertical projection of the kerb line;</li> <li>- has a maximum area of 3.0m<sup>2</sup>;</li> <li>- only one sign per premises per street frontage;</li> <li>- non-flashing.</li> </ul> <p>IV. Wall signs:</p> <ul style="list-style-type: none"> <li>- does not extend laterally beyond the wall of the building to which it is attached;</li> <li>- does not project above the top of the wall to which it is attached;</li> <li>- does not cover any window, door or architectural projections;</li> <li>- is securely fixed to the building;</li> <li>- no more than 20% of the visible wall area to be covered by "flush wall sign";</li> <li>- non illuminated;</li> <li>- only one sign per premises per street frontage (i.e. access).</li> </ul>	

Type of Activity	Exemption Requirements	Advisory Notes
	<p>V. Top hamper:</p> <ul style="list-style-type: none"> <li>- attached to the transom of a doorway or display window of a building;</li> <li>- does not extend beyond any building line;</li> <li>- does not extend below the level of the head of the doorway or window above which it is attached;</li> <li>- is not more than 3.7m above the ground;</li> <li>- has a maximum dimensional height of 600mm;</li> <li>- only one sign per premises per street frontage;</li> <li>- has a maximum area of 2.5m<sup>2</sup>;</li> <li>- non-flashing.</li> </ul> <p>VI. Public notices:</p> <ul style="list-style-type: none"> <li>- notice for public information displayed by a public authority giving information or direction about services provided.</li> </ul>	
<p>(b) Industrial and Light Industrial Zone</p>	<p>(i) Wall signs:</p> <ul style="list-style-type: none"> <li>- only one wall sign is permitted per occupancy;</li> <li>- is located on the facade of the unit with which that occupancy is associated;</li> <li>- the size and dimensions of such signage shall have regard to existing signage on other units in the same complex with a view to achieving a visually consistent treatment, but shall not exceed maximum dimensions of 2m x 1.2m;</li> <li>- does not extend laterally beyond the wall of the building to which it is attached;</li> <li>- does not project above the top of the wall to which it is attached;</li> <li>- does not cover any window, door or architectural projections;</li> <li>- is securely fixed to the building;</li> <li>- non-flashing.</li> </ul> <p>(ii) Identification signs:</p> <p><u>Single Occupier Building</u></p> <ul style="list-style-type: none"> <li>- only one identification panel per property;</li> <li>- has maximum dimensions of 0.5m x 1.5m;</li> <li>- has a maximum height from ground of 1.5m;</li> <li>- does not project over a public place;</li> <li>- only one sign per premises;</li> <li>- is securely fixed and stable;</li> </ul>	

Type of Activity	Exemption Requirements	Advisory Notes
	<ul style="list-style-type: none"> <li>- non-flashing.</li> </ul> <p><u>Factory Units</u></p> <ul style="list-style-type: none"> <li>- directory boards are to be comprised of not more than 1 panel per factory;</li> <li>- each panel is to be of uniform size, colour and dimensions but not exceeding 0.2m<sup>2</sup> per panel;</li> <li>- sign serves only to identify the number of the unit and the name of the respective occupant;</li> <li>- is located on or behind the building line setback</li> <li>- adjacent to the entrance to the site;</li> <li>- is securely fixed and stable;</li> <li>- non-flashing.</li> </ul> <p><u>Sex Services Premises</u></p> <ul style="list-style-type: none"> <li>- only one unobtrusive sign per premises;</li> <li>- a maximum area of 1.5m<sup>2</sup>;</li> <li>- the sign wording must be limited to a trade name of the business operated and the address of the premises. No other characters, depictions, pictures or drawings are to be displayed on the sign;</li> <li>- the content, illumination, size, shape, and location of the sign must not interfere with the amenity of the neighbourhood;</li> <li>- located entirely within the property boundaries.</li> </ul>	
(b) Special Uses and Environmental Conservation Zones	<p>11. Identification signs:</p> <ul style="list-style-type: none"> <li>- sign serves only to identify the premises or land on which the sign is situated, the name of the occupier, the activity carried out thereon and directions to access the site;</li> <li>- maximum area up to 3.5m<sup>2</sup>.</li> </ul> <p>12. Public notices:</p> <ul style="list-style-type: none"> <li>- notice for public information displayed by a public authority giving information or direction about services provided.</li> </ul>	
<b>Ancillary Development</b> except where specified	<ol style="list-style-type: none"> <li>1. Is supplementary to a use permitted by development consent or to a lawful existing use.</li> <li>2. Must reflect the character and style of the building and surrounding neighbourhood.</li> <li>3. Is erected at least 1m from each boundary of the lot and extends no</li> </ol>	



Type of Activity	Exemption Requirements	Advisory Notes
	<p>more than 3m above natural ground level.</p> <p>4. Any structure or impermeable surface that covers less than 25m<sup>2</sup> in area.</p> <p>5. The development does not require any excavation of more than 500mm below the ground level.</p> <p>6. It does not involve handling, storing, or using hazardous chemicals or materials other than on a domestic scale and no chemicals or pollutants are released into the environment.</p> <p>7. Are made of non-combustible materials if located in a fire protection zone or an asset protection zone identified in a bush fire risk management plan.</p>	
<b>Barbecues</b>	<p>1. Meets the specification of “what is and is not exempt development” outlined in this DCP.</p> <p>2. Located in rear yard and no closer than 900mm from any adjoining property boundary.</p> <p>3. Maximum height 2.1m.</p> <p>4. Maximum area of base 4m<sup>2</sup>.</p> <p>5. Maximum area of barbecue plate 1.5m<sup>2</sup>.</p>	<p>Structure must be at least 1.2m away from a pool safety fence measured in accordance with cl. 2.3 AS1926-1986.</p>
<b>Bridges and Staircases</b> installed in Public Parks and Recreation Spaces	<p>1. Bridges to a maximum span of 5 metres and construction by or for Council.</p> <p>2. Designed, fabricated and installed in accordance with the BCA (Section B) and AS 4100 (for steel structures) and AS 1720 (for timber structures) and AS 3600 for concrete structures.</p> <p>3. Australian National Parks and Wildlife Service Walking Track Management Manual Standards must be complied with.</p>	<p>Approval will be required for structures within 40m of designated creek or watercourse under Rivers &amp; Foreshores Act.</p>
<b>Cabanas/Gazebos and Greenhouses</b>	<p>1. Located in rear yard and no closer than 900mm from any adjoining property boundary.</p> <p>2. Maximum area 10m<sup>2</sup>.</p> <p>3. Maximum height 2.4m.</p> <p>4. Structurally adequate construction in accordance with the Building</p> <p>5. Code of Australia.</p> <p>6. Non-reflective surface finishes.</p>	<p>The structures should be securely bolted at its supports and fixed rigidly at its base. The roof cladding should be securely fixed to roof beams or rafters and be of non-reflective material.</p>
<b>Children’s Play Equipment</b>	<p>1. Located in rear yard and no closer than 900 from any adjoining property boundary.</p>	<p>Structure must be at least 1.2m away from a pool safety fence measured in accordance with cl.2.3</p>

Type of Activity	Exemption Requirements	Advisory Notes
	<ol style="list-style-type: none"> <li>2. Maximum height 2.4m.</li> <li>3. Maximum ground coverage 20m<sup>2</sup>.</li> </ol>	AS1926-1986.
<b>Demolition of Exempt Development</b>	<ol style="list-style-type: none"> <li>1. Item to be demolished shall conform strictly to the standard for categories of development listed in this schedule.</li> <li>2. Demolition does not involve the removal of asbestos unless the applicant's approval is obtained from WorkCover Authority.</li> <li>3. Care should be taken in work involving the removal of lead paint to avoid lead contamination</li> <li>4. The Authority's "Guidelines for Practices involving Asbestos Cement" should also be referred to for any work involving asbestos cement.</li> <li>5. Compliance with AS2601-1991.</li> <li>6. Covering an area of not more than 25m<sup>2</sup>.</li> </ol>	<p>All demolition work be carried out in a manner consistent with the <i>Construction and Demolition Waste Action Plan 1998</i>.</p> <p>Contact EPA Pollution Line131555 for a copy. For further details please contact Work Cover Authority.</p>
<b>Driveways, Paths and Paved Areas</b>	<ol style="list-style-type: none"> <li>1. Located within the boundaries of the site.</li> <li>2. Does not cross public property.</li> <li>3. Constructed on natural or filled ground.</li> <li>4. Constructed of reinforced concrete or of pavers on a concrete base with a non-slip finish.</li> <li>5. Maximum gradient of 1:6 (16%).</li> <li>6. Does not redirect stormwater onto adjoining properties.</li> <li>7. Site coverage of paved area not to exceed 50% of private open space.</li> </ol>	
<b>Flagpoles</b>	<ol style="list-style-type: none"> <li>1. Meets the specification of "what is and is not exempt development" outlined in this DCP.</li> <li>2. Maximum height 6m above existing ground level.</li> <li>3. Located at least 7m from any property boundary.</li> <li>4. Only one for each property.</li> <li>5. Installed in accordance to manufacturer's specifications.</li> <li>6. Must be structurally adequate.</li> </ol>	Care should be taken to minimise noise from the flapping of flag ropes or like equipment. Flag flying protocol must be adhered to.
<b>Goal Posts, Sight Screens and Similar Ancillary Sporting Structures on Sporting or Playing</b>	<ol style="list-style-type: none"> <li>1. Construction by or for Council.</li> <li>2. Installed in accordance with relevant SAA standards and/or Building Code of Australia.</li> </ol>	<p>Any of these items erected on private land require prior approval of Council.</p> <p>Exemptions specifically exclude buildings which</p>

Type of Activity	Exemption Requirements	Advisory Notes
<b>Fields for Use in the Playing/ Performance of Sporting Events</b> excluding grandstands, dressing sheds and other structures	3. Located in public parks or recreation areas.	accommodate people.
<b>Hoardings</b>	<ol style="list-style-type: none"> <li>1. Not to encroach onto the footpath, public thoroughfare or adjoining property.</li> <li>2. Erected in accordance with WorkCover Authority requirements.</li> <li>3. Shall be dismantled upon completion of all construction works.</li> <li>4. Must be structurally adequate.</li> <li>5. Maximum height of 2.1m above natural ground level.</li> </ol>	
<b>Letter Boxes</b>	<ol style="list-style-type: none"> <li>1. Maximum height of 1.2m above existing ground level.</li> <li>2. Appropriate numbering for each box.</li> <li>3. Structurally stable with adequate footings.</li> <li>4. Located wholly within the property.</li> <li>5. To comply with the requirements and specifications of Australia Post.</li> </ol>	
<b>Minor Internal Alterations</b> to non-residential premises	<ol style="list-style-type: none"> <li>6. Non-structural work only such as shelving, displays, benches and partitions, that do not provide structural support to any part of the building.</li> <li>7. Floor area not to exceed 200m<sup>2</sup>.</li> <li>8. Work must not compromise fire safety or affect accessibility to a fire exit.</li> <li>9. Works shall not change the configuration of rooms whether by removal of walls or other means of structural support.</li> <li>10. Food premises to comply with Council's food premises code, premises to be registered and inspected by Council's Environmental Health</li> <li>11. Officer prior to use of works.</li> </ol>	<p>The alteration must not affect the structural strength and stability of the building.</p> <p>For example, external walls are often strengthened and stabilised by internal walls that resist loads such as wind forces. The removal of internal walls without considering overall strength and stability may result in failure of external walls.</p> <p>You are advised to consult a structural engineer, architect or building surveyor before commencing alterations to ensure you comply with the Building Code of Australia and that works will not affect the structural adequacy and stability of the building.</p>
<b>Park and Street Furniture, Seats, Bins, Picnic Tables, Minor</b>	<ol style="list-style-type: none"> <li>1. Construction by or for Council.</li> <li>2. Designed, fabricated and installed in accordance with relevant SAA</li> </ol>	

