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City of Ryde
Development Control Plan 2014

Part: 4.5
Macquarie Park Corridor

Translation

ENGLISH

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ARABIC

إذا تعذر عليك فهم محتويات هذه الوثيقة، نرجو الحضور إلى موكز بلدية رايد Ryde Civic Centre على العنوان: 1 Devlin Street, Ryde من الاثنين إلى الجمعة بين الساعة 8.30 صباحًا والساعة 4.30 بعد الظهر، أو الاتصال بمكتب خدمات الترجمة على الرقم 131 450 لكي تطلب من أحد المترجمين الاتصال بمجلس مدينة رايد، على الرقم 9952 8222، نيابةً عنك.

ARMENIAN

Եթէ այս գրութիւնը չէք հասկնար, խնդրեմ եկէք՝ Ռայտ Սիվիք Սենթըր, 1 Տելվին փողոց, Ռայտ, (Ryde Civic Centre, 1 Delvin Street, Ryde) Երկուշաբթիէն Ուրբաթ կ.ա. ժամը 8.30 – կ.է. ժամը 4.30, կամ հեռաձայնեցէք Հեռաձայնի եւ Թարգմանութեան Սպասարկութեան՝ 131 450, եւ խնդրեցէք որ թարգմանիչ մը Ռայտ Քաղաքապետարանին հետ կապ հաստատէ ձեզի համար, հեռաձայնելով՝ 9952 8222 թիւին։

CHINESE

如果您看不懂本文，請在周一至周五上午 8 時 30 分至下午 4 時 30 分前往 Ryde 市政中心詢問 (Ryde Civic Centre, 地址: 1 Devlin Street, Ryde)。你也可以打電話至電話傳譯服務中心，電話號碼是: 131 450。接通後你可以要求一位傳譯員爲你打如下電話和 Ryde 市政廳聯繫，電話是: 9952 8222。

FARSI

اگر این مدرک را نمی فهمید لطفاً از 8.30 صبح تا 4.30 بعد از ظهر دوشنبه تا جمعه به موکز شهرداری رایدRyde Civic Centre, 1 Devlin Street, مراجعه کنید یا به سرویس مترجم تلفنی شماره 131 450 تلفن بزنید و از یک مترجم بخواهید که از طرف شما با شهرداری رایدRyde شماره 9952 8222 تلفن بزند.

ITALIAN

Se non capite il presente documento, siete pregati di rivolgervi al Ryde Civic Centre al n. 1 di Devlin Street, Ryde, dalle 8.30 alle 16.30, dal lunedì al venerdì; oppure potete chiamare il Telephone Translating and Interpreting Service al 131 450 e chiedere all'interprete di contattare a vostro nome il Municipio di Ryde presso il 9952 8222.

KOREAN

이 문서가 무슨 의미인지 모르실 경우에는 1 Devlin Street, Ryde 에 있는 Ryde Civic Centre 로 오시거나 (월 – 금, 오전 8:30 – 오후 4:30), 전화 131 450 번으로 전화 통역 서비스에 연락하셔서 통역사에게 여러분 대신 Ryde 시청에 전화 9952 8222 번으로 연락을 부탁하십시오.

Amend. No.	Date approved	Effective date	Subject of amendment
1	23 June 2015	1 July 2015	Updated to: • support the Ryde LEP 2014; • reflect NSW legislation; • provide amended Open Space and Access Network Plans; • support sustainable transport; and • consequential amendments.
2	14 February 2017	22 March 2017	Removal of parking controls for residential development in the Macquarie Park Corridor (moved to Part 9.3 of the RDCP 2014)
3	-	-	Update on 10 November 2021 to correct legend in Figure 4.1.1

Table of Contents

Table of Contents

1.0 PRELIMINARY

1.1 Introduction

This Part provides a framework to guide future development in the Macquarie Park Corridor, North Ryde. The document specifies built form controls for all development within the Corridor, and sets in place urban design guidelines to achieve the vision for Macquarie Park as a vibrant community and as a place to live, work, and visit.

1.2 Citation

This Part may be cited as City of Ryde Development Control Plan 2014 Part 4.5 - Macquarie Park Corridor.

1.3 Land Covered by this Part

The land covered by this Part is shown in Figure 1.3.1 and is generally bounded by M2 Motorway and Delhi Road on the northeast, Epping Road on the southwest, Culloden Road on the northwest and Lane Cove River to the southeast.

This part does not apply to the North Ryde Station Priority Precinct and the Macquarie University lands.

Note: In the event of a discrepancy between a control and/or provision and a figure, the control and/or provision takes precedence.

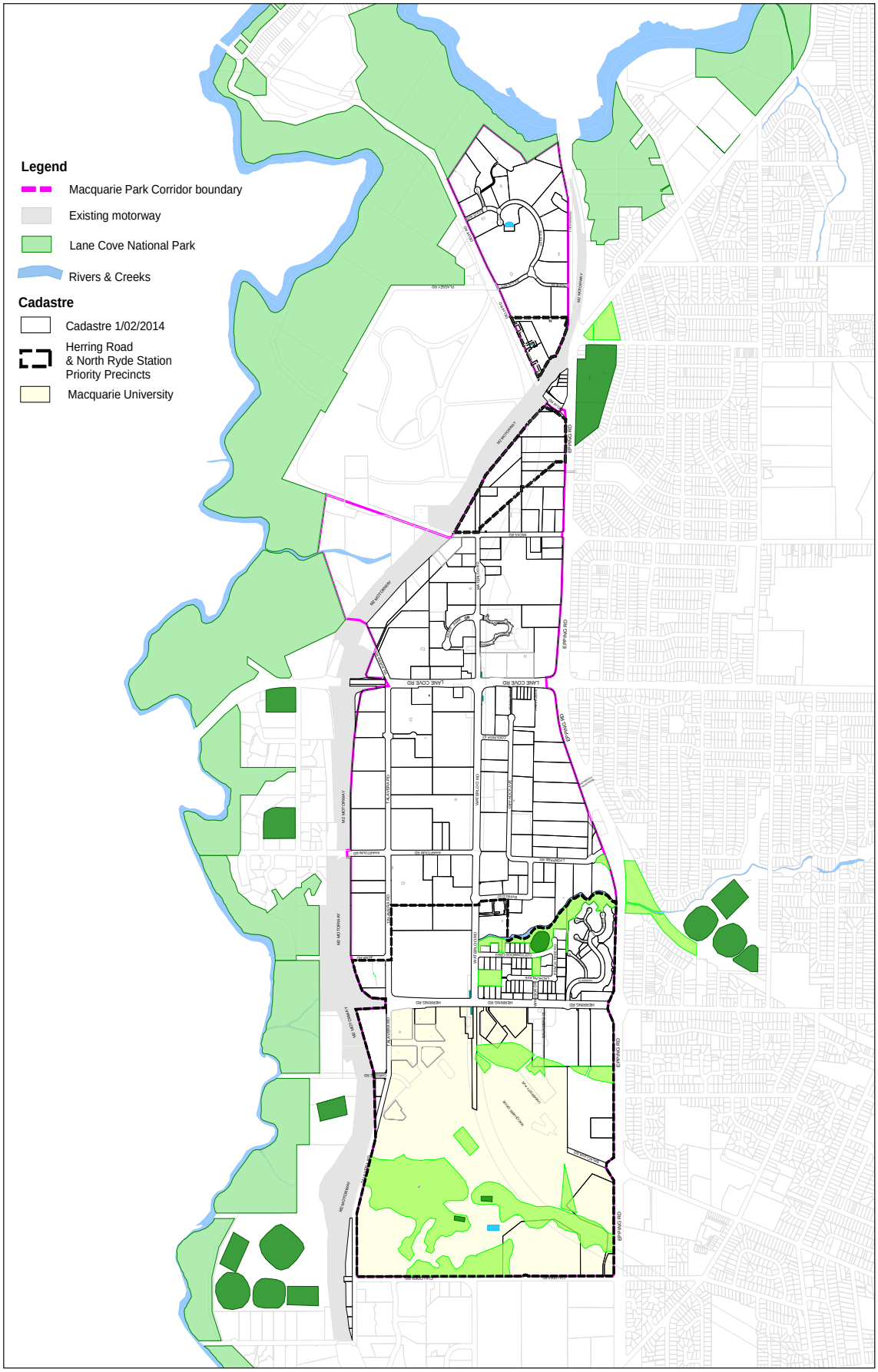

Figure 1.3.1 Land covered by this part

1.4 Relationship with other Plans and Policies

Ryde Local Environmental Plan (LEP) 2014

This DCP Part supplements the Ryde Local Environmental Plan (LEP) 2014 by providing detailed development principles, controls and guidelines.

This DCP was brought into effect on 1 July 2015 to support planning incentives contained in Ryde LEP 2014 Amendment 1 (Macquarie Park).

In addition to this Part, Ryde LEP 2014, *State Environmental Planning Policy 65 – Design Quality of Residential Apartment Development (SEPP 65)* and other relevant State Environmental Planning Policies must also be taken into account when making a development application.

1.5 Aims and Purpose of this Part

The purpose of this Part is to provide objectives, controls and design criteria to achieve desirable development outcomes in line with Council's vision for the Macquarie Park Corridor.

The key aims of this Part are to:

1. To ensure that the Corridor matures into a premium location for globally competitive businesses with links to the University.
2. To ensure that the employment and educational activities within the Corridor are integrated with other businesses and activities within Sydney's global economic arc.
3. To reinforce the importance of the economic function of the Corridor and facilitate employment growth now and into the future (this will include retaining employment lands).
4. To create a centre that is sustainable and that incorporates the principles of ecologically sustainable development
5. To ensure the Corridor will be characterised by a high-quality, well-designed and safe environment that reflects the natural setting and promotes a sense of identity.
6. To create an urban structure that will:
    a. Promote a balance of commercial and non-commercial (such as educational and residential) uses within the Corridor.
    b. Promote the commercial core and business park areas for commercial activity and employment.
    c. Provide a transition from the more intense development along the main boulevard - Waterloo Road - to peripheral areas characterised by lower-scaled development.
    d. Focus street and place-making activities to create three accessible and vibrant railway station precincts.
    e. Capitalise on magnate infrastructure, facilities and services such as the M2, Macquarie University and Macquarie Shopping Centre.
7. To create an access network that will:
    a. Achieve a more permeable network promoting greater connectivity and integration between land uses and the station precincts.
    b. Achieve a safe and convenient pedestrian environment that encourages public transport use and social interaction.
    c. Create additional streets that will:
        i. Reduce pressure on the existing road and pedestrian infrastructure; and
        ii. Provide new opportunities for business and street addresses.
8. To create an open space network that will:
    a. Include a network of diverse active and passive recreation spaces to support the residential and working populations of the Corridor; and
    b. Provide safe, accessible, sustainable, well-used and designed public open spaces within the Corridor.