<b>Type of Activity</b>	<b>Exemption Requirements</b>	<b>Advisory Notes</b>
<b>Shelters, Bus Shelters excluding advertising</b>	standards and/or Building Code of Australia. 3. Located on land under control of Council. 4. Non-reflective finishes. 5. Line of site of vehicular traffic is not to be compromised.	
<b>Places of Public Entertainment</b>	1. The floor area of the restaurant, community hall, temporary structure or the like does not exceed 300m <sup>2</sup> . 2. The number of occupants including staff, entertainers and patrons does not exceed 70 persons. 3. The building/structure is provided with at least two (2) exits and suitable paths of travel complying with Part D of the Building Code of Australia. 4. The premise is not licensed in accordance with the <i>Liquor Act</i> or the <i>Registered Clubs Act</i> to sell liquor. 5. All activities associated with the building/structures use must cease at 10.30pm on weekdays and 12.00pm on weekends including Friday.	Property owners/occupiers of commercial premises are required irrespective of the exemption provisions, to submit an Annual Fire Safety Statement for all fire safety and other essential measures afforded to the building.
<b>Playground Equipment on Land and Classified as Community Land</b>	1. Construction by or for Council. 2. Designed, fabricated and installed in accordance with AS1924, AS2155 and DR94007 - DR94010.	"Community land" is a classification under the LG Act 1993.
<b>Public Meeting in a Class 9b Building</b> , eg. school, community hall, church, theatre and gymnasium	1. Meets the specification of "what is and is not exempt development" outlined in this DCP. 2. Approval has already been granted by Council for the use of the building for the purpose of a class 9b building.	
<b>Satellite Dishes</b>	<b>Ground Mounted</b>	
i) Non-residential	1. Maximum 2m diameter. 2. Maximum 1.8m height above natural ground level. 3. Only one installation per premises. 4. Situated out of view from the street. 5. Situated at least 900mm from any property boundary. 6. Structurally adequate construction. 7. Not situated in any required car parking space, loading bay or service area.	
	<b>Roof Mounted</b>	
	1. Maximum 1.5m diameter.	

Type of Activity	Exemption Requirements	Advisory Notes
	<ol style="list-style-type: none"> <li>2. Located out of view from the street.</li> <li>3. Suitably coloured to blend in with the building.</li> <li>4. Only one installation per premise.</li> <li>5. To be located a minimum of 900mm from any property boundary.</li> <li>6. Structurally adequate construction.</li> </ol>	
<b>Solar Water Heaters and Solar Panels</b>	<ol style="list-style-type: none"> <li>1. Installed to manufacturer's specifications and requirements.</li> <li>2. Installed by a licensed tradesperson.</li> <li>3. Associated building work must not reduce the structural integrity of the building or involve structural alterations.</li> <li>4. Any opening created by the installation to be adequately weatherproofed.</li> <li>5. Must not protrude above the ridge level.</li> </ol>	
<b>Street Signs –</b> comprising name plates, directional signs and advance traffic warning signs	<ol style="list-style-type: none"> <li>1. Construction by or for Council.</li> <li>2. Must be structurally sound.</li> <li>3. To be designed, fabricated and installed in accordance with relevant</li> <li>4. SAA standards and RTA guidelines.</li> </ol>	
<b>Temporary Signs</b>	<ol style="list-style-type: none"> <li>1. Must not be illuminated.</li> <li>2. Must be located wholly within the property being sold, leased or auctioned.</li> <li>3. Must not exceed a height of 1.8m to the top of the sign measured from ground level and no returns exceeding 180mm.</li> <li>4. Must be removed within 10 days of completion of same (exchange of contracts)/letting of the property.</li> <li>5. Only permitted for a maximum period of 42 days.</li> <li>6. Signs related to sale, lease or auction of a property for: <ul style="list-style-type: none"> <li>- Non-residential Properties: <ol style="list-style-type: none"> <li>(a) have a maximum size up to 2.5 x 1.8m;</li> <li>(b) limit of 1 sign per agent, per property.</li> </ol> </li> </ul> </li> </ol>	<p>The word "property", in the case of strata development for the purpose of this schedule, refers to the whole of the land comprising the lots and common property, but does not refer to individual lots in a strata scheme.</p>
b) Development Site Signs	<ol style="list-style-type: none"> <li>1. For larger developments which may take 1-2 years to complete. Does not include sale, lease or auction signs.</li> <li>2. Have a maximum area of up to 10m<sup>2</sup>.</li> <li>3. Only permitted for a maximum period of 1 year.</li> </ol>	

Type of Activity	Exemption Requirements	Advisory Notes
c) Fabric Signs	<p>4. Must be located wholly within the property.</p> <p>1. The display of short term fabric signs advertising special community events or activities to be limited to 28 days immediately prior to the event and shall be removed within 2 days of the conclusion of the event.</p> <p>2. Maximum size up to 4m x 1.5m.</p> <p>3. Any banner erected on private property or property of another State or Federal Authority must have the consent of the property owner.</p>	
d) Community Signs	<p>1. Signs shall not be displayed for more than 4 weeks.</p> <p>2. For any one event a maximum of 6 signs per organisation may advertise an event within the Recreation Precinct.</p> <p>3. The content of such advertising shall be limited to event or activity details only (ie. no sponsorship identification).</p> <p>4. No signs must exceed an area of 4m<sup>2</sup>.</p> <p>5. Banners must not interfere with vehicle or pedestrian safety.</p> <p>6. Banners can be tied to trees but not nailed.</p> <p>7. Any banner erected on private property or property of another State or Federal Authority must have the consent of the property owner.</p>	
e) Sporting Venue Signs	<p>1. The display of temporary sponsorship banners shall be permitted within the boundary of the playing field on the day of the activity only.</p>	
g) Sponsorship Advertising	<p>1. Only for a club, community group, sporting group or similar organisations where the advertising sign or structure is for a special event or specific function/ activity is sponsored by an organisation external to the club.</p> <p>2. Advertising space must be in keeping with the theme and character of the sign to a maximum of 20% of its total area.</p> <p>3. At all times the sponsorship must be secondary to the main purpose of the advertising.</p>	
<p><b>Temporary Structures and Temporary Buildings:</b></p> <ul style="list-style-type: none"> <li>• Builders shed</li> </ul>	<p>1. Builders sheds, scaffolds and portable toilets are only to be associated with approved or certified building works and must be removed on completion of associated development or within six (6)</p>	

Type of Activity	Exemption Requirements	Advisory Notes
<ul style="list-style-type: none"> <li>• Portable toilets</li> <li>• Scaffolds</li> <li>• Marquees</li> <li>• Mini (stages) platform</li> <li>• Waste storage container (placed in public place)</li> </ul>	<p>months of placement, whichever is less.</p> <ol style="list-style-type: none"> <li>2. Located wholly within the property boundaries.</li> <li>3. Mini stages are not to be in place for more than 1 week and are to have a maximum floor area of 12m<sup>2</sup>.</li> <li>4. Marquees are not to be in place for more than 1 week and are to have a maximum floor area of 25m<sup>2</sup>.</li> <li>5. The building must not be used for residential purposes or for the storage of or handling of inflammable materials.</li> <li>6. Does not involve a building designed for residential purposes, alterations or additions to an existing building or a building more than 1 storey in height.</li> <li>7. The waste storage container is in association with exempt development or works approved by Council.</li> <li>8. Limit of one container to be placed in a public place.</li> <li>9. A maximum period of 14 days from the date of placement of the container to the date of removal.</li> <li>10. Waste containers are to be located and designed strictly in accordance with the guidelines of the Roads and Traffic Authority.</li> <li>11. The container is to be of a light colour, have reflectors and should clearly display the name and address of the owner/proprietor.</li> <li>12. The supplier of the waste container must ensure that there is a minimum \$10 million public liability/risk insurance cover for the placement of the waste container in a public place.</li> <li>13. A minimum width of 1.5m wide strip shall be provided to enable safe pedestrian access.</li> <li>14. Containers must not restrict access to services. For example, gas, water, electrical or phone.</li> <li>15. Are setback a minimum of 3m from boundaries adjoining road reserves and 1m from every other lot boundary.</li> </ol>	
<p><b>Use of Land and Building - change of Use:</b></p> <p>i) A Shop to Another Shop (not including</p>	<ol style="list-style-type: none"> <li>1. The current use is lawfully approved or the building lawfully constructed to be used for the purposes of: <ul style="list-style-type: none"> <li>- a shop of a particular kind;</li> <li>- an office or commercial premises;</li> </ul> </li> </ol>	

Type of Activity	Exemption Requirements	Advisory Notes
new food shops).	- any of the specified uses.	
ii) An Office / Commercial Premises to Another Office / Commercial Premises	<ol style="list-style-type: none"> <li>2. Written notice of the change of use is supplied to the Council seven (7) days prior to undertaking work or beginning operations.</li> <li>3. The curtilage of the shop/premises is not used for storage or display purposes.</li> </ol>	
iii) Between Social and Sporting Clubs (other than clubs registered under the Registered Clubs Act 1976), Community or Cultural Centres.	<ol style="list-style-type: none"> <li>1. The shop/premises is not open outside the existing approved hours of operation:</li> <li>2. All conditions that have previously been imposed on the use of the building or the use of the land that relate to: <ul style="list-style-type: none"> <li>- the maintenance of landscaping</li> <li>- the parking of vehicles</li> <li>- the provision of space for the loading and unloading of goods or vehicles</li> <li>- environmental protection</li> </ul> </li> </ol> <p>are adhered to where:</p> <ul style="list-style-type: none"> <li>- the shop is a shop; and</li> <li>- the commercial premises is a premise; in which there is: <ol style="list-style-type: none"> <li>(a) no restricted publications as defined in the Indecent Articles and Classified Publications Act 1975 are shown, exhibited, displayed, sold or otherwise rendered accessible or available to the public</li> <li>(b) no business to which s10 of that Act applies is conducted</li> <li>(c) no business is conducted where an object of which is the display or exhibition of the article, within the meaning of that Act, that is primarily concerned with sexual behaviour, but is not printed matter.</li> </ol> </li> <li>3. That there are no hazardous materials/chemicals involved in the operation or storage with the change of use.</li> <li>4. The current use lawfully approved or the building lawfully constructed to be used for the purposes of an industry.</li> </ul>	
iv) From an Industrial Use to Another Industrial Use	<ol style="list-style-type: none"> <li>1. Written notice of the change of use is supplied to Council seven (7) days prior to commencing works or beginning</li> </ol>	



Type of Activity	Exemption Requirements	Advisory Notes
	<p>operations, including copies of approvals from any other approval body (such as the Trade Waste Authority).</p> <ol style="list-style-type: none"> <li>2. The building or unit has a maximum area of 100m<sup>2</sup>.</li> <li>3. There is adequate space available for loading and unloading on the site.</li> <li>4. The curtilage of the building is not used for storage or display purposes.</li> <li>5. There is no extension of hours outside the existing hours of operation, and not outside the hours of 6.00am to 6.00pm.</li> <li>6. The use will not create any greater, different or additional potential hazard to the environment or the occupants of the building.</li> <li>7. The use will not compromise the amenity of the locality in any greater, different or additional way, than the existing use.</li> <li>8. The use will not require the upgrade of any fire safety, health, environmental or other standards.</li> <li>9. The new use does not involve handling, storing or using hazardous chemicals or materials otherwise than on a domestic scale.</li> </ol>	
<p><b>Water Heaters</b> excluding solar systems</p>	<ol style="list-style-type: none"> <li>1. Meets the specification of “what is and is not exempt development” outlined in this DCP.</li> <li>2. Replacement or new installations.</li> <li>3. The work must not reduce the structural integrity of the building or involve structural alterations.</li> <li>4. Installation to be carried out by a licensed person.</li> </ol>	

## SCHEDULE 2: COMPLYING DEVELOPMENT

Development Type	Standards
<b>Change of Building Use from:</b>	1. The external facade of the building shall not be altered. For example, there shall be no increases in window, door, wall and roof sizes.
i) a Shop to an Office	2. No increase in the total floor area of the building.
ii) a Shop to Another Shop	3. Not to involve the carrying out of any alterations other than those exempted by this Plan.
iii) an Office to Another office	4. No more than 200m <sup>2</sup> of net floor area for shops.
	5. Minimum tenancy for an office shall be 500m <sup>2</sup> .
	6. The new use must replace a previous use already approved in a development consent.
	7. All conditions that have previously been imposed on the use of the building or the use of the land that relate to the following provisions are adhered to: <ul style="list-style-type: none"> <li>- the maintenance of landscaping;</li> <li>- the parking of vehicles;</li> <li>- the provision of space for the loading and unloading of goods and vehicles; and</li> <li>- environmental protection.</li> </ul>
	8. An Occupation Certificate and Fire Safety Certificate are issued prior to use of the building.
<b>Minor Boundary Adjustments</b>	9. The adjustment will not result in any building/structures contravening the deemed-to-satisfy provisions of the Building Code of Australia, eg. egress, fire rating, fire fighting facilities.
	10. The adjustment will not create any additional allotments.
	11. The adjustment will not result in any building contravening the conditions of any development consent applying to the site.
	12. The adjustment will not result in any variation to the minimum lot size, setbacks or maximum site coverage requirements appropriate to the zone and nature of development as specified in any part of this Plan applying to the site.
	13. There is no need to create an 88B instrument, eg. extend any easement to the physical or legal access to the lot.
	14. No requirement is created to alter infrastructure, such as services or drainage on to the lot i.e., no public utilities are needed to be extended or amplified if existing lots are serviced.
	15. Must comply with the requirements of the Conveyancing Act.
	16. Will not straddle any easement.

### SCHEDULE 3: COMPLYING DEVELOPMENT CERTIFICATE CONDITIONS

The following list of conditions contain the General Conditions' applicable to all Complying Developments and also 'Supplementary Conditions' The Supplementary Conditions are relevant to specific development categories and must be added to the general conditions depending on the development category.

#### General Conditions for all categories of Complying Developments

##### Prior to Work Commencing

- 1) At least two days before any site works, building or demolition begins, the applicant must:
  - a) forward Notice of Commencement of Work and Appointment of Principal Certifying Authority (Form 7 of the EP&A Regulations available from your principal certifier) to the Council, and
  - b) inform the adjoining owners in writing that work will commence.
- 2) Before any site works, building or demolition begins, the applicant must:
  - a) Notify the Council in writing of the name, address, phone number and licence number of the builder;
  - b) Pay to Council relevant fees in accordance with its current fees and charges;
  - c) Erect a sign at the front of the property clearly showing:
    - the name of the owner, builder, builder's licence number, site address and consent number,
    - a statement that unauthorised entry to the work site is prohibited,
    - the name of the person in charge of the work site and a telephone number at which that person can be contacted outside working hours;

**Note:** This requirement does not apply to building works carried out inside of an existing building or on premises that are occupied continuously, both during and outside work hours, while the work is being carried out.

- d) Erect at the front of the property the standard Council sign indicating the approved hours of operation;
- e) Provide on-site toilet facilities at the rate of one toilet for every 20 persons or part of 20 persons employed at the site;
- f) If an excavation associated with the development extends below the level of the base of the footings of a building or a structure on an adjoining allotment of land (including a public road and any other public place):
  - preserve and protect the building from damage, and
  - if necessary, underpin and support the building in an approved manner, and
  - at least seven (7) days before excavating below the level of the base of the footings of a building or a structure on an adjoining allotment of land, give notice of intention to do so to the owner of the adjoining allotment of land and furnish particulars to the owner of the building being erected or demolished;

**Note:** The owner of the adjoining allotment of land is not liable for any part of the cost of work carried out for the purposes of this clause, whether carried out on the allotment of land being excavated or on the adjoining allotment of land. In this clause, allotment of land includes a public road and any other public place.

- g) Erect a hoarding or fence between the work site and any public place, if the work involved is likely to cause pedestrian or vehicular traffic in a public place to be obstructed or rendered inconvenient, or involves the enclosure of a public place;
- h) If necessary, a hoarding is to be erected, sufficient to prevent any substance from, or in connection with, the work falling into the public place;
- i) The work site must be kept lit between sunset and sunrise if it is likely to be hazardous to persons in the

public place;

- j) Follow any other conditions prescribed by the Regulation;
- k) Provide protection for Council footpaving, kerbing and guttering. Wooden mats must also be provided at all entrances where the site fronts paved footpaths.

This item does not impose a requirement on an applicant if it is complied with by the builder.

#### **Site Management**

- 3) Run-off and erosion controls must be implemented to prevent soil erosion, water pollution or the discharge of loose sediment on the surrounding land, as follows:
  - a) divert uncontaminated run-off around cleared or disturbed areas, and
  - b) erect a silt fence to prevent debris escaping into the drainage systems or waterways, and
  - c) prevent tracking of sediments by vehicles onto roads, and
  - d) stockpile topsoil, excavated material, construction and landscaping supplies and debris within the site.
- 4) Removal or disturbance of topsoil must be confined to within 3m of the proposed building and within the confines of the property.
- 5) All soil erosion measures required to be put in place prior to the commencement of construction works are to be maintained during the entire construction period until disturbed areas are restored by turfing, paving or revegetation. On-the-spot fines may be issued where maintenance of measures is inadequate.
- 6) To reduce nuisance to the surrounding properties, the site shall be kept clean and tidy during the construction period. Builder's refuse disposal and storage facilities are to be provided on the development site for the duration of construction works with all rubbish being removed from the site upon completion of the project.
- 7) All excavations and backfilling associated with the erection of a building must be executed safely and in accordance with appropriate professional standards.
- 8) All excavations associated with the erection or demolition of a building must be properly guarded and protected to prevent them from being dangerous to life or property.

#### **Hours of Work**

- 9) For the purpose of preserving the amenity of neighbouring occupations, building work including the delivery of materials to and from the site is to be restricted to the following hours:
  - a) 7.00am and 6.00pm, Mondays to Fridays (inclusive);
  - b) 7.00am to 4.00pm, Saturdays, Sundays and Public Holidays;

#### **Drainage**

- 10) The land surrounding any structure must be graded to divert surface water to the street or public system, or natural water course and must be clear of existing and proposed structures and adjoining premises.
- 11) Where the water falls to the rear of the property, it must be collected and piped via a gravity system directly to a Council stormwater system or natural water course.

#### **Roadworks**

- 12) The applicant is to arrange with the relevant public utility authority for the alteration or removal of any affected services in connection with the development. Any such work must be carried out at the applicant's expense.
- 13) The applicant is to submit to Council an application for a road opening permit when the drainage connection into Council's system is within the road reserve. In this regard the applicant shall pay to Council a road opening fee in accordance with the Council's current fees and charges.

- 14) Additional road opening permits and fees may be necessary where there are connections to public utility services (eg. telephone, electricity, sewer, water or gas) required within the road reserve.

**Compliance with Building Code of Australia**

- 15) All building work must comply with the deemed-to-satisfy provisions of the BCA.

### Inspections during Construction

- 16) The building works are to be inspected during construction, by the Council (where Council is the principal certifying authority) or by an accredited certifier and documentary evidence of compliance with the relevant terms of the approval/standards of construction detailed in the BCA, is to be obtained prior to proceeding to the subsequent stages of construction, encompassing not less than the following key stages:
- a) sediment and erosion control, site works and site set out, before building starts,
  - b) PRIOR to concreting of pier holes,
  - c) all trenches and steel reinforcement PRIOR to pouring of concrete,
  - d) framework, when complete, PRIOR to the fixing of floor, wall, ceiling and roof finishes,
  - e) wet areas, after the placement of damp proof and flashing courses,
  - f) stormwater and drainage lines and pits PRIOR to backfilling,
  - g) completion of all works and PRIOR to occupation/use of the structure.

Copies of the above stated documentary evidence are to be submitted to the principal certifying authority upon completion of each specified stage of construction and prior to occupation of the building.

In addition, the person carrying out the inspection is required to ensure that adequate provisions are made for the following measures during every stage of construction, to ensure compliance with the approval and documentary evidence of compliance is to be provided to the satisfaction of the principal certifying authority:

- a) sediment control measures,
  - b) public safety,
  - c) fences or hoardings.
- 17) The applicant must notify either the Council (where Council is the principal certifying authority) or an accredited certifier in advance (at least 48 hours in writing or 24 hours by phone) to inspect the building works.

### Survey Certificate

- 18) The following survey certificates must be given to the principal certifying authority, at the following stages, where 100 year ARI flood level is within 3.0m (horizontally) of the property boundary:
- a) on completion of floor slab framework before concrete is poured, detailing the location of the structure to the boundaries, and
  - b) at completion of the lowest floor, confirming that levels are in accordance with the complying development certificate (which levels must relate to the datum shown on the complying development certificate).