1.6 How to us this Plan

SECTION	INTENDED EFFECT
1.0 PRELIMINARY 1.1 Introduction 1.2 Citation 1.3 Land Covered by this Part 1.4 Relationship with other Plans and Policies 1.5 Aims and Purpose of this Part 1.6 How to use this Plan	This section gives an overview of the DCP and its relationship with other plans
2.0 VISION	Describes the future character of the Macquarie Park Corridor (derived from consultation and *A Plan for Growing Sydney*)
3.0 THE STRUCTURE PLAN 3.1 Introduction 3.2 Urban Structure Plan	Provides an urban structure plan that articulates the land use structure of the Macquarie Park Corridor including: - where residential communities will develop - the locations of the business and retail cores - the lower scaled, open landscaped, business parks located on the fringes of the corridor adjoining Epping Road, the M2
4.0 ACCESS NETWORK 4.1 Streets 4.2 Pedestrian Connections 4.3 Bicycle Network 4.4 Sustainable Transport	This section of the DCP includes the Access Network Map adopted by Council on 22 October 2013 and controls which support the Access Network
5.0 PUBLIC DOMAIN 5.1 Open Space Network 5.2 New open space 5.3 Central Park 5.4 Shrimptons Creek Park 5.5 Riverside Park 5.6 Thomas Holt Drive Park 5.7 Rail Station Plaza 5.8 Street Tree and Front Tree Planting 5.9 Community Facilities 5.10 Public Art	This section gives guidance to the scale, function, furniture and other requirements for proposed open space. Guidance is also given to the provision of public art and community facilities.
6.0 IMPLEMENTATION – INFRASTRUCTURE, FACILITIES AND PUBLIC DOMAIN IMPROVEMENTS	This section includes guidelines for the implementation of planning incentives (additional building height and floor space defined in RLEP Amendment 1) in return for public infrastructure, in particular streets and parks identified in Sections 4 and 5 of the DCP.

7.0 BUILT FORM 7.1 Site Planning and Staging 7.2 Activity Centres Structure Plan 7.3 Active frontage 7.4 Setbacks and Build-to Lines 7.5 Awnings and Canopies 7.6 Rear Setbacks 7.7 Building Separation 7.8 Building Bulk and Design	This section of the DCP provides controls that determine building design and form – such as setbacks, active frontage, and building separation. Information regarding the zone of influence for the underground rail line (which impacts on setbacks and basement areas) has also been included in the DCP.
8.0 SITE PLANNING AND STAGING 8.1 Site Planning and staging 8.2 Site Coverage, Deep Soil Areas and private open space 8.3 Planting on Structures 8.4 Topography and Building Interface 8.5 Site Facilities 8.6 Vehicular Access 8.7 On-site Parking 8.8 Fencing	This section of the DCP provides controls that determine the overall site layout and design – such as parking design requirements, site coverage and deep soil requirements and even fencing design guidelines (to provide council the basis for not accepting high security fencing (that includes razor wire) such as that around at least one existing data centre in the Macquarie Park Corridor).
9.0 ENVIRONMENTAL PERFORMANCE 9.1 Wind Impact 9.2 Noise and Vibration 9.3 Bushfire Management 9.5 Soil Management	This section of the DCP ensures that environmental comfort (wind and noise) are considered in addition to property protection and safety (bushfire).

2.0 VISION

The vision for the future of the Corridor was developed through a number of community and stakeholder workshops held during 2001. This has been further developed in the preparation of this Part to guide the formation of development objectives, public domain treatments and development controls for the Corridor.

Figure 2.0.1 **View east over Macquarie Park Corridor**

Macquarie Park Corridor Vision

'Macquarie Park will mature into a premium location for globally competitive businesses with strong links to the university and research institutions and an enhanced sense of identity.

The Corridor will be characterised by a high-quality, well-designed, safe and livable environment that reflects the natural setting, with three accessible and vibrant railway station areas providing focal points.

Residential and business areas will be better integrated and an improved lifestyle will be forged for all those who live, work and study in the area.'

3.0 THE STRUCTURE PLAN

3.1 Introduction

The Structure Plan sets out the broad framework for development within the Macquarie Park Corridor. It underpins the development controls within this Plan, and is supported by Ryde LEP 2014.

3.2 Urban Structure Plan

The Urban Structure Plan reflects and builds on the existing land uses and functions within the Corridor to implement the vision for Macquarie Park as Australia's premier technology park and premier location for globally competitive business with strong links between Macquarie University and business.

Macquarie Park Corridor will include new residential communities around the North Ryde and Macquarie University Stations while the Commercial Core will be centred on the Macquarie Park Station and Waterloo Road. Intensive development centred on Waterloo Road is proposed to transition through the Business Park areas to the lower scaled residential areas adjoining the Macquarie Park Corridor.

The Commercial Core will evolve from its business park roots to become an urban employment centre supported by key public transport infrastructure notably the Epping to Chatswood Rail Link which opened in 2009 and is due to be expanded to link to Sydney's north west.

The Business Park areas at the edges of the Corridor are characterised by lower density development with green leafy setbacks and attractive landscaping. Many international and Australian technology, research and pharmaceutical companies are located in the business park areas including Optus, Laverty, Canon, CSIRO, Johnson and Johnson and Novartis.

The Macquarie Shopping Centre - NSW second largest shopping mall – has a regional catchment and anchors the Retail Core. This DCP will seek to reinforce the role of the shopping centre as a regional attractor and hub for recreation facilities for families and youth – which currently include one of only two ice skating rinks in Sydney, cinemas and restaurants. The DCP will also encourage the shopping centre to create a vibrant street interface.

Macquarie University is magnet infrastructure attracting tens of thousands of students and staff. The university vision is to integrate private sector research and development with education and health functions with the first stages of this plan realised in the development of the Hearing Hub specialising in auditory technology and the Macquarie University Hospital providing services across a broad range of specialties, including oncology, radiology, neurology and cardiology. The university grounds also include facilities that are open to public such as a swimming pool.

Planned residential communities centred on the North Ryde and Macquarie University Rail Stations provide for more than 10,000 new dwellings close to transport, employment and education facilities. Together the Herring Road and North Ryde Station UAPs and this DCP provide for new residential and working communities supported by new infrastructure including new parks, road connections and community facilities.

This Development Control Plan seeks to enhance the public domain and implement new roads and parks to support future residents, workers, university students and visitors.

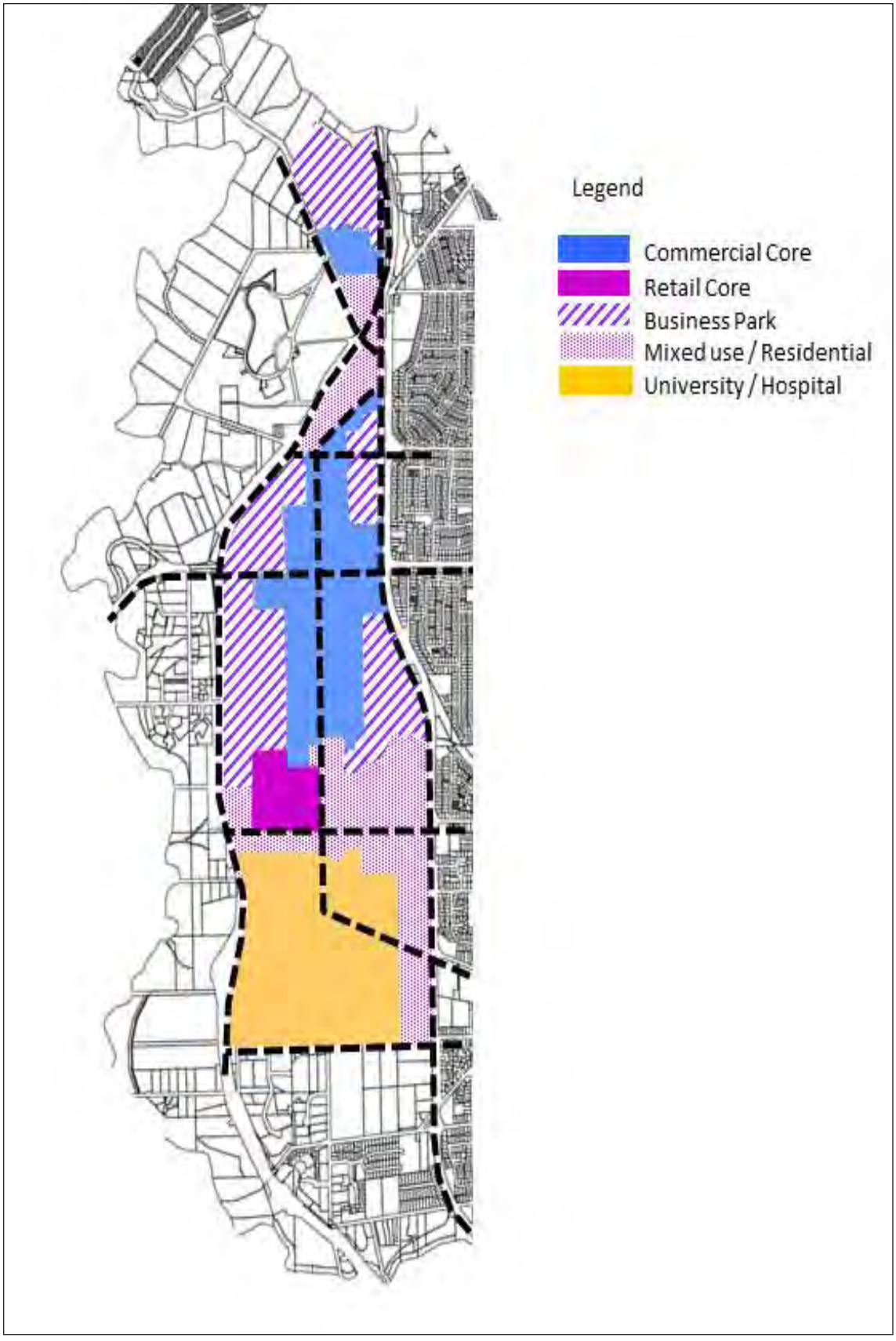

Figure 3.2.1 Urban Structure Plan

4.0 ACCESS NETWORK

The Macquarie Park Corridor is comparable in scale to the City of Sydney (refer below maps) but has fewer roads and route choice. The current block size and building footprint lengthens the walk time for foot trips within the precinct and increases reliance on driving, even for short trips.

The future character of Macquarie Park will include intensifying the Commercial Core and other functions of the Corridor, including its residential areas. An effective transport network is required to service anticipated growth within Macquarie Park.

This DCP aims to create a permeable network of streets and pedestrian ways and to create new streets and laneways. The implementation of this DCP will improve vehicular, pedestrian and cycle permeability within the Corridor.

The Access Network Structure Plan provides a clear hierarchy of street types, including the extension of existing streets and a network of new streets (20m and 14.5m) and pedestrian ways (8m). The Access Network maximises cross connections within the corridor and to surrounding areas.