### Safety

- 19) Fire safety measures must be included.

### Site Access

- 20) Driveways are to be a minimum of 0.5m clear of all drainage structures on the kerb and gutter and are not to interfere with the existing public utility infrastructure, including Council drainage structures, unless prior approval is obtained from the relevant authority.
- 21) Finished street levels shall not be assumed. The owner or builder must make application to Council's Works Division for street levels.
- 22) Driveways are to be located a minimum of 6m from the intersection of property boundaries.
- 23) Driveways are to be constructed in accordance with any relevant requirements of AS 2890.1 Second Edition 1993, with appropriate transition zones.

#### **Removal of Temporary Buildings**

- 24) Builder's sheds, scaffolds and portable toilets must be removed on completion of associated development or within six (6) months of placement, whichever is less.

#### **Payment of Fees**

- 25) The evidence of the relevant payments shall be included in the submission of the complying development certificate to Council:
- a) Road opening fee
  - b) Long Service Levy
  - c) Microfilm and storage fees
  - d) Gutter and footpath crossing fees (work done privately).

#### **Occupation Certificate**

- 26) An occupation certificate is to be obtained prior to the occupation of a new building or addition.

#### **Fire Safety**

- 27) An automatic fire detection alarm system is to be installed in every dwelling and must comply with the requirements of Part 3.7.2.2 of the BCA – Housing Provisions.

*Note: A smoke detector system complying with AS 3786 and connected to the mains electrical power with standby power (battery backup) located outside the entrance to each bedroom and in any storey.*

- 28) The applicant is required to provide certification to the principal certifying authority prior to the issue of an occupation certificate that the fire detection and alarm system:
- a) has obtained the relevant standards mark approval and complies with AS 3786;
  - b) has mains electrical wiring and standby power source;
  - c) protects every bedroom or group of bedrooms from the remainder of the building; and
  - d) protects every storey of the building.

#### **Supplementary Conditions Involving the Use Of Commercial Premises**

- 29) No signs or goods are to be displayed or trading of any description is to be carried out on the public road, public footpath, service land, customer and/or employee parking area, the driveways or pedestrian walkways outside or in the immediate vicinity of the premises.
- 30) Business is to be conducted and patrons are to be controlled at all times so that no interference occurs to the amenity of the adjoining occupations.
- 31) Emission of sound from the premises shall be controlled at all times so as not to unreasonably impact upon nearby owners/occupants. If an intruder alarm is installed on the premises it shall be fitted with a timing device in accordance with the requirements of the Protection of the Environment Operations Act, 1997.

#### **Refuse and Trade Waste**

- 32) Refuse and trade waste material shall be stored in an area outside the building and suitably screened and is to be removed from the premises at regular intervals.
- 33) All medical waste is to be safely stored within the building until removed at regular intervals by a medical waste transporter holding a current licence to transport medical waste as issued by the Environmental Protection Authority. All used sharps are to be stored in purpose designed containers to prevent needle stick injury.

#### **Food Premises**

- 34) Premises used in the manufacture, preparation, storage, packaging or cartage of food shall be maintained in their "as approved" form in compliance with the Food Act 1989 and Regulations thereunder, and Council's Code for Food Premises.

#### **Supplementary Conditions Involving Minor Boundary Adjustments**

- 35) The applicant must obtain a section 73 compliance certificate under the Sydney Water Act 1994 from Sydney Water. The Certificate must be obtained to satisfy the Principal Certifying Authority prior to the release of the Plan of Subdivision.

# Appendix C

## Floodplain Management Strategy



NSW GOVERNMENT  
**Department of Planning**



## APPENDIX C – FLOODPLAIN MANAGEMENT STRATEGY

This Appendix outlines the specific requirements for the preparation of a Floodplain Management Strategy. The Appendix lists what the strategy shall include and what the strategy shall deliver as a minimum.

### LAND TO WHICH THE STRATEGY APPLIES

The land to which this strategy applies (the Subject Land) is Lot 211 DP 8300505 (located within the Riverstone West Precinct) and Lot 11 DP 816720 Riverstone Parade, Riverstone located immediately west of the Precinct (refer **Figure C1**).

### DEFINITIONS

Definitions for terms used in this Strategy are listed in **Table C1**.

### OBJECTIVES

The objectives of this Floodplain Management Strategy are to:

- 1) define existing flooding at the site and in the vicinity of the site in accordance with the *NSW Floodplain Development Manual 2005*, the *Growth Centres Development Code* and Council procedures
- 2) determine the flood impacts on account of the proposed development, and investigate mitigation options which will provide input into the **Floodplain Management Strategy**
- 3) develop a strategy that demonstrates flood impacts at the site and adjoining the site are managed in accordance with the requirements of the *Growth Centres SEPP Amendment (Riverstone West Precinct) 2009*, the *Growth Centres Development Code* and the development controls in **Section 4.3** of this DCP.
- 4) ensure that the **Floodplain Management Strategy** is supported by a **Flood Emergency Response Plan** and a **Cut and Fill plan**
- 5) ensure that the **Floodplain Management Strategy** addresses the specific requirements listed in **Strategy Formulation Requirements** in this Appendix of the DCP.

### STRATEGY FORMULATION REQUIREMENTS

- 1) The strategy must be prepared in accordance with:
  - a) the principles of the NSW State Government's *Floodplain Development Manual 2005*
  - b) *Growth Centres Development Code*
  - c) *Blacktown City Council Engineering Guide for Development 2005*
  - d) *Blacktown City Council Works Specification – Civil 2005*
- 2) To define the existing flooding the range of events to be investigated must be confirmed with Blacktown City Council prior to commencement of any studies but shall include as a minimum the 2 year ARI, 5 year ARI, 20 year ARI, 100 year ARI, 200 year ARI (approximate HHF), 500 year ARI and PMF events;
- 3) Flood studies for existing and developed conditions shall investigate flooding associated with:
  - a) backwater flooding from the Hawkesbury River
  - b) flooding associated with Eastern Creek
  - c) flooding associated with Eastern Creek tributaries, amongst others conveyance of flood waters from Riverstone east of the railway.
- 4) Flood studies shall investigate the combined probabilities of flood events, which shall include amongst others:
  - a) flooding of the Eastern Creek floodplain and tributaries due to 100 year ARI event occurring concurrently with 100 year ARI event flooding in the Hawkesbury River

- b) flooding of the Eastern Creek floodplain and tributaries due to 100 year ARI event concurrently with 5 year ARI event flooding in the Hawkesbury River
- c) flooding of the Eastern Creek floodplain and tributaries due to 100 year ARI event occurring without any concurrent flooding in the Hawkesbury River
- 5) All flood studies shall be based on results from 2-D modelling with choice of model confirmed with Blacktown City Council, preferably using the TUFLOW model.
- 6) With exception of the Hawkesbury River, the flood study shall rely on inflow hydrographs determined using the RAFTS hydrological models, configured using hydrological parameters defined in consultation with Council.
- 7) Floodplain study roughness values shall be established in consultation with Council.
- 8) In accordance with the *NSW Floodplain Development Manual 2005*, developed flood studies shall investigate the cumulative effects of flooding. In addition the developed scenario flood study shall include all proposed redistribution of flood flows on account of proposed building platforms and other earthworks;
- 9) Flood studies shall investigate the impact of climate change based on the latest information available at the time which has been adopted by DECC or other appropriate government agencies, as follows:
  - a) for the Hawkesbury River, the most recent impacts adopted by other studies in that area;
  - b) for Eastern Creek and tributaries, amongst others tributaries from Riverstone east of the railway, as a minimum, impacts shall be assessed in accordance with DECC's *Floodplain Risk Management Guideline – Practical Consideration of Climate Change*, July 2007.
- 10) For the developed scenario and associated mitigation proposal relying on cut and fill in the floodplain, the proposed cut and fill extent and volumes shall be based broadly on **Figures C2, C3 and C4**, with minor adjustments to satisfy the performance specifications defined in the *Growth Centres SEPP Amendment (Riverstone West Precinct) 2009*, the *Growth Centres Development Code* and the development controls in **Section 4.3** of the DCP.
- 11) A **Staging Plan** must be prepared to outline the staging of all the earthworks for the precinct.
- 12) The flood studies shall investigate the impact of staging of the development and earthworks, and demonstrate compliance with the *Growth Centres SEPP Amendment (Riverstone West Precinct) 2009* and the development controls in **Section 4.3** of the DCP for each stage.

## STRATEGY DELIVERABLE

- 1) The strategy shall be a written document supported by plans, that:
  - a) defines the methodology and assumptions used in the strategy development
  - b) defines existing and developed scenario flooding in accordance with the *NSW Floodplain Development Manual, 2005*
  - c) demonstrates compliance with the *Growth Centres SEPP Amendment (Riverstone West Precinct) 2009*, the *Growth Centres Development Code* and development controls in **Section 4.3** of the DCP
  - d) provides the final cut and fill plan for the floodplain and development platform to which this strategy applies, which complies with the cut and fill controls in **Section 4.2** of this DCP
  - e) provides a **Flood Emergency Response Plan (FERP)** for the precinct
  - f) demonstrates management strategies for future climate conditions
  - g) demonstrates compliance with the *Growth Centres SEPP Amendment (Riverstone West Precinct) 2009* in consideration of the proposed staging of development for the Riverstone West Precinct.

### **FLOOD EMERGENCY RESPONSE PLAN**

- 1) A **Flood Emergency Response Plan** (FERP) is to be developed for the Riverstone West Precinct development in consultation with the local branch of the State Emergency Services.
- 2) The FERP shall include but not be limited to:
  - a) flood education of staff from organisations that may take up occupancy within the Precinct;
  - b) flood intelligence protocols;
  - c) flood evacuation; and,
  - d) flood recovery.
- 3) The FERP is to be issued as a draft with the DA. A final FERP is to be prepared and submitted to secure Certificate of Occupancy for development within the Precinct.

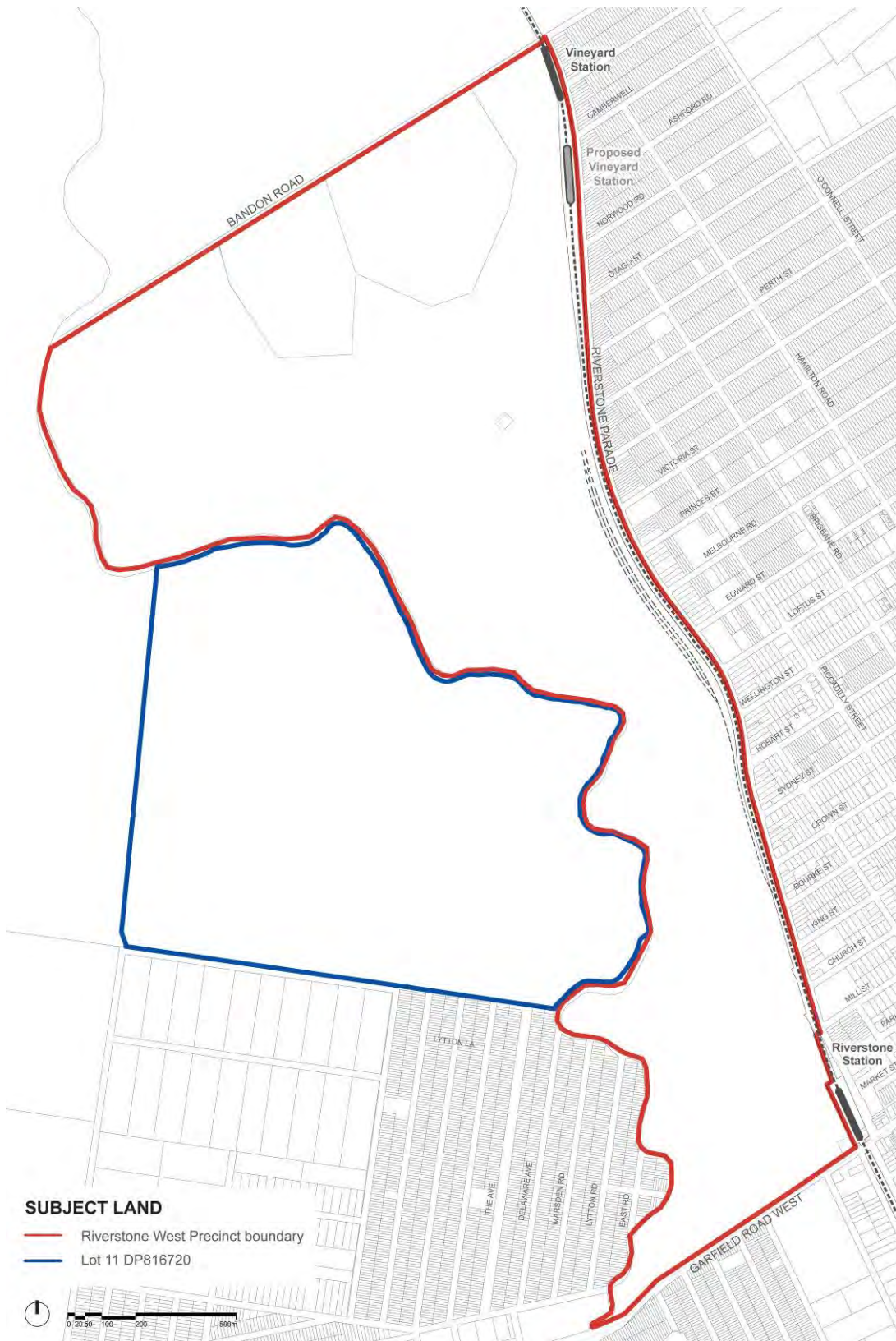


Figure C1: Subject Land to which this Strategy applies



Figure C2: Preliminary Cut and Fill



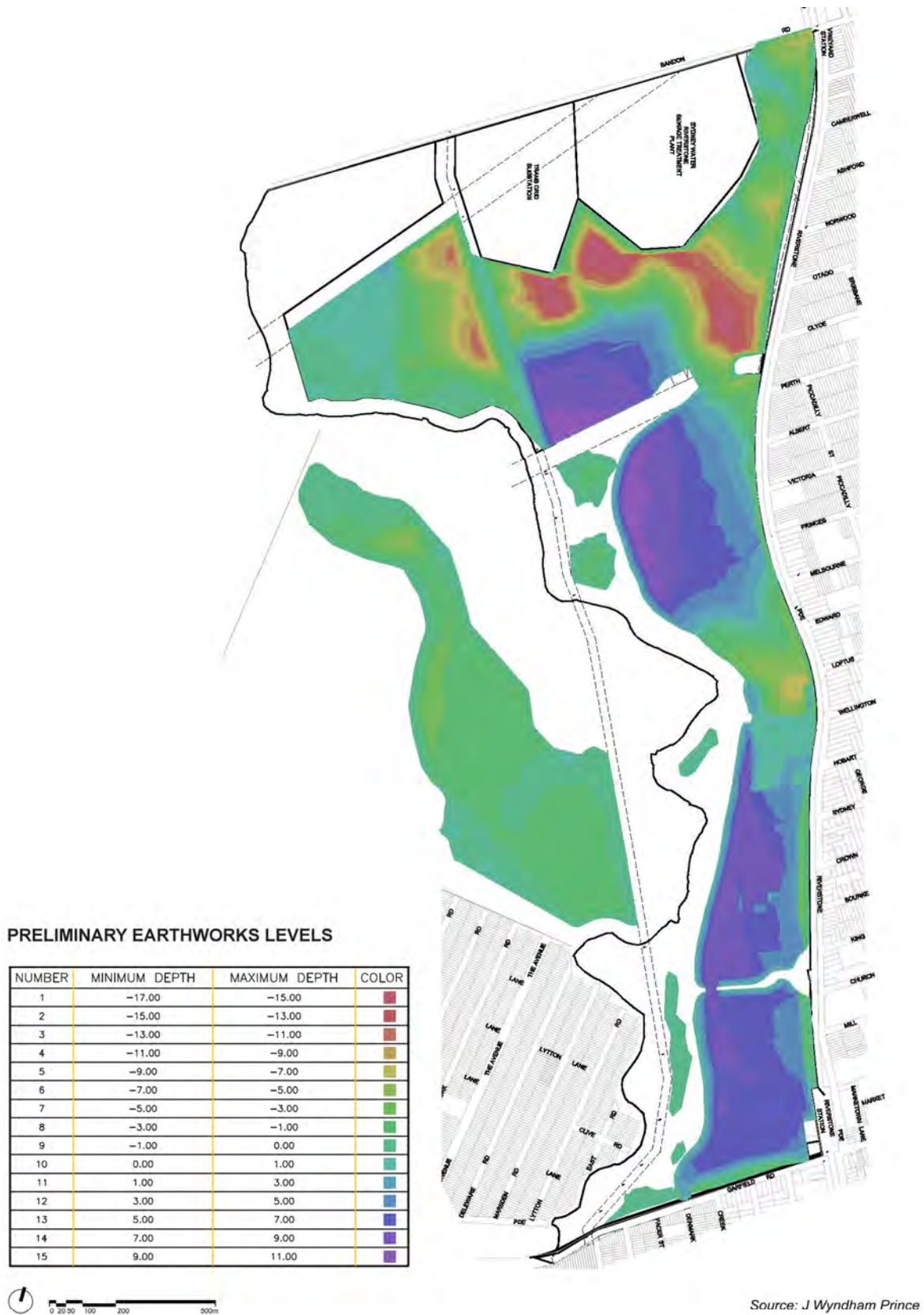


Figure C3: Preliminary Earthworks levels



Figure C4: Preliminary Cut and Fill contours

## DEFINITIONS

Table C1: Definitions of terms

<b>Australian Height Datum (AHD)</b>	A common national surface level datum corresponding approximately to mean sea level.
<b>Annual Exceedence Probability (AEP)</b>	The chance of a flood of a given or larger size occurring in any one year, usually expressed as a percentage. For example, if a peak flood discharge of greater than or equal to 500 cubic metres per second has an AEP of 5 per cent, it means that there is a 5 per cent chance (that is one-in-20 chance) of a peak flood discharge of greater than or equal to 500 cubic metres per second or larger occurring in any one year (see average recurrence interval).
<b>Average recurrence interval (ARI)</b>	The long term average number of years between the occurrence of a flood as big as, or larger than, the selected event. For example, floods with a discharge as great as, or greater than, the 20 year ARI flood event will occur on average once every 20 years. The ARI is another way of expressing the likelihood of occurrence of a flood event.
<b>Design floor level</b>	The minimum ( <i>lowest</i> ) floor level specified for a building.
<b>Discharge</b>	The rate of flow of water measured in terms of volume per unit time, for example cubic metres per second ( $m^3/s$ ). Discharge is different from the speed or velocity of flow which is a measure of how fast the water is moving for example, metres per second ( $m/s$ ).
<b>Existing Climate Flood Levels</b>	Flood levels determined in accordance with the Australian Rainfall and Runoff Manual 2001
<b>Flood</b>	Relatively high stream flow which overtops the natural or artificial banks in any part of a stream, river, estuary, lake or dam, and/or local overland flooding associated with major drainage before entering a water course, and/or coastal inundation resulting from super-elevated sea levels and/or waves overtopping coastline defences excluding tsunamis.
<b>Flood behaviour</b>	The pattern/characteristics/nature of a flood. The flood behaviour is often presented in terms of the peak average velocity of floodwaters and the peak water level at a particular location.
<b>Flood fringe areas</b>	The remaining area of flood prone land after floodway and flood storage areas have been defined.
<b>Flood hazard</b>	A source of potential harm or a situation with a potential to cause loss. In relation to this study the hazard is flooding which has the potential to cause damage to the community. Definitions of high and low hazard categories are provided in Appendix L of the <i>Floodplain Development Manual (2005)</i> .
<b>Flood level</b>	The height or elevation of flood waters relative to a datum ( <i>typically the Australian Height Datum</i> ).
<b>Floodplain</b>	Area of land which is subject to inundation by floods up to and including the probable maximum flood event, that is, flood prone land.
<b>Flood planning levels (FPLs)</b>	The combinations of flood levels and freeboards selected for planning purposes, as determined in floodplain risk management studies and incorporated in floodplain risk management plans.
<b>Flood prone land</b>	Land susceptible to flooding by the probable maximum flood (PMF) event. Flood prone land is synonymous with flood liable land.
<b>Flood storage areas</b>	Those parts of the floodplain that are important for the temporary storage of floodwaters during the passage of a flood. The extent and behaviour of flood storage areas may change with flood severity, and loss of flood storages can increase the severity of flood impacts by reducing natural flood attenuation. Hence it is necessary to investigate a range of flood sizes before defining flood storage areas.