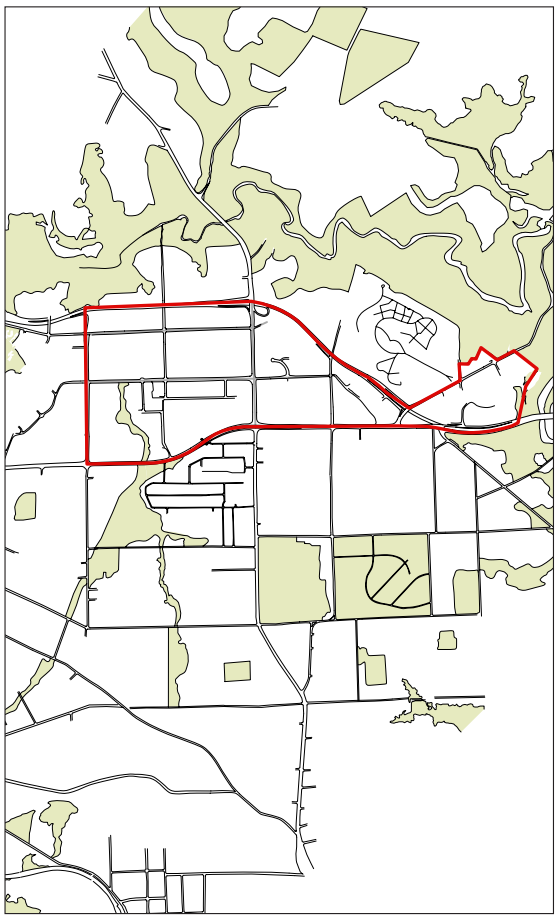

Figure 3.4.2 Macquarie Park Corridor

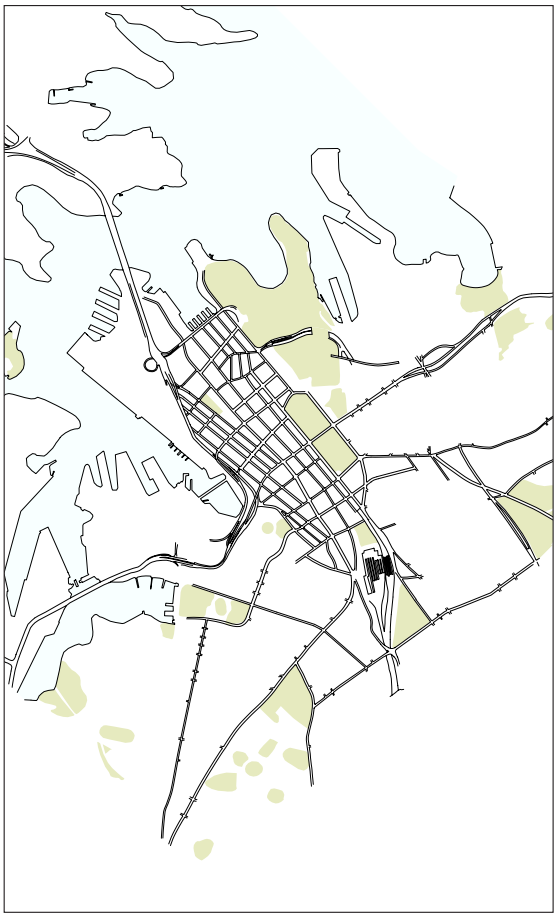

Figure 3.4.3 Sydney CBD

4.1 Streets

The location of new streets builds upon the existing configuration and layout of Waterloo and Talavera Roads. These streets establish the main alignment of streets with respect to the main axial configuration of the grid. This grid is supported by the alignment of Lane Cove Road in the north- south axis and also establishes the dominant configuration of property boundaries in the area.

Two street types have been identified:

- 20m wide streets
- 14.5m wide streets

These are based on the predominant use and frontages of existing buildings, the varying intensity of existing patterns of access, circulation and movement and the particular topographic conditions across the corridor.

Prior to redevelopment, landowners are to consult with Council at an early stage in the site planning process. Landowners are to consult with Council for details on location and set-out of new streets.

Objectives

1. To provide for new streets to improve pedestrian, cycle and vehicular connectivity within the Corridor.
2. To enhance connectivity with surrounding areas and provide new access points into the Corridor from the surrounding street network.
3. To establish a clear hierarchy of public streets, building on the existing street hierarchy within the Corridor.
4. To accommodate increased traffic movement within the Corridor.
5. To provide additional opportunities for on-street car parking.
6. To promote active transport including walking, cycling and bus public transport usage.
7. To provide a street network that responds to the constraints of topography, existing development and subdivision patterns.

Controls

a. Provide new public streets and pedestrian connections in accordance with Figure 4.1.1 Access Network.

b. New streets are to be dedicated to the Council. New streets are to be maintained by the landowner until dedicated to Council.

c. Buildings are not permitted to be located on any proposed street and are required to be setback from proposed streets identified in Figure 4.1.1 Access Network.

d. Each site is to provide for co-ordination of proposed streets with neighbouring sites, including level adjustments and detailed plans. This detail is to be provided together with the development application.

e. Lighting, paving and street furniture, landscaped setbacks and tree planting are to be provided as required in the Macquarie Park Corridor Public Domain Technical Manual.

f. Provide new Streets as follows
   i. 20m wide (typical) streets in accordance with Figure 4.1.2
   ii. 14.5m wide (typical) streets in accordance with Figure 4.1.3

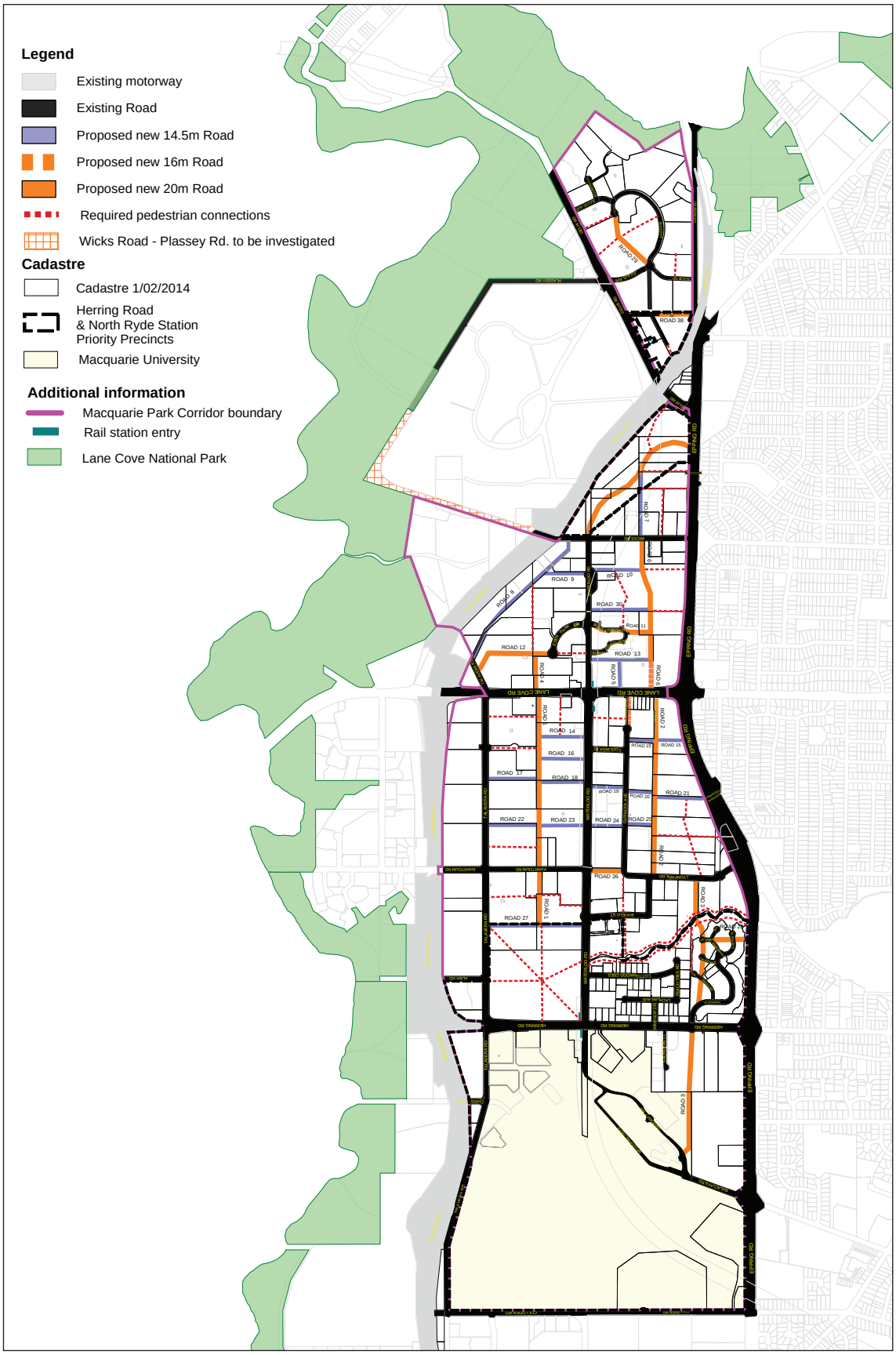

Figure 4.1.1 Access Network

Note: The locations for required pedestrian connections are flexible, subject to Council agreement. Connections should run street to street or connect key points of interest.

In the event of a discrepancy between a control and/or provision and a figure, the control takes precedence.

g. Where required by Council an additional 0.5m footpath is to be provided to augment the 14.5m streets to achieve a minimum 2.5m footpath

Note: City of Ryde aims to achieve footpaths a minimum of 2.5m wide throughout the Macquarie Park Corridor to cater for the 2031 worker and residential communities.

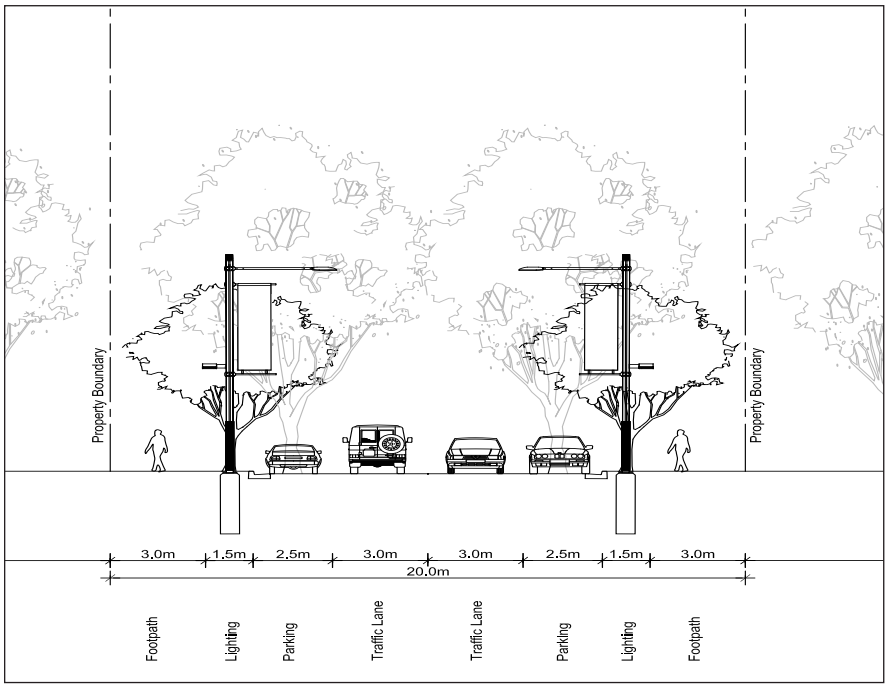

Figure 4.1.2 20m Wide Streets - Typical section

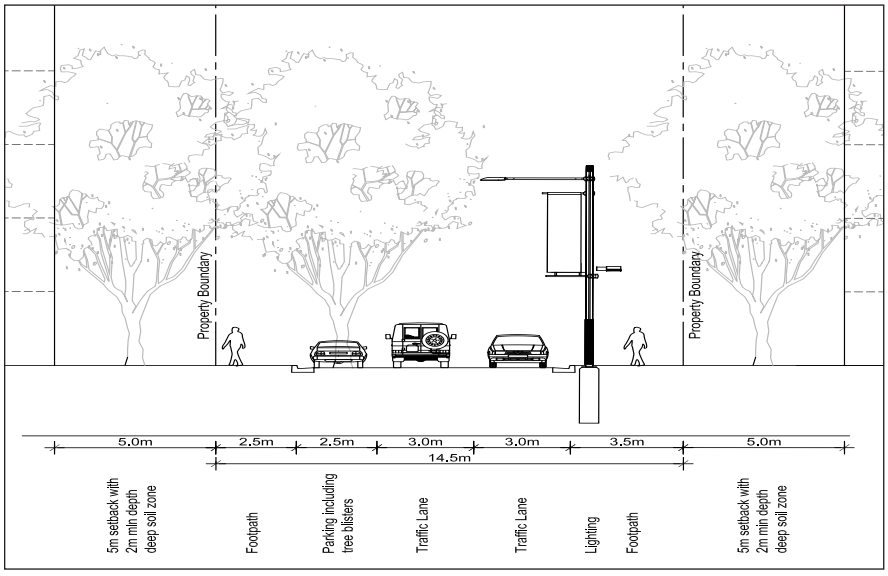

Figure 4.1.3 14.5m Wide Streets - Typical section

4.2 Pedestrian Connections

Through block connections provide a fine-grain overlay to the street and block structure of the Corridor. Pedestrian through-site links are to be provided as they contribute to the walkability of the Corridor by providing a useful addition to the street network and walkable destinations (e.g. building entries, shopfronts, courtyards, outdoor dining). The design of through-site links is to maximise pedestrian accessibility, walkability, amenity and safety. The most successful connections are accessible, continuous, well lit and safe.