<b>Floodway areas</b>	Those areas of the floodplain where a significant discharge of water occurs during floods. They are areas often aligned with naturally defined channels. Floodways are areas that, even if only partially blocked, would cause a significant redistribution of flood flow, or a significant increase in flood levels.
<b>Freeboard</b>	A factor of safety typically used in relation to the setting of floor levels and levee crest levels etc. It is usually expressed as the difference in height between the adopted flood planning level and the flood used to determine the flood planning level. Freeboard provides a factor of safety to compensate for uncertainties in the estimation of flood levels across the floodplain, such as wave action, localised hydraulic behaviour and impacts that are specific event related such as levee and embankment settlement, and other effects such as “greenhouse” and climate change. Freeboard is included in the flood planning level.
<b>Future Climate Flood Levels</b>	Flood levels determined in accordance with DECC’s Floodplain Risk Management Guidelines – Practical considerations of Climate Change, 2007 or updated guidelines and policies.
<b>Local overland flooding</b>	Inundation by local runoff rather than overbank discharge from a stream, river, estuary or lake.
<b>Mainstream flooding</b>	Inundation of normally dry land occurring when water overflows the natural or artificial banks of a stream, river, estuary or lake.
<b>Mathematical / computer models</b>	The mathematical representation of the physical processes involved in runoff generation and stream flow. These models are often run on computers due to the complexity of the mathematical relationships between runoff, stream flow and the distribution of flows across the floodplain.
<b>Probable Maximum Flood (PMF)</b>	The largest flood that could conceivably occur at a particular location, usually estimated from the probable maximum precipitation. Generally, it is not physically or economically possible to provide complete protection against this event. The PMF defines the extent of flood prone land; that is, the floodplain. The extent, nature and potential consequences of flooding associated with the PMF event should be addressed in a floodplain risk management study.
<b>Probability</b>	A statistical measure of the expected chance of flooding ( <i>see annual exceedance probability</i> ).
<b>Risk</b>	Chance of something happening that will have an impact. It is measured in terms of consequences and likelihood. In the context of this flood study ( <i>and the subsequent floodplain risk management study</i> ) it is the likelihood of consequences arising from the interaction of floods, communities and the environment.
<b>Runoff</b>	The amount of rainfall from a catchment which actually ends up as flowing water in the river or creek.
<b>Velocity</b>	The speed or rate of motion ( <i>distance per unit of time</i> ) in a specific direction at which the flood waters are moving. Typically, modelled flood velocities in a river or creek are quoted as the depth and width averaged velocity, i.e., the average velocity across the whole river or creek section ( <i>adapted from Chambers English Dictionary 1988</i> ).
<b>Water surface profile</b>	A graph showing the flood stage at a given location along a watercourse at a particular time.



# Appendix D

## Integrated Water Cycle Management Strategy



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## APPENDIX D – INTEGRATED WATER CYCLE MANAGEMENT STRATEGY

This Appendix outlines the specific requirements for the preparation of the Integrated Water Cycle Strategy. The Appendix lists what the strategy should include and what the strategy should deliver.

### LAND TO WHICH THE STRATEGY APPLIES

This Appendix applies to land identified in **Figure 1** of this DCP.

### OBJECTIVES

The objectives of this **Integrated Water Management Strategy** are to:

- 1) assess the water cycle of the site and identify mitigation/conservation/management measures for water conservation, water quality, waterway stability, erosion and sediment control and groundwater to ensure the development meets the development controls in **Section 4.3**
- 2) demonstrate how the Integrated and Water Cycle Management Strategy integrates and does not compromise the objectives of the Floodplain Management Strategy in **Appendix C**.
- 3) provide guidance on erosion and sediment control for all stages of construction including site preparation, works phase and site reestablishment and where applicable taking into account development staging.
- 4) demonstrate how the integrated water cycle management measures integrate with the existing and/or proposed urban design.
- 5) provide an assessment of potential strategies as an integrated system and their costs including capital, operational and maintenance costs. Specifically typical annual maintenance costs, and corrective maintenance or renewal/adaptation costs, that is a whole of life cycle estimate.
- 6) provide an assessment of how issues such as land take, expected reliability, likelihood of community acceptable and future management responsibilities have been considered and addressed.
- 7) provide a maintenance and monitoring plan for all integrated water cycle management measures which includes inspection requirements and maintenance activities and any monitoring reporting planned.

### STRATEGY CONTENT AND FORMAT

The Strategy's format must be as follows:

- 1) **Background Information** which must include:
  - a) The name, qualifications and brief outline of the relevant experience of person(s) involved in the preparation of the Strategy.
  - b) A summary of any background information available including previous and concurrent studies, mapping data, strategies or plans. Any relevant documents referenced in the Plan must be attached as appendices.
- 2) **Proposed development** which must include a description of the proposed development including allotment boundaries, adjoining properties; proposed land uses densities, population, infrastructure and development staging.
- 3) **Objectives** which must include identification of the development objectives that apply to the proposed development consistent with this DCP.
- 4) **Constraints and opportunities** which must include identification of the constraints and opportunities presented by the allotment for which the Plan is being prepared that have the potential to impact upon or enhance the water cycle management.

- 5) **Flooding** which must include:
  - a) a description of the existing conditions and identify the conservation / mitigation / management measures proposed to meet the relevant controls of this DCP, Appendix C Flood Management Strategy and the Growth Centres SEPP Amendment (Riverstone West) 2009
  - b) the impacts of vegetation and/or potential rehabilitation/restoration of core riparian zones and vegetated buffers in any flood modelling.
- 6) **Water conservation** which must include:
  - a) a description of the existing conditions and identify the conservation / mitigation / management measures proposed to meet the relevant controls of this DCP.
  - b) an appendices which includes any calculations and results of any modelling conducted and identify the size, location, indicative level, volume and configuration of any measures proposed.
  - c) an assessment of all potential strategies that were considered. This section must include the impacts of vegetation and/or potential rehabilitation/restoration of core riparian zones and vegetated buffers in any flood modelling.
- 7) **Stormwater Quality, Stormwater Quality and Waterway Stability** which must include:
  - a) a description of the existing conditions and identify mitigation/management measures proposed to meet the relevant controls of this DCP
  - b) detailed tables of modelled results, demonstrating compliance with the relevant controls of this DCP
  - c) appendices which includes any calculations and results of any modelling conducted and identify the size, location, indicative level, volume and configuration of any measures proposed.
- 8) **Groundwater** which must include a **Groundwater Assessment and Management Plan** that is prepared in accordance with the *Sydney Coastal Council's Group Groundwater Management Handbook, 2006* as amended or superseded.
  - a) The Groundwater Assessment component must include:
    - information on the local hydrology including depth to water table and an assessment of the recharge characteristics.
    - information on the presence of contaminated soil and/or groundwater.
    - an assessment of the potential for interaction with or potential for impacts on groundwater.
  - b) If there is potential for interaction with or potential for adverse impacts on groundwater a management plan must be prepared that:
    - includes a summary of the findings of any groundwater assessment.
    - includes more detailed information on the local hydrogeology which was excluded from the groundwater assessment such as groundwater flow rates.
    - includes the ambient chemical characteristics of the groundwater.
    - includes the proximity of surrounding structures or buildings their footing systems and soil conditions.
    - identifies the potential for settlement and water seepage.
    - identifies any temporary or permanent measures to be employed to manage groundwater interference, with sufficient detail and explanation to demonstrate that the measures will provide an acceptable level of performance.
    - identifies the location and provide an assessment of risk to adjoining properties.
    - identifies options for the disposal of groundwater and stormwater.
    - identifies how the existing groundwater regime will be maintained.
    - includes a monitoring program in accordance with any licensing requirements, or in the absence of licensing requirements as determined by Council.

- includes an assessment of possible reasons for performance falling short of the required level and a contingency plan to deal with sub-standard performance and any unforeseen circumstances.
  - includes documentation to satisfy requirements for any permits or licensing to be obtained from the NSW State Government.
  - includes any other features that will have an influence on the site or surrounding area.
- c) The **Groundwater Assessment and Management Plan** must provide sufficient detail to demonstrate that the completed works will meet the requirements of the groundwater controls in this Plan.
- d) The local hydrogeology will largely determine the options available for controls of the groundwater during construction and the long term. Regardless of the construction methodology it may be necessary to install monitoring devices so that fluctuations in water level can be monitored pre, during and post construction and remedial action undertaken if required.
- e) The presence of contaminated soil, surface water or groundwater, whether generated from the allotment or beyond, will require remediation prior to construction commencing. The method and extent of remediation will depend on the nature and source of the contamination and whether it is moving within the groundwater system.
- f) If there is the presence of highly corrosive groundwater the selective use of particular building materials that can withstand this corrosive attack may be required and should be incorporated into the report.
- g) Major structures in close proximity to the development may also pose a constraint to the methods proposed to manage groundwater during construction.
- 9) **Integration with urban design and the environment** which must identify how the proposed mitigation / conservation / management measures will integrate with the existing and proposed urban design and the environment.
- 10) **Assessment of potential strategies as an integrated system including costs** which must include:
- a) an assessment of the proposed mitigation/ conservation/ management measures as an integrated system.
  - b) capital, operational and maintenance cost estimates of the proposed mitigation / conservation / management measures. The cost estimates must include typical annual maintenance costs and corrective maintenance or renewal / adaptation costs that is a whole of life cycle cost estimate.
  - c) discussion on how issues such as land take requirements, expected reliability, likely level of community acceptance and future management responsibilities have been considered and addressed.
- 11) **Monitoring and maintenance Plan** which must identify any inspection and maintenance requirements for the proposed mitigation / conservation / management measures to ensure the proposed measures remain effective. This must include the submission of an annual maintenance monitoring report.

## ADDITIONAL STRATEGY REQUIREMENTS

The Strategy must:

- 1) be prepared in accordance with the following documents as amended or superseded:
  - a) the principles of the *NSW Floodplain Development Manual 2005*
  - b) *Growth Centres Development Code*
  - c) *Blacktown City Council Engineering Guide for Development 2005 and Blacktown City Council Works Specification – Civil 2005*
- 2) Any modelling conducted must be in accordance with *Blacktown City Council Modelling Guidelines*. Council's modelling preferences are:
  - a) for hydrology – RAFTS, RORB, DRAINS.
  - b) for hydraulics (flood management) – TUFLOW.
  - c) for hydraulics (precinct stormwater conveyance) – DRAINS, HECRAS, TUFLOW, Mike 11, XPSTORM, SWMM.

- d) for water quality – MUSIC.
- 3) Demonstrate management strategies for future climate conditions and provide an assessment of the impacts of climate change on stormwater management infrastructure in accordance with DECC's *Floodplain Risk Management Guidelines – Practical considerations of Climate Change, 2007* or updated guidelines and policies.
- 4) Include the following requirements as part of the **Integrated Water Cycle Management Report** (as described in **Table 4** in **Section 1.7.3** of this DCP). Each plan or assessment listed below must provide enough detail for Council to determine that the proposal will function in accordance with the **Floodplain Management Strategy**, development controls of this DCP, relevant sections of the *Blacktown City Council Engineering Guide for Development 2005* and *Works Specification – Civil 2005* and good engineering practice.