Objectives

1. To expand and enhance the pedestrian network, and increase pedestrian permeability throughout the Macquarie Park Corridor.
2. To provide pedestrian connections, across barriers such as the M2, and link to pedestrian amenities, such as the Shrimptons Creek path, Macquarie University station and Macquarie Centre bus interchange in order to promote walking access to public space and public transport.
3. To ensure that through block connections are accessible at all times, continuous, well lit, safe.
4. To provide equitable access for all.
5. To promote pedestrian activity and contribute to the vitality of the Macquarie Park Corridor.
6. To encourage active uses adjoining pedestrian ways

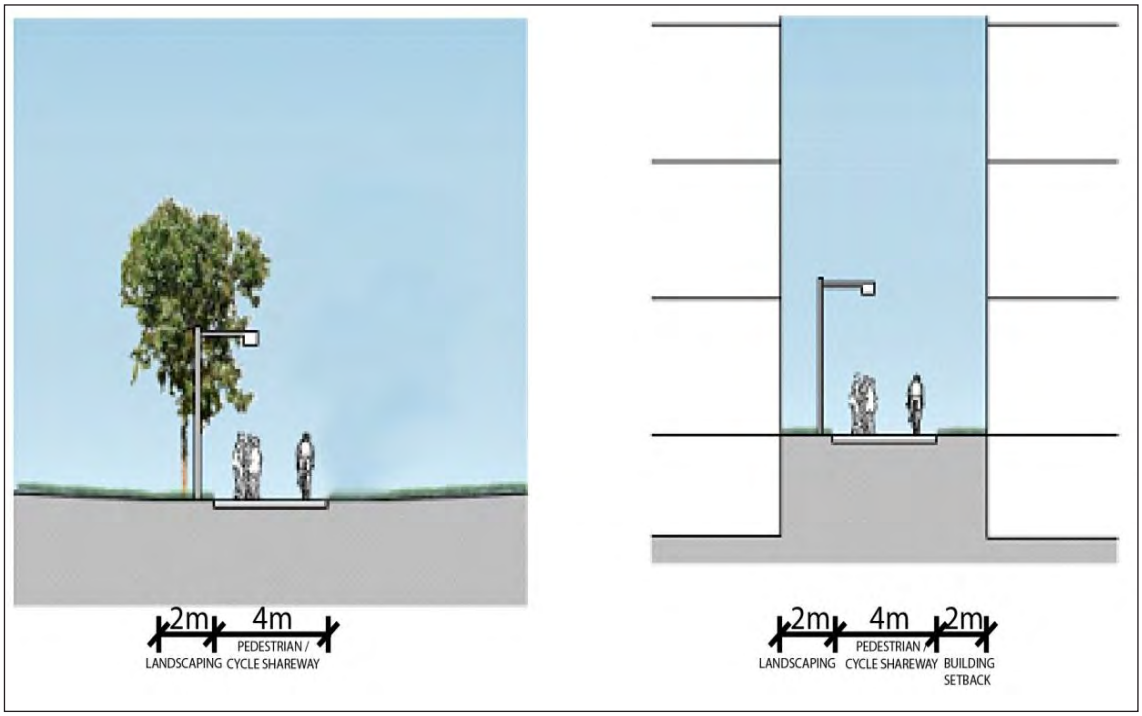

Figure 4.2.1 Pedestrian Ways Typical Sections

Controls

a. Provide pedestrian bridges in accordance with the Access Structure Plan. Figure 3.4.1
   i. Over the M2 connecting Christie Park to Macquarie Park Corridor
   ii. Connecting across Shrimptons Creek

b. Provide pedestrian connections in accordance with Figure 4.1.1 Access Network.

Figure 4.2.2 Pedestrian Bridge Examplars

1. BP Bridge, Chicago
2. Pedestrian Bridge, Zapallar Chile
3. Smiths Creek Bridge

b. Provide pedestrian connections in accordance with Figure 4.1.1 Access Network.

Note: Master plan controls 8.1.a provide guidance on varying the locations of pedestrian connections.

c. Pedestrian connections are to:
   i. Be a minimum of 6m wide comprising 4m wide paving and 2m wide soft landscaping as shown in Figure 4.2.1 (or as determined by Council).
   ii. Be designed with a 2m setback to any building.
   iii. Be publicly accessible at all times.

iv. Provide a clear sightline from one end to the other for surveillance and accessibility;

v. Maximise active frontages pedestrian connections

vi. Be designed to consider pedestrian safety and the security of adjacent businesses, particularly at night.(For example, where pedestrian through-site links are provided between buildings, windows are to be provided between the internal ground floor space of the building and the pedestrian link)

vii. Extend and enhance the public domain and have a public domain character.

Note: Where pedestrian through-site links are adjacent a courtyard or public space, the design of the pedestrian link is to be integrated with the design of the open space, and access is provided between the two spaces.

viii. Be in accordance with Part 9.2 of this DCP Access for People with Disabilities and designed to provide barrier-free access in accordance with AS1428 and the Disability Discrimination Act 1992;

ix. Paving shall be in accordance with the Macquarie Park Public Domain Technical Manual.

x. Remain in private ownership and be created as Rights-of-Way in favour of Council or similar mechanism.

Figure 4.2.3 Through site links are to be integrated with the site desgin and consider pedestrian safety and security

d. Each site is to provide for co-ordination of pedestrian connections with neighbouring sites, including level adjustments and detailed plans. Detailed plans, sections other material as necessary are to be provided together with the development application.

4.3 Bicycle Network

Dedicated cycle lanes are to be provided along all existing and new streets within the Corridor, as shown in Figure 4.1.1. This integrated cycle strategy maximises the opportunities for cycle circulation within the Corridor.

In addition to the street network, cycle/pedestrian paths provide additional connectivity to surrounding areas.

The cycle network maximises interchange opportunities with bus and rail public transport. The strategy is supported by the provision of end of trip facilities.

Objectives

1. To maximise cycle connections to regional cycle routes through and around the Corridor.
2. To maximise cycle permeability within the Corridor.
3. To create a safe, high quality cycle network.
4. To maximise interchange opportunities with public transport.

Controls

a. Provide dedicated cycle access in accordance with Ryde Bicycle Strategy 2014 , refer Figure 4.3.1 Indicative Cycleways.

b. The Regional Bicycle network is to be implemented as off-street shared cycleways in accordance with the Macquarie Park Public Domain Technical Manual. The Regional Bicycle network comprises:
   i. Waterloo Road
   ii. Delhi Road
   iii. Epping Road
   iv. Lane Cove Road
   v. Khartoum Road
   vi. The M2, and
   vii. Shrimptons creek pathways

c. The Local Bicycle Network is to be implemented as on-street shared ways in accordance with the Macquarie Park Public Domain Technical Manual. The Local Bicycle network comprises:
   i. Lyon Park Road
   ii. Talavera Road
   iii. Wicks Road
   iv. Proposed new roads in accordance with the Ryde Bicycle Strategy 2014

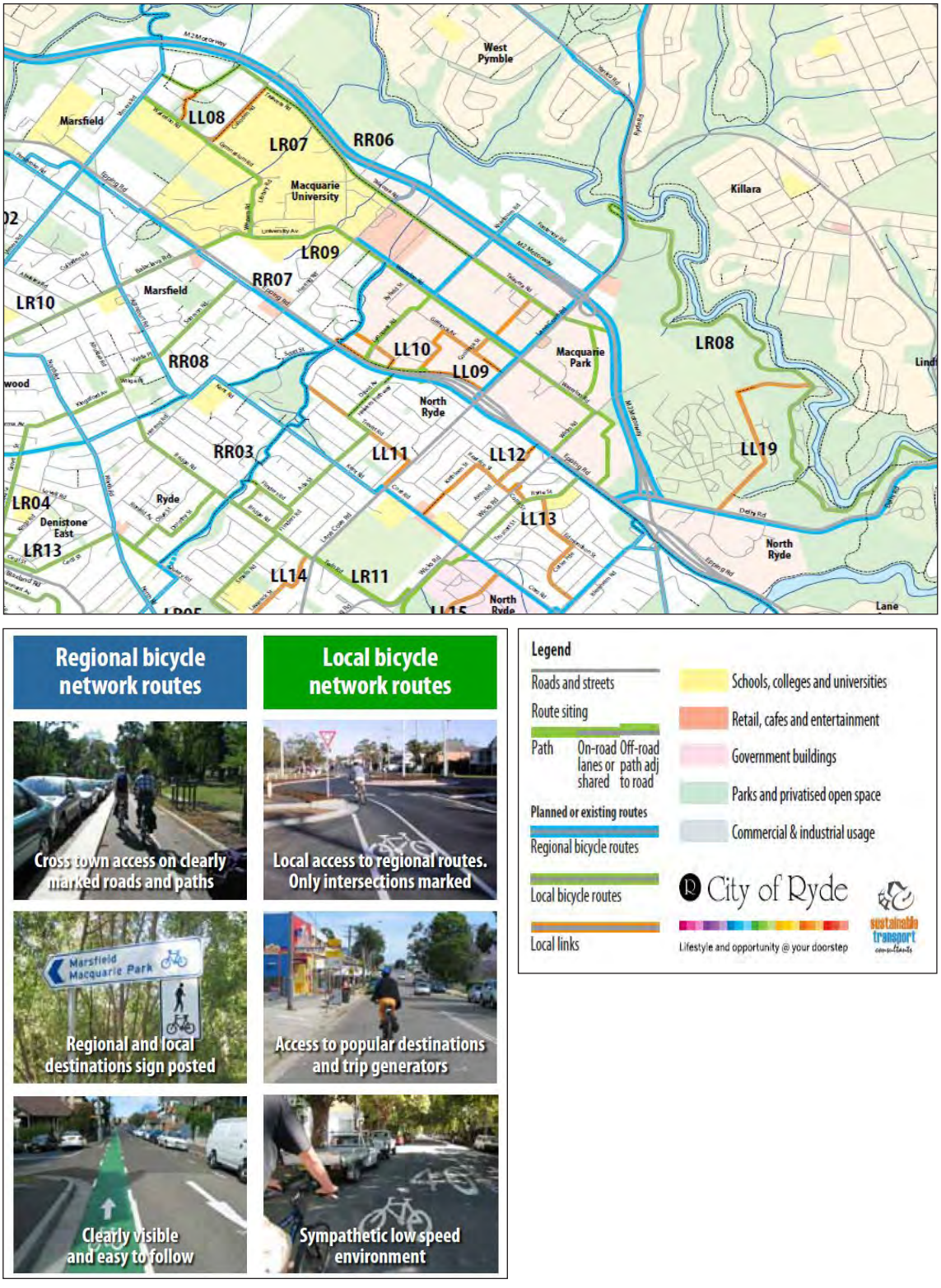

Figure 4.3.1 Indicative Cycleways

Note: Cycleways routes may be updated from time to time. Refer to Ryde Bicycle Strategy 2014 (as amended) for current information

4.4 Sustainable Transport

Travel demand management has become a major strategic concern for policy makers, businesses and the public within Macquarie Park Corridor.

The modal split for public transport usage in 2011 is 20%. This plan and other activities by the NSW state government and City of Ryde Council aim to assist to increase public transport use to 40% by 2031 including:

- 3 rail stations opened in 2009 and expansion of the rail network to the north west
- A transport interchange upgrade supported to increase bus usage
- The Macquarie Park Transport Management Association (TMA) has been established
- A review of the parking rates

A Travel Plan (TP) is a travel management tool that promotes the development, implementation and monitoring of a co-ordinated transport strategy for an individual business or residential building. The primary purpose of a Travel Plan is to influence the travel behaviour of employers, employees, residents and occasional visitors to an organisation, away from single-occupancy car use towards more efficient and sustainable forms of transport.

A Framework Travel Plan (FTP) is a travel demand management tool to promote the use of active and public transport to and from an entire development site. The primary purpose of the FTP is to coordinate a site-wide and building wide approach to influence the travel behaviour of employees, residents, clients and visitors, away from single-occupancy car use towards more efficient modes of transport, including active transport such as walking and cycling; public transport such as train and bus; and car-pooling and car sharing. The Framework Travel Plan is required where the future tenants are unknown.

Objectives

1. To adopt policies and procedures which encourage transport choice to and within the Macquarie Park Corridor.
2. To minimise rates of private vehicle use for commuters and business (particularly lone driver) trips and achieve a transport modal shift target of 40% public transport/60% private transport use for the journey to work in particular.
3. To support public transport, car-sharing, car-pooling, walking, taxi, and bicycle users by enhancing amenities and infrastructure.
4. To more effectively manage the use of private vehicle trips and parking within the area.
5. Reduce congestion and the cumulative impacts of vehicle emissions upon air quality.

Controls

Public transport

a. Upgrade the bus interchange in Herring Road in accordance with the Access Structure Plan to:
   i. Accommodate additional bus stops to provide for increased bus patronage
   ii. Reduce pedestrian and vehicle conflict
   iii. Enable active frontage

b. Any DA that includes residential development on the Macquarie Shopping Centre site is to provide a master plan that demonstrates how the bus interchange upgrade may be achieved.

Travel Plans

c. A Framework Travel Plan. (FTP) is required to be submitted to Council for approval together with a DA for all development that exceeds 10,000sqm new floor space. For all development (including residential development) the FTP must:

   i. Adopt strategies and procedures to meet a 40% public transport/ 60% private transport target for the development for journey-to-work trips, to minimise drive-alone vehicle trips and to encourage transport choice to and within the Macquarie Park Corridor.

   ii. Demonstrate how on-site parking provision and built form design will contribute to the Framework Travel Plan and assist meet the 40% public transport/60% private transport target for the development for the journey-to-work.

   iii. Demonstrate infrastructure connections to the nearby footpath, bicycle and public transport networks including through site links where required

   iv. Provide, to council satisfaction, supportive infrastructure for:

      - Public transport passengers (bus shelters and passenger waiting areas) to be provided where a new public bus stop or service is required to service the additional demand from the development or meet relevant mode share targets for the development.

Note: This infrastructure may be provided either within the development site or, subject to consultation with Council, within the adjoining public domain area.

   - Taxi drop-off areas or parking (as appropriate) and carpooling and carshare dedicated parking in publicly accessible locations, within the development site. The number of dedicated parking spaces provided must support relevant mode share targets for the development. Carshare parking requirements are detailed in Clause 4.4.i below.
   - Walking and cycling (lockers and end of trip facilities).

d. For all development (excluding residential development) the FTP must also:

   i. Identify measures in an Action Plan that will implement the 40% public transport/ 60% private transport target for the journey to work, including appointing a Travel Plan co-ordinator, minimising drive alone trips to work, encouraging walking, cycling, car sharing, carpooling and public transport use.

e. Provide a final Travel Plan to Council for certification prior to the issue of any occupation certificate.

Note: Landowners should consult with the City of Ryde for the latest Travel Plan Guidelines. Landowners can also contact the Macquarie Park Travel Management Association (Connect - Macquarie Park + North Ryde) for further information and potent ial assistance with the development of Travel Plans.

Administrative Guidelines will include details of informat ion that is proposed to be provided to City of Ryde Council in an annual monitoring report. Such informat ion will monitor how the Act ion Plan is implemented including the journey -to-work modal split, actions undertaken and opportunities for improvement and fut ure action etc. The annual monitoring report is to be submitted to Council for a minimum of 5 years after the issue of any occupation certificate.

Parking Rates

f. Bicycle parking and end of trip facilities are to be provided in accordance with Ryde DCP Part 9.3 Parking.

g. Parking is to be provided in accordance with DCP Part 9.3 Parking Controls.

Note: Development approval will be conditioned to require that the proponent demonstrate that an agreement with a car-share provider is executed prior to the issue of any Occupation Certificate (including an " Interim" Occupation Certificate)

Car Share Parking

h. All parking spaces for car share schemes are to be:
   i. Publicly accessible 24 hours a day seven days per week
   ii. Located together in the most convenient locations
   iii. Located near and with access from a public road and integrated with the streetscape through appropriate landscaping where the space is external
   iv. Designated for use only by car share vehicles by signage
   v. Parking spaces for car share schemes located on private land are to be retained as common property by the Owners Corporation of the site

Car-share Parking
City of Ryde Council supports the provision of car share parking spaces both within private development and on-street in the Macquarie Park Corridor as part of a commitment to sustainability and reducing private vehicle use for the journey-to-work.

5.0 PUBLIC DOMAIN

5.1 Open Space Network

The Open Space Structure Plan identifies new public space and augments existing public open spaces within the Corridor, to create a new open space network. The location of public open space is integrated with the street network to maximise pedestrian access opportunities. The public open space network includes a diverse range of open space including plazas, parks and natural areas along Shrimptons Creek.

The key urban plazas included in the structure plan are:

- North Ryde Station Precinct Square
- Macquarie Park Station Square - East
- Macquarie Park Station Square - West
- Macquarie University Station Square - East

The key public open spaces/parks included in the structure plan are:

- Central Park
- North Ryde Station Precinct Central Park
- Shrimptons Creek
- Riverside Park
- Thomas Holt Drive

The open space network is supported by Fitness trails that utilise the pedestrian access ways and connections through private open space on the peripheries of the town centre, allowing for extended pedestrian connections along creek corridors and into the Lane Cove National Park.

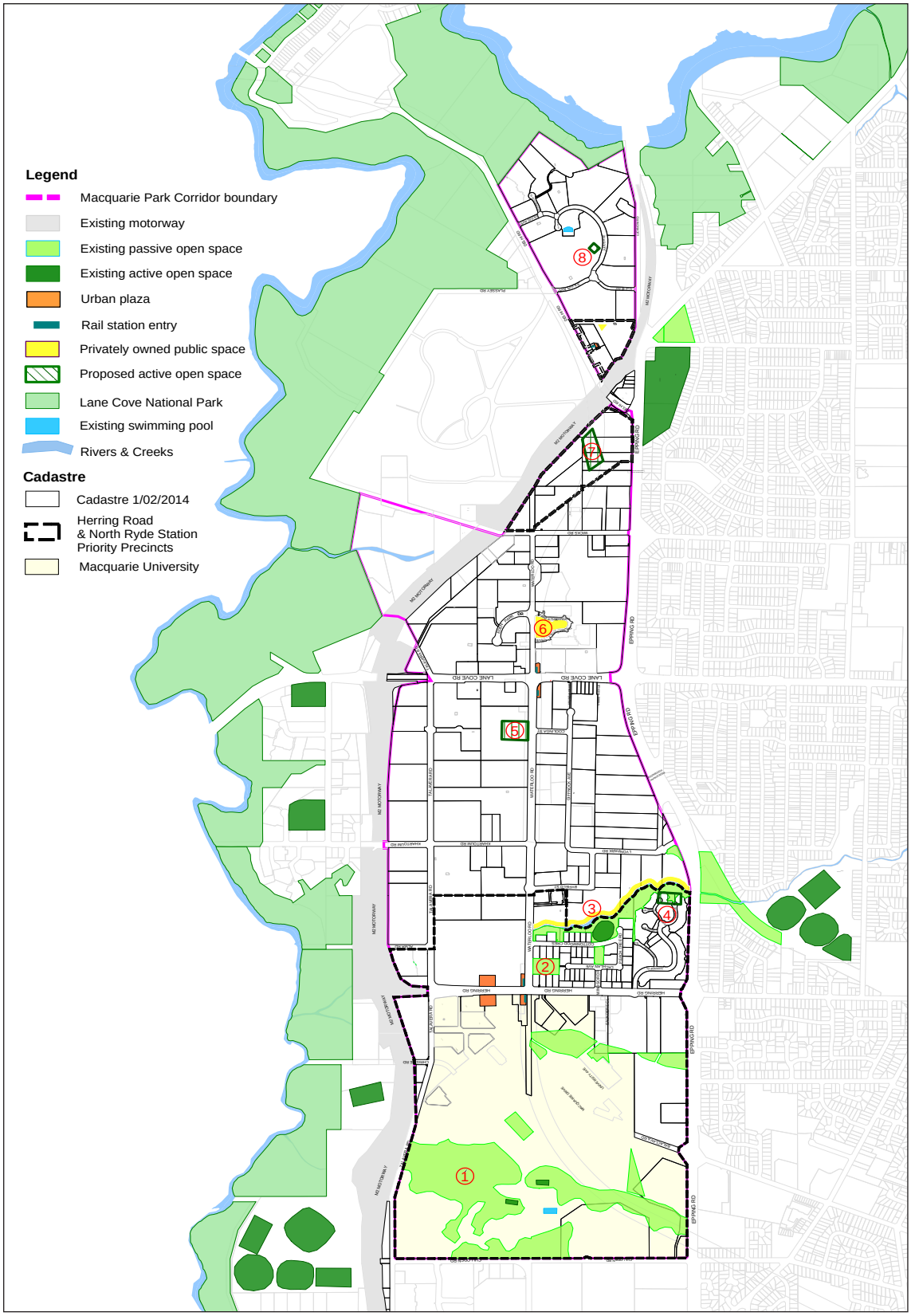

Figure 5.1.1 Proposed Open Space Network

1. Macquarie University open space
2. Elouera Reserve
3. Shrimptons Creek Core Riparian Corridor
4. Shrimptons Creek Park
5. Central Park
6. Thomas Holt Drive Park
7. North Ryde Station Precinct Park
8. Riverside Park

5.2 New open space

Objectives

1. To meet the recreation needs of residents, workers and visitors to Macquarie Park Corridor.
2. To provide additional open space within a network of well-connected parks, plazas and green streets.
3. To provide diverse urban open spaces including plazas parks and natural areas that will support active transport and recreation.
4. To provide well used public space that accommodates a range of active and passive recreational uses.
5. To contribute to stormwater and ecological management.
6. To maximise the accessibility of public open space, and to contribute to the pedestrian and cycle network.
7. To create bio-links and canopy connections to existing vegetation communities surrounding the Corridor.