**Table D1:** Integrated Water Cycle Management Report requirements

<p><b>Drainage Plan</b></p>	<p>It is expected that the following information will be provided as a minimum:</p> <ul style="list-style-type: none"> <li>• legal points of discharge</li> <li>• detention</li> <li>• easements</li> <li>• overland flow paths</li> <li>• trunk drainage</li> <li>• extent of works</li> <li>• inter-allotment drainage</li> <li>• subsoil drainage</li> <li>• pit design</li> <li>• flood prone land</li> <li>• constraints including ecological, archaeological and geotechnical</li> <li>• integrated water cycle management measures</li> <li>• utilities</li> </ul> <p>The Drainage Plan must also demonstrate that any proposed measures will fit within the available space.</p>
<p><b>Erosion and Sediment Control Plan/Soil and Water Management Plan</b></p>	<p>As in Control 10) of this Section</p>
<p><b>Groundwater Management Report</b></p>	<p>The <b>Groundwater Management Report</b> must be prepared in accordance with the <b>Groundwater Assessment and Management Plan</b> contained in the <b>Integrated Water Cycle Management Strategy</b>.</p>
<p><b>Structural Assessment</b></p>	<p>A <b>Structural Assessment</b> of the following, where relevant, must be prepared with regards to the Land Use Categories described in <b>Appendix E</b>:</p> <ul style="list-style-type: none"> <li>• Sensitive uses and facilities</li> </ul> <p>The assessment must demonstrate that any structure can withstand the force of flooding and remain stable and structurally sound during and post a PMF flood.</p>

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- Critical uses

The assessment must demonstrate that any structure can withstand the force of flooding and remain stable and structurally sound during and post a PMF flood.

- Subdivision and filling

The assessment must be prepared by a geotechnical engineer to specify appropriate filling / earthworks and the means of protecting batters against scour/erosion.

- Commercial and industrial uses

The assessment must demonstrate that any structure can withstand the force of flooding and remain stable and structurally sound during and post a HHF flood.

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## PRACTITIONER REQUIREMENTS

The different sections of the Strategy or Report must be prepared by suitable qualified and experienced practitioners as follows:

- 1) for water conservation issues the practitioner employed must have relevant tertiary qualifications, technical knowledge and a minimum of five (5) years demonstrated experience in the field of water conservation management.
- 2) for surface water quality and quantity issues the practitioner employed must have relevant tertiary qualifications, technical knowledge and a minimum of five (5) years demonstrated experience in the field of stormwater management relating to water quality and waterway stability. If the controls include wetlands, vegetation or rehabilitation of a river a practitioner shall be employed that has relevant tertiary qualifications, technical knowledge and a minimum of five (5) years demonstrated experience in the field of ecology and bush rehabilitation. For water quantity detention issues the practitioner employed must also fulfil the requirements of the Blacktown City Council Engineering Guide for Development 2005 as amended or superseded.
- 3) for erosion and sediment control issues the practitioner employed must have suitable qualifications, experience or ability in the preparation of such plans and that has a demonstrated knowledge of soil and water management.
- 4) for groundwater issues the practitioner employed must have relevant tertiary qualifications, technical knowledge and a minimum of five (5) years demonstrated experience in the geotechnical or hydrogeological field.



# Appendix E

## Land Use Categories



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## APPENDIX E – LAND USE CATEGORIES

Land Use Category	Land Use
<b>Sensitive Uses and Facilities</b>	Place of assembly or public building which may provide an important contribution to the notification and evacuation of the community during flood events
	Evacuation centres
	Day care centres
	Child care centres
<b>Critical Utilities and Uses</b>	Telecommunication facilities
	Utility installations that may cause pollution of waterways during flooding; are essential to evacuation during periods of flood; or if affected during flood events would unreasonably affect the ability of the community to return to normal activities after flood events
<b>Filling</b>	The net importation of fill material onto a site, except where final surface levels are raised by no more than 300 millimetres over no more than 100 square metres of the site or filling is no more than 800 millimetres thick beneath a concrete building slab only.
	Compensatory earthworks, involving cut and fill, is not considered to be filling provided that there is no net importation of fill material onto the site; and there is no net loss of flood storage at all flood levels
<b>Subdivision</b>	Subdivision of land which involves the creation of new allotments and earthworks or filing operations covering 100 square metres or a depth of more than 0.3 metres
<b>Commercial or industrial</b>	Amusement centre
	Auction rooms
	Brothels
	Bulk store
	Bulky goods retaining
	Club
	Commercial premises
	Community centre (other than where referred to elsewhere)
	Education establishment
	Hardware store
	Helipad or Heliport
	Hotel
	Industry
	Junk yards
	Light industry
	Mortuary
	Motor showroom
	Multi-tenanted industrial development
Plant or equipment hire establishment	

<b>Land Use Category</b>	<b>Land Use</b>
	Professional office
	Place of worship
	Refreshment room
	Recreation facility
	Service station
	Shop
	Timber yard
	Veterinary establishment
	Warehouse
<b>Recreation or non-urban</b>	Recreation areas and minor ancillary structures (eg. kiosk or toilet block)
	Roadside stall

Note: Any fencing that forms part of a proposed development is included in that development's Land Use Category and is subject to the relevant planning considerations applicable to that Land Use Category.



# Appendix F

## Flood Compatible Materials



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## APPENDIX F – FLOOD COMPATIBLE MATERIALS

Building Component	Flood Compatibility
<b>Flooring and sub-floor structure</b>	Concrete slab-on-ground construction
	Suspension reinforced concrete slab
<b>Floor covering</b>	Clay tiles
	Concrete, recast or in situ
	Concrete tiles
	Epoxy, formed-in-place
	Rubber sheets or tiles with chemical set adhesive
	Ceramic tiles, fixed with mortar or chemical-set adhesive
	Asphalt tiles, fixed with water resistant adhesive
<b>Wall structure</b>	Solid brickwork, blockwork, reinforced, concrete or mass concrete
<b>Roofing structure (for situations where the relevant flood level is above the ceiling)</b>	Reinforced concrete construction
	Galvanised metal construction
<b>Doors</b>	Solid panel with water proof adhesives
	Flush door with marine ply filled with closed cell foam
	Painted metal construction
	Aluminium or galvanised steel frame
<b>Wall and ceiling linings</b>	Fibro-cement board
	Brick, face or glazed waterproof mortar
	Concrete
	Concrete block
	Steel with waterproof applications
	Stone, natural solid or veneer, water proof grout
	Glass blocks
	Glass
Plastic sheeting or wall with waterproof adhesive	
<b>Insulation windows</b>	Foam (closed cell types)
	Aluminium frame with stainless steel rollers or similar corrosion and water resistant material
<b>Nails, bolts, hinges and fittings</b>	Brass, nylon or stainless steel
	Removable pin hinges
	Hot dipped galvanised steel wire nails or similar

<b>Electrical and Mechanical Equipment</b>	<b>Flood Compatibility</b>
<b>Main power supply</b>	Subject to the approval of the relevant authority, the incoming main commercial power service equipment, including all metering equipment, shall be located above the relevant flood level. Means shall be available to easily disconnect the dwelling from the main power supply.
<b>Wiring for main power supply</b>	All wiring, power outlets, switches etc. should, to the maximum extent possible, be located above the relevant flood level. All electrical wiring installed below the relevant flood level should be suitable for continuous submergence in water and should contain no fibrous components. Earth core linkage systems (or safety switches) are to be installed. Only submersible type splices should be used below the relevant flood level. All conduits located below the relevant designated flood level should be so installed that they will be self-draining if subjected to flooding.
<b>Equipment</b>	All equipment installed below or partially below the relevant flood level should be capable of disconnection by a single plug and socket assembly.
<b>Reconnection</b>	Should any electrical device and/or part of the wiring be flooded it should be thoroughly cleaned or replaced and checked by an approved electrical contractor before reconnection
<b>Heating and Air Conditioning Systems</b>	<b>Flood Compatibility</b>
<b>Fuel</b>	Heating systems using gas or oil as a fuel should have a manually operated valve located in the fuel supply line to enable fuel cut-off
<b>Installation</b>	The heating equipment and fuel storage tanks should be mounted on and securely anchored to a foundation pad or sufficient mass to overcome buoyancy and prevent movement that could damage the fuel supply line. All storage tanks should be vented to an elevation of 600 millimetres above the relevant flood level
<b>Ducting</b>	All ductwork located below the relevant flood level should be provided with openings for drainage and cleaning. Self draining may be achieved by constructing the ductwork on a suitable grade. Where ductwork must pass through a watertight wall or floor below the relevant flood level, the ductwork should be protected by a closure assembly operated from above the relevant flood level.





# Appendix G

Prescribed Trees, Preferred Species and Street Trees



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## APPENDIX G – PRESCRIBED TREES, PREFERRED SPECIES AND STREET TREES

### Prescribed Trees and Preferred Species

- 1) A prescribed tree is identified as:
  - a) having more than 4 metres in height and having a trunk diameter of more than 200 millimetres
  - b) when measured at height of 1 metre from the ground
  - c) a tree identified as one of the species listed in **Table G1**
- 2) Consent is not required:
  - a) for clearing species listed in Table 2 or any other species which have been declared as noxious plants under the *Noxious Weeds Act 1993*
  - b) for the removal of torn limbs or dead wood, such as individual branches, but not including whole trees, or
  - c) for pruning of less than 10% of the canopy or root system up to once every growing season and only of branches less than 100 millimetres in diameter
  - d) for pruning of more than 10% but less than 25% of the canopy, where the work will be undertaken by a suitably qualified person and Council has been notified of the work, and up to once every growing season
  - e) when inserting root barriers, when this will result in less than 10% of the root system being removed and up to once every growing season
- 3) Pruning of prescribed trees is only acceptable if:
  - a) all work complies with the Australian Pruning Standards AS 4373-1996, and
  - b) any pruning will not result in harm to the health of the tree.