Controls

a. Provide public open space as shown in Figure 5.1.1 Proposed Open Space Network and in accordance with Sections 5.3 – 5.6 of this Part (which contain specific requirements for each park). To vary public open space requirements, refer to master plan controls Clause 8.1 Site Planning and Staging.

b. Buildings are not permitted to be located on any proposed new park identified in the Open Space Structure Plan identified in Figure 5.1.1.

c. Parks are to be dedicated to the Council, unless by agreement with Council where they may be provided as privately-owned public space (POPS).

d. New parks are to be maintained by the landowner until dedicated to Council.

e. POPS are to be created as rights of way in favour of Council.

f. POPS are to be maintained by the landowner in perpetuity. Public Liability Insurances up to $20,000,000 are to be maintained by the landowner.

g. At least 50% of new public space is to receive 3 hours direct sunlight between 9am and 3pm on the 21st of June.

h. Active frontages are to be provided in accordance with Section 6 Active Frontage controls.

i. Provide internet connection to all publicly accessible space in Macquarie Park, particularly new parks.

j. Provide Open Space in accordance with Table 5.2.1 Controls for Open Spaces.

Table 5.2.1 Controls for Open Spaces

PARK NAME AND ADDRESS	AREA DIMENSIONS	SPECIFIC CONTROLS	FUNCTION AND INDICATIVE CHARACTER
Central Park 43-61 Waterloo Road	1 Ha 75 m x 100 m (if the dimensions are altered a min. 65m is required in any direction) The park layout is to be generally in accordance with Figure 5.3.1	Central Park is to be located abounding Waterloo Road. Implement new roads in accordance with Figure 4.1.1 on two sides of the Central Park. (Note: Central Park will therefore have roads on three sides) • Provide 10 park benches and 10 bicycle parking spaces • Where practicable provide turf detention basin to minimum 50% of park area as the Central Park is on the overland flow alignment	A multi-function park that provides for: Active recreation (informal sport) Passive recreation Community events (e.g. cinema, expos etc.) Children's play Refer to Figures: - 5.3.2 - 5.3.3 - 5.3.4
Shrimptons Creek Parklands	3.8 Ha Variable dimensions The park layout is to be generally in accordance with Figure 5.4.1	• Provide active frontage in accordance with Figure 7.3.2 • Provide a pedestrian bridge across Shrimptons Creek to improve connectivity between the existing residential precincts and Lyon Park Road. Bridge design must take into account ecology Council's relevant flood management plan. • Future development is to address the creek corridor and minimise service entries and parking area fronting this space. • Provide transparent or no fences to the park boundary • Provide 20m riparian protection zones on private lands adjoining the park • Implement pedestrian connections in accordance with Figure 4.1.1 • Development is to plant endemic species only adjoining the park	A multi-function park that provides for: Active transport – fitness trail, walking and cycling Active recreation (informal sport, skate-boarding) Passive recreation Children's play Refer to Figures: - 5.4.2 - 5.4.3 - 5.4.4 - 5.4.5 - 5.4.6

Shrimptons Creek Core Riparian Corridor	20m measured from the top of the creek embankment	• Provide 20m wide continuous riparian protection corridor on private lands adjoining Shrimptons Creek in accordance with NSW Office of Water GuidelinesforRiparianCorridors on Waterfront Land • Cycleways and paths may be located in the outer 50% of the riparian corridor	Privately owned publicly accessible space (POPS) Passive recreation Vegetated riparian corridor that provides diverse native vegetation and connectivity between habitats
Riverside Park Julius Avenue	0.35 Ha 60 m x 60 m The park layout is to be generally in accordance with Figure 5.5.1	• Facilitate through site access to public transport hubs • Provide 6 park benches and 6 bicycle parking spaces	A multi-function park that provides for: Passive recreation Children's play Outdoor dining Neighbourhood meeting place
Thomas Holt Park Thomas Holt Drive	0.4 Ha 100 m x 40 m approximately Refer Figure 5.6.1	• Provide landscaping that responds to the natural topography of the park (such as terraced seating). Refer Figure 5.6.2 • Provide 6 park benches and 6 bicycle parking spaces	Passive recreation Children's play Neighbourhood meeting place

k. Refer to the Macquarie Park Public Domain Technical Manual for detailed design requirements.

l. Provide pedestrian pathways and cycleway connections to adjoining public domain spaces.

m. Accommodate a range of seating areas with prospect and views across open space.

n. Provide a mix of paved and open lawn/ turf areas, shaded and sunny areas.

o. Provide infrastructure (such as power and water supply to support events and where appropriate gas for BBQ facilities).

Paving

p. Provide high-quality pavement that relates to public domain of adjoining streets in accordance with Macquarie Park Public Domain Technical Manual.

Park furniture

q. Install park lighting along key pedestrian routes. Reduce visual clutter by incorporating light fittings on built elements where possible.

r. Provide a generous quantum of seating in sun/shade areas.

s. Locate bins at park entries/exits.

t. Provide directional/ information signage at key zones.

Vegetation

u. Minimum 20% consolidated area of the open space area should be provided as deep soil zone to establish large trees.

v. Provide exotic and endemic species (minimum 60%), large scale shade trees (over 8m height).

w. Protect and retain existing trees over 5m in height.

Stormwater

x. Implement water sensitive urban design. Provide for on site absorption, manage water quality and run off on site.

y. Improve stormwater treatment through site and explore possibilities for incorporating stormwater drainage infrastructure as an evocative element within the urban design.

5.3 Central Park

Figure 5.3.1 Central Park Layout

Figure 5.3.3 Cellar Door Expo Hyde Park

Figure 5.3.4 Night markets Hyde Park

Figure 5.3.2 Character images

1. Recreational night -t ime use (Moonlight cinema, Aspect Studios image library)
2. Group gatherings (BBQ area, Aspect Studios image library)
3. Large turf area (Citroen Park, Paris, G. Clement, 'Invented Landscapes', p. 115)
4. Seat ing wall steps (Garden of the Cercade Sao Bernado, ' Fieldwork, p. 117')
5. Detention basin (Victoria Park, Sydney, Aspect Studios Image Library)
6. Passive recreation area (Aspect Studios Image Library)
7. Informal cafe/seating ('New city spaces', p.83)
8. Main Plaza San Antonio - Shade structures

5.4 Shrimptons Creek Park

Figure 5.4.2 Como Pleasure Grounds

Figure 5.4.3 Olympic Park Fountain

Source http://www.au.timeout.com/sydney/aroundtown/features/4300/best-picnic-spots

Figure 5.4.4 Skate Park

Figure 5.4.5 Olympic Park Swing

Figure 5.4.6 Future Character Photos

1. Bio-swale (Victoria Park, Sydney, Aspect Studios Image Library)
2. Timber Bridge (Woolwash Park, Sydney, Aspect Studios Image Library)
3. Planted Swale (Victoria Park, ' Contemporary Australian Landscape Design, p. 179)
4. Endemic tree and understorey planting (Aspect Studios Image Library)

5.5 Riverside Park

Figure 5.5.1 Riverside Park Illustrative Plan

5.6 Thomas Holt Drive Park

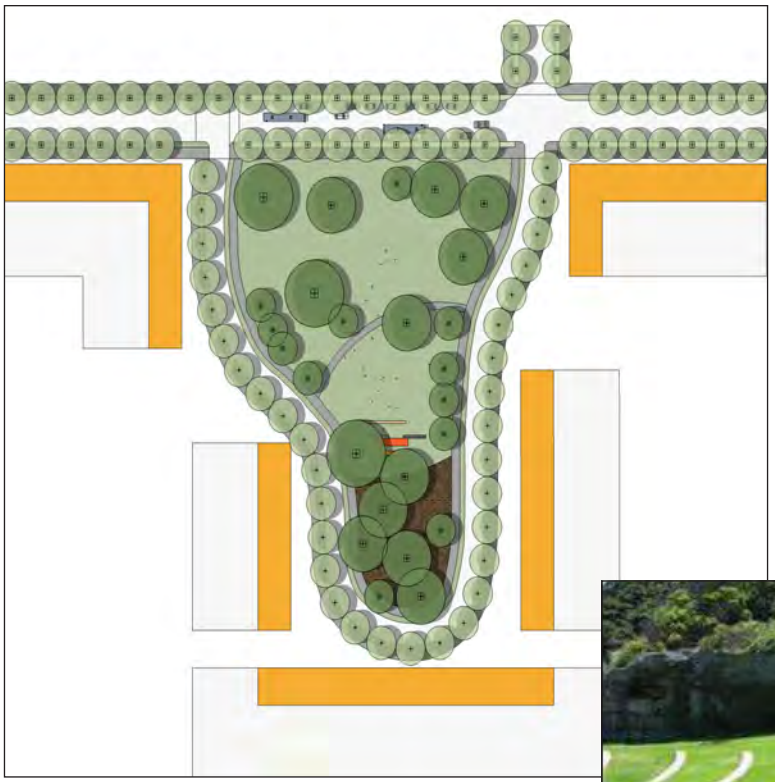

Figure 5.6.1 Thomas Holt Drive Illustrative Plan

Figure 5.6.2 Bradleys Head Park amphitheatre or terraced seating

5.7 Rail Station Plazas

Objectives

1. To provide a square/ plaza, with active building frontages.
2. To provide clear unimpeded views and access from station square from surrounding streets.
3. To address level changes by creating a series of terraces that tie into adjoining footpath levels.

Controls

a. Provide the following Station plazas (including fittings):

   i. Macquarie Park Station Plaza - West
   Area: Provide minimum 0.35 ha
   Dimensions: Provide minimum 88 x 40m
   Install minimum 10 park benches and 10 bicycle parking spaces.

   ii. Macquarie Park Station Plaza – East

   Area: Provide minimum 0.35 ha
   Dimensions: Provide minimum 88 x 40m as shown in Figure 5.7.3.
   Install minimum 10 park benches and 10 bicycle parking spaces.

   iii. Macquarie University Station Plaza – East

   Area: Provide minimum 0.67 ha
   Dimensions: Provide minimum 80 x80 m as shown in Figure 5.7.4.
   Install minimum 10 park benches and 10 bicycle parking spaces.

Note: The Macquarie University Station Plaza - West has an approximate area of 0.5 ha

b. Station plazas are to be privately owned public space. Station plazas are to be accessible at all times.

c. Provide Continuous Active frontage to station plazas refer also Figure 5.7.3, 5.7.4, and 5.7.5.

d. Minimise large banks of stairs. If stairs are used to provide alternative access to ensure equitable access for all.

e. Provide unimpeded and generous entrances and circulation paths into and through the plaza.

f. Provide infrastructure (such as gas, power and water supply) and subject to consent, appropriately scaled kiosks, vendor stalls, cafes and restaurants) that will enhance the rail station plazas as meeting places and support activities such as markets, community events, leisure and recreation.

g. Provide wireless internet connection to all publicly accessible space, particularly station plazas.

Station Plaza Setbacks

h. Provide building setbacks for adequate pedestrian circulation space around train stations.

Paving and Park Furniture

i. Provide paving, lighting bins and directional and information signage in accordance with Macquarie Park Public Domain Technical Manual.

j. Install lighting to contribute to public safety.

k. Locate bins at square entries/exits.

Vegetation

l. Endemic species to street edge.

Stormwater

m. Minimise storm water runoff for irrigation. All storm water is to be filtered in accordance with Council requirements and tanks installed for irrigation storage.

Figure 5.7.1 Character Photo
Chifley Square Sydney

Figure 5.7.2 Character Photo
Federation Square Melbourne

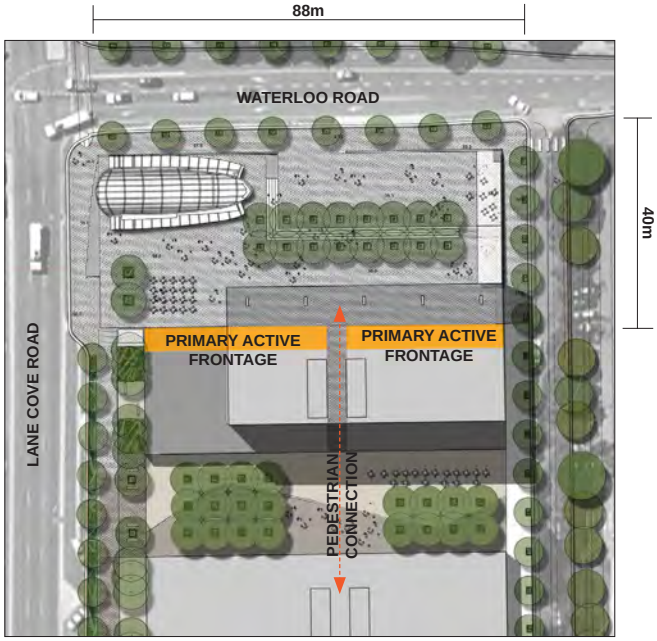

Figure 5.7.3 Macquarie Park Station Plaza - East
(Illustrative Plan Only)

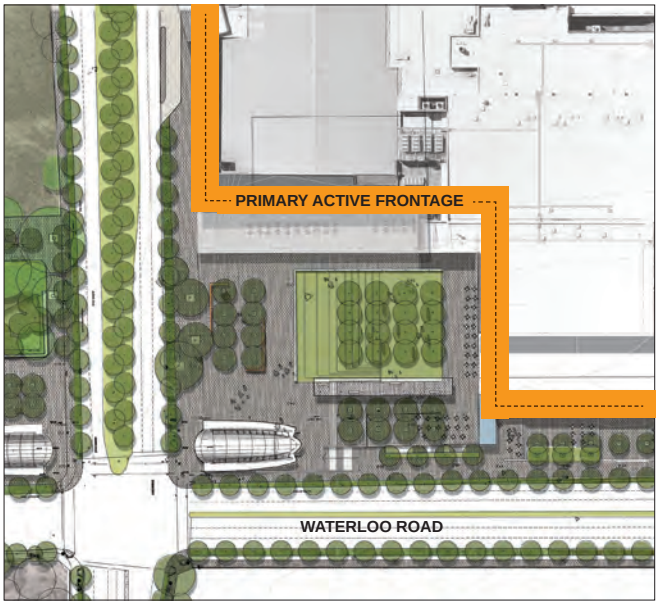

Figure 5.7.4 Macquarie Park Station Plaza - East (Illustrative Plan Only)

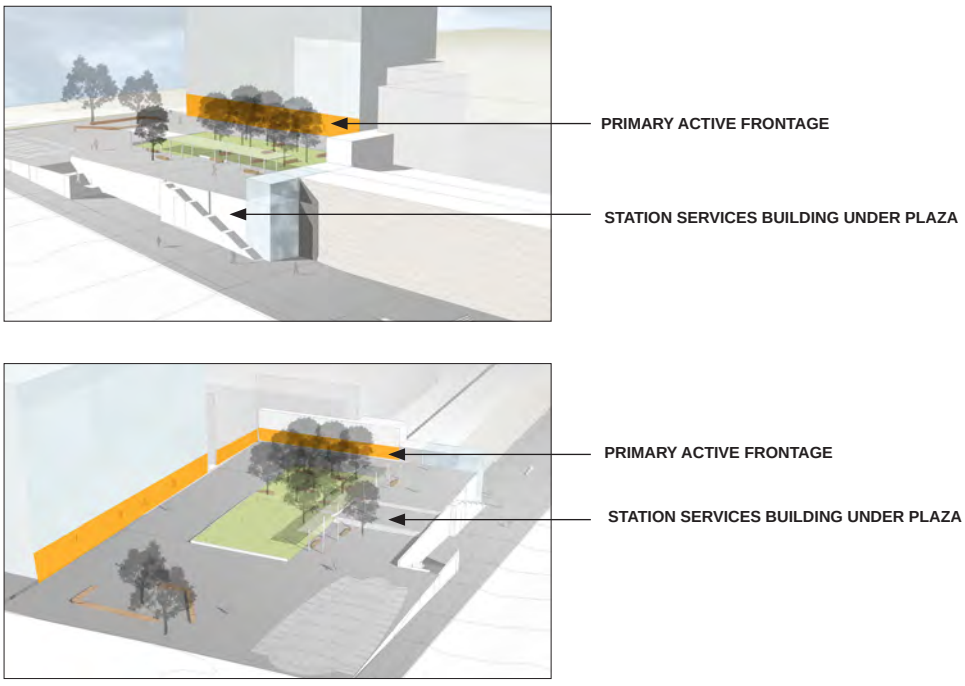

Figure 5.7.5 Macquarie Park Station Plaza - East (Illustrative perspective)

5.8 Street Trees, Front Setback Tree Planting, and Significant Trees

A broad strategy of new street tree planting is based on the four significant vegetation groups that would have been present on the site prior to development, reinforcing the unique landscape character of the area and minimising weed infestation. The location of the tree species enables a 'reading' of the geology and topography. This strategy allows for creation of bio-links and canopy connections to existing vegetation communities outside the site area and to the Lane Cove National Park.

Objectives

1. To respond to the unique natural character of the Macquarie Park Corridor.
2. To reinforce the street network and contribute to the legibility of streets.
3. To integrate best practice water sensitive urban design principles into the design and management of the public domain.
4. To reflect the endemic vegetation communities historically present within the Corridor.
5. To create bio-links and canopy connections to existing vegetation communities surrounding the Corridor.

Controls

a. Street trees and front setback must be provided in accordance with the Street Tree Key Plan in Macquarie Park Public Domain Technical Manual, and their health guaranteed for a minimum of 5 years.

b. At grade parking is not permitted in the front setback.

Note: Front setbacks may contribute to deep soil zones and site coverage calculations.

c. Where

- new floor space or parking areas are proposed and;
- a site is shown part coloured on the Sydney Metropolitan Catchment Vegetation Mapping 2013 (unless identified as containing "Weeds and Exotics" only) and;
- removal of native vegetation species is proposed

submit a Flora and Fauna Assessment prepared by a suitably qualified ecological consultant with the DA that has regard to:

- Part 9.5 Tree Preservation of the RDCP 2014
- NSW Threatened Species Conservation Act
- Sydney Metropolitan Vegetation Mapping, 2013

5.9 Community Facilities

Community facilities provide areas for social and recreational activity, as well as essential support services. These facilities strengthen and support the community, increasing the public life of the Corridor.

Figure 5.9.1 Excerpt from the City of Ryde's Social and Cultural Infrastructure Framework

Objectives

1. To provide services and facilities supporting the increasing employment and residential population within the Macquarie Park Corridor.
2. To enliven the public domain.
3. To encourage walking within the Corridor rather than driving to facilities in surrounding areas.
4. To provide a coordinated approach to the delivery of community facilities across the Corridor.

Controls

a. Community facilities are to be provided in accordance with the relevant documentation prepared by Council, particularly the City of Ryde's *Social and Cultural Infrastructure Framework*. Based on population growth statistics (available 2011) within Macquarie Park Corridor the *Social and Cultural Infrastructure Framework* seeks:

- One branch library 1,400 sqm
- One community centre 2,000 sqm
- One community arts centre 1,000 sqm and
- One community hall 500 sqm

b. Provide community space of not less than 3,000sqm within the Macquarie Park Shopping Centre (which may include a branch library or other function in accordance with the *Social and Cultural Infrastructure Framework*). The community space must be directly accessible from the public domain and within a short walk of the station and bus interchange. Community space must be discussed with City of Ryde prior to the lodgement of a Development Application.

c. Provide community space within new development of not less than 500 sqm within the Primary Active Frontage facing Central Park. This may include community meeting space and associated amenities and should be discussed with Council prior to lodging a Development Application.

d. Community facilities are to be located around public open spaces and along active frontages, with entries at street level. Active frontage must be in accordance with Figure 7.3.2.

e. Within public streets, parks, squares and plazas provide infrastructure (such as gas, power and water supply) and appropriately scaled built forms (such as kiosks, vendor stalls, cafes and restaurants) that will enhance the public domain as a meeting place and support activities such as markets, community events, leisure and recreation.

5.10 Art in Publicly Accessible Places

Art can make urban spaces attractive and welcoming, promote local identity, evoke business confidence and attract investment. Artworks can enhance new development, streetscapes, gardens and other places and spaces, creating interesting and distinctive urban environments. They can create vital and engaging environments that connect private and public domains, attracting pedestrian activity and navigation. Good publicly accessible art can be a destination in itself.

The themes of innovation technology, natural environment, local history, transport and movement provide a spectrum of ideas that can be explored and expressed through public art. Artworks can be used to create emblems or symbols that depict the identity of the place. It can be used to distinguish special places or developments, enable new businesses to develop a strong identity or signatures, signify entry points, strengthen the character of the place and stimulate the interaction of ideas that is central to the vision of the Corridor. Artworks can be integrated into the landscape or building features.

Objectives

1. To include site-specific integrated artworks in new developments in Macquarie Park Corridor.
2. To create a distinctive urban environment and sense of place.
3. To reflect local character, cultural identity and the natural environment.
4. To create spaces (whether publicly or privately owned) incorporating art that is original, creative and innovative in its design and use of form, technique and materials, and at the forefront of new ideas and sustainable practice.
5. To ensure that art in publicly accessible arts conforms to standards in regard to public safety is robust, durable and low maintenance.

Figure 5.10.1 **Police headquarters Parramatta. Here public art is incorporated into the building façade/sunscreens. The art work is based on forensic science and DNA graphs**

Controls

a. Art must be included in all new development with more than 10,000m^2 new floor space in the amount of 0.1% of the construction cost of the works capped at $1,500,000.

b. Art must be located within the site so as to be publicly accessible i.e. viewed or experienced from publicly accessible places.

Note: This may be within ground floor building foyers, on the building façade or within the front setback. Public art may also be funded by the developer and located within public parks or the public domain (e.g. banners on the light poles within the road reservation, purpose designed street furniture etc)

c. A site specific Arts Plan is to be submitted together with the development application.

The Arts Plan will include:

i. Arts project description and statement of artistic intent.

ii. Thematic framework for the artwork. Suggested themes arising from the history of the Macquarie Park Corridor are:

- Innovation and / or technology
- Transport (train, bus, car) and people movement
- History of Macquarie Park Corridor e.g. market gardening
- Future of Macquarie Park
- Natural environment e.g. water

Note: Four creeks traversed the Macquarie Park Corridor. These were Industrial Creek, Porters Creek, Shrimptons Creek and University Creek. For the most part they have been piped and are not now visible.

iii. Concept drawing and descriptions of proposed art works including:

- Proposed location
- Whether or not the artwork is integrated into the building design, landscape or other site features (including the building façade, paving, lighting design, outdoor seating, play equipment and the like)
- Proposed use of materials with particular information to be provided on robustness, durability, and low maintenance

iv. Implementation (detailing at what stage the artwork will be implemented etc)

v. Preliminary construction details with particular emphasis on public safety considerations.

What documentation will be required before construction?