**Table G1: Preferred Species**

Scientific Name	Common Name	Mature Height	Mature Spread	Native
<b>Prescribed Trees</b>				
<i>Acer buergeranum</i>	Trident Maple	6m	3m	X
<i>Agonis flexuosa</i>	Willow Myrtle	14m	6m	√
<i>Angophora floribunda</i>	Rough Barked Apple	20m	6m	√
<i>Banksia integrifolia</i>	Coastal Banksia	20m	6m	√
<i>Casuarina glauca</i>	Swamp She-Oak	15m	5m	√
<i>Corymbia maculata</i>	Spotted Gum	30m	8m	√
<i>Eucalyptus amplifolia</i>	Cabbage Gum	30m	5m	√
<i>Eucalyptus crebra</i>	Narrow Leafed Red Ironbark	30m	8m	√
<i>Eucalyptus microcorys</i>	Tallow-wood	40m	8m	√
<i>Eucalyptus moluccana</i>	Grey Box	30m	8m	√
<i>Eucalyptus tereticornis</i>	Forest Red Gum	40m	4m	√
<i>Fraxinus 'Raywoodii'</i>	Claret Ash	20m	8m	X
<i>Jacaranda mimosifolia</i>	Jacaranda	20m	8m	X

Melaleuca linarifolia	Snow In Summer	10m	4m	√
Melaleuca nodosa Melaleuca stypheoides Melia azedarach	Ball Honeymyrtle Prickly Paperbark White Cedar	4m 10m 15m	2.5m 3m 5m	√ √ X
Sapium sebiferum	Chinese Tallow Tree	7m	3m	X
<b>Shrubs</b>				
Agapanthus orientalis smithii 'Hedge Master'	Agapanthus Lilly Pilly Tall Kangaroo Paw Hairpin	0.75m 2m 2m 3m 0.3m 10m 3.5m	0.4m 1m 1m 2m 0.4m 6m	X √ √ √ √ √ √
Anigozanthos flavidus Banksia spinulosa Brunoniella australis Bursaria spinosa Callistemon linariifolius	Banksia Blue Trumpet Tasmanian Christmas Bush Narrow-leaved Bottlebrush		2m	
Crinum pedunculatum Dietes bicolor Doryanthes excelsa Dodonea viscosa Gardenia augusta Grevillea poorinda "Royal Mantle" Hakea sericea Kunzea ambigua Micromyrtus ciliata Phormium tenax "Purpureum" Thryptomene saxicola Westringia fruticosa	Crinum Lily Fortnight Lily Gymea Lily Giant Hop Bush Common Gardenia Grevillea Silky Hakea Tick Bush Finged Heath Myrtle NZ Purple Flax Rock Thryptomene Coastal Rosemary	2.5m 1.0m 3m 3m 1.5m 1.5m 6m 2.5m 0.15m 1.0m 1m 2.0m	2.5m 0.75m 2m 3m 1.0m 1.5m 3m 2m 1.5m 1.0m 0.5m 1.5m	√ X √ √ X √ √ √ √ X √ √
<b>Ground Cover</b>				
Aspidistra elatior Brachycome multifida Dichondra repens Grevillea 'Bronze Rambler'	Cast Iron Plant Cut Leaf Daisy Kidney Weed Grevillea cultivar	1m 0.3m 0.1m 0.3m	0.8m 1m 0.3m 0.4m	X √ √ √
Hardenbergia violacea Trachelospermum jasminoides Viola hederacea	Purple Coral Pea Star Jasmine Native violet	climbs to 1.5m climbs to 6m 0.2m	1.5m 1.5m 0.5m	√ X √
Wahlenbergia gracilis	Australian Bluebell	0.3m	0.25m	√
<b>Grasses</b>				
Aristida ramosa	Wire Grass	0.5m	0.5m	√
Danthonia tenuis Impatiens cylindrica Liriope muscari	Wallaby Grass Cogon Grass Turf Lily	0.3m 0.5m 0.6m	0.3m 0.5m 0.5m	√ √ X
Microlaena stipoides var. stipoides Ophiopogon japonicus Pennisetum alopecuroides Poa labillardieri Themeda australis	Microlaena Mondo Grass Fountain Grass Poa Kangaroo Grass	0.5m 0.35m 1m 0.4m 1m	0.3m 0.3m 1m 0.25m 0.3m	√ X √ √ √
<b>Sedges/Rushes</b>				

Carex appressa caerulea	Dianella	Tall Sedge Flax Lily	1m 0.5m	0.5m 0.3m	√ √
Dianella revolute Isoplepis nodosa	Gahnia aspera	Flax Lily Saw Sedge Nobby Clubrush	1m 1m 1m	1m 0.4m 1m	√ √ √
Lomandra longifolia multiflora	Lomandra	Mat Rush Many Flowered Mat Rush	0.7m 0.7m	1m 0.7m	√ √
Juncus usitatus		Common Rush	1m	0.4m	√
<b>Turf</b>					
Cynodon dactylon		Couch (improved types)	-	-	X

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

## Street Tree Species

Table G2: Street Tree Species List

	Evergreen	Deciduous	Underwires	Height
<b>NATIVE - (For minimum size verges: &lt; 5 metres)</b>				
Acacia elata	*			10m
Callistemon 'Kings Park Special'	*		*	4.5m
Lophostemon confertus	*			9m
Leptospermum petersonii	*		*	3.5m
Melaleuca bracteata 'Revolution Green'	*		*	4m
Melaleuca decora	*			5m
Melaleuca linariifolia	*		*	3.5m
Melaleuca styphelioides	*			5m
Pittosporum rhombifolium	*			5.5m
Pittosporum undulatum	*			5.5m
Tristaniopsis laurina	*		*	3m
<b>EXOTICS - (For minimum size verges: &lt; 5 metres)</b>				
Acer negundo 'Variegata'		*		5m
Celtis australis		*		10m
Fraxinus oxycarpa 'Raywoodi'		*		6-7m
Fraxinus pennsylvanica		*		10-15m
Fraxinus griffithii	*		*	4.5m
Lagerstroemia x faurii		*	*	4m
Lagerstroemia indica		*	*	4m
Malus floribunda		*	*	4m

	Evergreen	Deciduous	Underwires	Height
Pistachia chinensis		*	*	4-5m
Pyrus calleryana		*		6-7m
Pyrus usseriensis		*		6-7m
Robinia x ambigua 'Decaisneana'		*		6m
Sapium sebiferum		*		5m
Ulmus glabra 'Lutescens'		*		6m
Ulmus parvifolia		*		6m
Ulmus procera 'Louis van Houtte'		*		6m
<b>NATIVES</b> – (Species for wide verges only: > 5 metres and not under wires)				
Eucalyptus amplifolia	*			15-20m
Eucalyptus crebra	*			15-20m
Eucalyptus microcorys	*			15-20m
Eucalyptus moluccana	*			15-20m
Eucalyptus sideroxylon	*			15-20m
Eucalyptus tereticornis	*			15-20m
<b>EXOTICS</b> – (Species for wide verges only: > 5 metres and not under wires)				
Acer pseudoplatanus		*	Very broad	
Platanus x acerifolia 'Bloodgood'		*	Very broad	
Platanus x hybrida		*	Very broad	20m +
Quercus palustris		*	Very broad	20m +

**Note:** List is indicative only – other species of trees and shrubs can be utilised where appropriate.

**Undesirable species**

**Table G3: Undesirable Species**

<b>Scientific Name</b>	<b>Common Name</b>
Bambusa	Bamboo
Eriobotrya	Loquat
Ficus Elastica	Rubber tree
Ligustrum	Large and small leaf Privet
Musa	Banana plant
Toxicodendron Succedaneum	Rhus or Wax tree
Morus	Mulberry
Arecastrum romanzoffianum Schefflera	Umbrella tree
Persea	Avocado
Ailanthus	Tree of heaven
Lagunaria Patersonia	Norfolk Island hibiscus
genus Cotoneaster	Cotoneaster
genus Erythrina	Coral tree
Cinnamomum camphora Ligustrum spp.	Camphor Laurel
Pinus radiata, Pinus elliotii	Radiata Pine
genus Salix	Willow
Mangifera Indica	Mango tree





# Appendix H

## Crime Prevention through Environmental Design



NSW GOVERNMENT  
**Department of Planning**

## APPENDIX H – CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

### Objectives

- 1) To implement principles of design that eliminate opportunities for crime
- 2) To ensure that the siting and design of buildings and spaces decreases the opportunities for committing crime through casual surveillance.
- 3) To assist Council in assessing DAs that may have significant impacts on the community.
- 4) To create well designed and defensible environments that contribute to public safety (both real and 'perceived').
- 5) To ensure that development encourages people to use streets, parks and other public places without fear of personal risk.
- 6) To encourage a sense of community ownership of open and public spaces through the adequate and continuing maintenance of the built environment and the appropriate design of publicly accessible areas.

### Controls

Element	Performance Criteria
<b>a. Fencing</b>	<ul style="list-style-type: none"> <li>• Fence design should maximise natural surveillance from the street to the building and from the building to the street, and minimise the opportunities for intruders to hide.</li> </ul>
<b>b. Blind Corners</b>	<ul style="list-style-type: none"> <li>• Avoid blind corners in pathways, stairwells, hallways and car parks.</li> </ul>
<b>c. Communal/Public Areas</b>	<ul style="list-style-type: none"> <li>• Provide natural surveillance for communal and public areas.</li> </ul>
<b>d. Entrances</b>	<ul style="list-style-type: none"> <li>• Provide entries that are clearly visible and avoid confusion.</li> </ul>
<b>e. Site and Building Layout</b>	<ul style="list-style-type: none"> <li>• Allow natural observation from the street to building, from the building to the street, and between buildings.</li> </ul>
<b>f. Landscaping</b>	<ul style="list-style-type: none"> <li>• Avoid landscaping which obstructs casual surveillance and allows intruders to hide.</li> <li>• Avoid large trees/shrubs and buildings works that could enable an intruder to gain access to buildings or to neighbouring buildings.</li> <li>• Use vegetation as barriers to deter unauthorised access.</li> </ul>
<b>g. Lighting</b>	<ul style="list-style-type: none"> <li>• Providing lighting to enable natural surveillance, particularly in entrances/exits, service areas, pathways and car parks.</li> <li>• Ensure lighting does not produce glare or dark shadows.</li> </ul>
<b>h. Building Identification</b>	<ul style="list-style-type: none"> <li>• Ensure buildings are clearly identified by street number to prevent unintended access and to assist persons trying to find the buildings.</li> </ul>
<b>i. Security</b>	<ul style="list-style-type: none"> <li>• Provide an appropriate level of security for individual buildings and communal areas to reduce opportunity for unauthorised access.</li> <li>• Use security hardware and/or personnel to reduce opportunities for unauthorised access.</li> </ul>

Element	Performance Criteria
<b>j. Ownership</b>	<ul style="list-style-type: none"> <li>• Design buildings and communal areas to provide a sense of ownership.</li> <li>• Create the impression that the place is well looked after and well “cared for”.</li> </ul>
<b>k. Maintenance</b>	<ul style="list-style-type: none"> <li>• Create the impression that the place is well looked after and well “cared for”.</li> <li>• Use materials that reduce the opportunity for vandalism.</li> </ul>
<b>l. Mixed Land Uses</b>	<ul style="list-style-type: none"> <li>• Where permitted, provide appropriate mixed uses within buildings to increase opportunities for natural surveillance, while protecting amenity.</li> </ul>
<b>m. Spaces</b>	<ul style="list-style-type: none"> <li>• Spaces should be clearly defined to express a sense of ownership and reduce illegitimate use/entry.</li> </ul>
<b>n. Public Facilities (ATMs telephone, help points, bicycle storage etc)</b>	<ul style="list-style-type: none"> <li>• Locate public services in areas of high activity.</li> </ul>
<b>o. Shopfront</b>	<ul style="list-style-type: none"> <li>• Allow for natural surveillance and a suitable streetscape appearance.</li> </ul>
<b>p. Building Materials</b>	<ul style="list-style-type: none"> <li>• Use building materials, which reduce the opportunity for intruder access.</li> </ul>
<b>q. Hours of Operation</b>	<ul style="list-style-type: none"> <li>• Provide adequate security to buildings with extended hours of operation.</li> </ul>