Detailed construction and engineering reports will be required prior to the issue of the Construction Certificate to ensure public safety; robustness and low maintenance are considered in the final design of the artwork. Conditions of consent will detail the documentation required prior to the issue of the construction certificate.

Figure 5.10. The Pool by Jen Lewin Des Moines (interactive lighting/artwork installed in the pavement)

6.0 IMPLEMENTATION – INFRASTRUCTURE, FACILITIES AND PUBLIC DOMAIN IMPROVEMENTS

New and improved infrastructure community facilities, (road network and drainage) and public domain improvements (landscaping, parks, public art) within the Corridor is necessary to support growth, to create a vibrant work and living environment and to strengthen and sustain the existing and future communities.

The basis for the infrastructure, facilities and public domain improvements within the Corridor are documented in the Access and Open Space Structure Plans within this DCP and in relevant City of Ryde Community Facilities Plans, particularly the City of Ryde's *Social and Cultural Infrastructure Framework*.

The provisions of these elements will be achieved through:

- Funds received from the Special Rate Levy applying to the Corridor.
- Development contributions under S94 of the Environment Planning and Assessment Act.
- The development process achieved through design and implemented as conditions of the development.
- Development process achieved through the provision of planning incentives (height and floor space) in return for new roads and parks identified in the Open Space and Access Structure Plans in this DCP. Under this scheme planning incentives applicable under Ryde LEP are deferred until a voluntary planning agreement (VPA) is executed between Council and the developer. This VPA secures infrastructure contributions in cash or works in kind to be delivered through redevelopment.

The planning incentives mechanism is considered fair and equitable in that all landowners receiving the benefit of increased FSR and or height will contribute whether there is infrastructure on their land or not. As a value capture mechanism it offers the opportunity to develop an infrastructure funding tool within the planning system which will address infrastructure needs in the Macquarie Park Corridor.

The principles of the planning incentives scheme is:

- **Nexus**: That some of the benefit afforded to sites within Macquarie Park (through an uplift in FSR under Amendment No. 1) is captured by Council to provide essential infrastructure required as a result of increased densities in the area
- **Transparency**: This includes a clear understanding of what infrastructure is to be funded and how contribution rates and community benefit are calculated and applied to individual sites
- **Equity**: A framework that treats landowners fairly and where both infrastructure and incentives for development are based on equity and fairness
- **Practical**: The implementation of the mechanism must be practical and occur in a timely fashion to avoid delays and provide certainty for commercial dealings
- **Feasibility**: The contributions must be reasonable and provide infrastructure without burdening land such that development is not feasible at each stage

Infrastructure to be provided

The proposed funding model will provide funding for roads and open space as identified in the Access and Open Space Structure Plans in the DCP as follows:

- 4.1 km of 20m wide roads
- 3.6 km of 14.5m wide roads
- 3.5 hectares of open space

This Part should be read in conjunction the City of Ryde LEP 2014, which allows for incentive floor space and building height. It is critical that any approval for incentive floor space makes provision for the infrastructure, public domain improvements and other community benefits necessary to support the generated demand.

Process for accessing the planning incentives

- The landowner inspects the planning incentives maps under the RLEP 2014, which allows for greater FSR and building height and wishes to lodge a development application.

Note: Refer to the Ryde DCP 2014 to determine if there is any public domain to be delivered on the site – as identified on the Access Structure Plan and / or Open Space Structure Plan or alternatively decides to provide a monetary contribution to support delivery of the proposed roads and open space.

Refer to Draft Guideline for 'Un-deferrals' and delivery of Public Infrastructure and Council's *Voluntary Agreements Policy.*

Refer to Council's current *Fees and Charges* for the charges levied on the incentive floor space developed on a site in accordance with the planning documents applying to the area.

- Contact council to arrange for a pre lodgement meeting and to discuss accessing the incentive scheme
- The landowner or developer then makes an offer in writing to Council.

Objectives

1. To locate higher densities around significant places such as parks, local centres and train stations.
2. To provide FSR controls which correlate with height controls.
3. To allow bonuses for the provision of public infrastructure as demand for floor space increases.

Controls

a. Floor Space Ratios and Height of Buildings are to comply with the Ryde LEP 2014.

Note: Where it is proposed to take advantage of Floor Space and/or Height Incentives, applicants are to present and discuss their scheme with Council prior to lodgement of a development application.

b. The Access Network being roads and the Open Space Network being parks are to
   i. be dedicated to Council as part of a new development and are to
   ii. conform with the Macquarie Park Corridor Access Structure Plan. The
   iii. be design and constructed in accordance with the Macquarie Park Corridor Public Domain Technical Manual and Section 4 of this Part.

c. The public land such as the road verge adjoining a development site is to be embellished and dedicated to Council as part of any new development. The design and construction of the works are to be undertaken in accordance with the Macquarie Park Public Domain Technical Manual and Section 4 of this Part.

7.0 BUILT FORM

This section aims to encourage good design and to coordinate development within the Corridor.

Buildings should be sited to allow for the future provision of roads and open space as shown in this Part. Staged development should be planned to maximise building address to existing streets as well as frontages to new streets.

7.1 Site Planning and Staging

Objectives

1. To ensure that development occurs within the framework of proposed streets and open spaces.
2. To ensure that the built form structure plan is reinforced.
3. To encourage buildings to address existing and proposed streets.

Controls

a. Sites are to be planned to allow for the future provision of new streets and open spaces in accordance the Figure 4.1.1 Access Network and Figure 5.1.1 Proposed Open Space Network.

7.2 Activity Centres

Due to the size of the Macquarie Park Corridor, it is recognised that not all streets will develop as active pedestrian environments or Activity Centres.

The planning controls for the corridor aim to create vibrant streetscapes in areas with high pedestrian traffic, located close to public transport and public open space. Three Activity Centres which represent an arrival point, for commuters travelling by both road and rail to the Corridor have been identified. These are:

- **Macquarie Park Station Activity Centre**
  - Centred on the intersection of Waterloo Road and Lane Cove Road this activity centre builds on symbiotic relationship between the train station and the commercial core of Macquarie Park.
  - The vitality of the Activity Centre is enhanced by the future Central Park, a major new public open space and recreation destination for the Corridor.
  - Waterloo Road will provide a civic streetscape with a high quality public domain and opportunities for a prestigious corporate address.
  - The accessibility of the precinct will be enhanced by new streets and pedestrian connections, creating a high level of permeability, opportunities for new building addresses, access and service retail.
- **Macquarie University Station Activity Centre**
  - Includes two of the main destinations within the Corridor - Macquarie University and the Macquarie Shopping Centre – which contribute to the diversity and vibrancy of the Precinct.
  - The Macquarie University Station and bus interchange service large numbers of students, visitors and workers each day.
  - The area is expected to accommodate diverse land uses, with the flexibility to change over time.

- **North Ryde Station Activity Centre**

  Note: This precinct is deferred from this DCP however, for co-ordination purposes the following information is provided.

  - Adjoins the Lane Cove River National Park and business park areas including Riverside Corporate Park, historic home of the CSIRO.
  - The precinct includes two distinct sub-precincts: the North Ryde station mixed use / residential areas and residential areas to the west of the M2. The Activity Centres includes neighbourhood retail hub for daily shopping and community services and facilities;
  - A future land bridge over the M2 provides the opportunity to unify the precinct and to increase the rail station catchment.

Objectives

1. To co-ordinate the orderly development of the Precinct and have regard to:
- the Macquarie University Master Plan (Approved under Part 3A of the Act) and
- the Herring Road Urban Activation Precinct
- the North Ryde Station Urban Activation Precinct.

7.3 Active frontage

Active uses at ground level are encouraged within Macquarie Park generally but more particularly in Activity Centres in order to ensure vibrant streetscapes, community meeting places and the provision of local services and facilities. This is supported by controls for 'Active Frontages', which identify areas where active ground level uses are to be consolidated.

Objectives

1. To create a distinctive civic character to Waterloo Road around the stations.
2. To provide a mix of uses to support an increasing employment and residential population over time.
3. To create a vibrant local activity centre adjacent to the station and around new parks.
4. To provide a range of uses, including where permitted residential and retail, that complement the broader uses within the Corridor and that generate activity at ground level.
5. To create vibrant local activity hubs adjacent to stations and around new parks and rail station plazas.
6. To provide high quality public spaces suitable for active and passive recreation, for users of the rail stations and surrounding urban areas.
7. To ensure that public spaces and streets are activated along their edges.
8. To encourage safe well used public domain spaces.
9. To create vibrant streetscapes around areas of high pedestrian traffic.
10. To encourage activity within the Corridor outside commercial business hours.
11. To enhance pedestrian safety, security and amenity within the Corridor.

Controls

a. Continuous ground level active uses must be provided where primary active frontages are shown in Figure 7.3.2 Active Frontage and Setback Control Drawing. Buildings must address the street or public domain.

b. Front door and street address is to be located on the primary frontage.

c. Loading docks, vehicular access is not to be located where primary active frontages are shown in Figure 7.3.2 Active Frontage and Setback Control Drawing unless it can be demonstrated that there is no alternative.

d. Active ground level uses are encouraged where secondary active frontages are shown in Figure 7.3.2 Active Frontage and Setback Control Drawing.

e. Active uses are defined as one or more of the following:
   i. shop fronts;
   ii. retail/service facilities with a street entrance;
   iii. cafe or restaurants with street entrance;
   iv. community and civic uses with a street entrance;
   v. recreation and leisure facilities with a street entrance;
   vi. commercial or residential lobbies with a street entrance not more than 20% of the total length of the building's street frontage

f. Entries to active frontage tenancies are to be accessible and at the same level as the adjacent footpath.

g. Active uses must occupy the street frontage for a depth of at least 10m. Refer Figure 7.3.1 Active Frontages Plan Diagram and Active Frontages Elevation Diagram.

h. On sloping sites, the maximum level change between ground floor tenancies and the adjacent footpath is 600 mm.

i. Where active frontage is required a minimum of 90% of the building frontage is to be transparent i.e. windows and glazed doors (A maximum 10% active frontage may be fire stairs, plant, masonry walls and other non-active uses).

j. Clear glazing is to be provided to windows and doors. The sill height for windows must be maximum 1200mm above the footpath, including for sloping sites. Refer Figure 7.3.1 below.

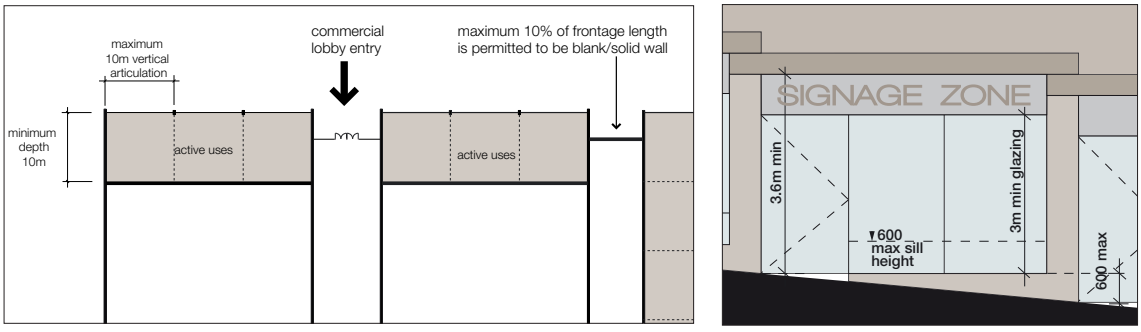

Figure 7.3.1 Active Frontages Plan Diagram and Active Frontages Elevation Diagram

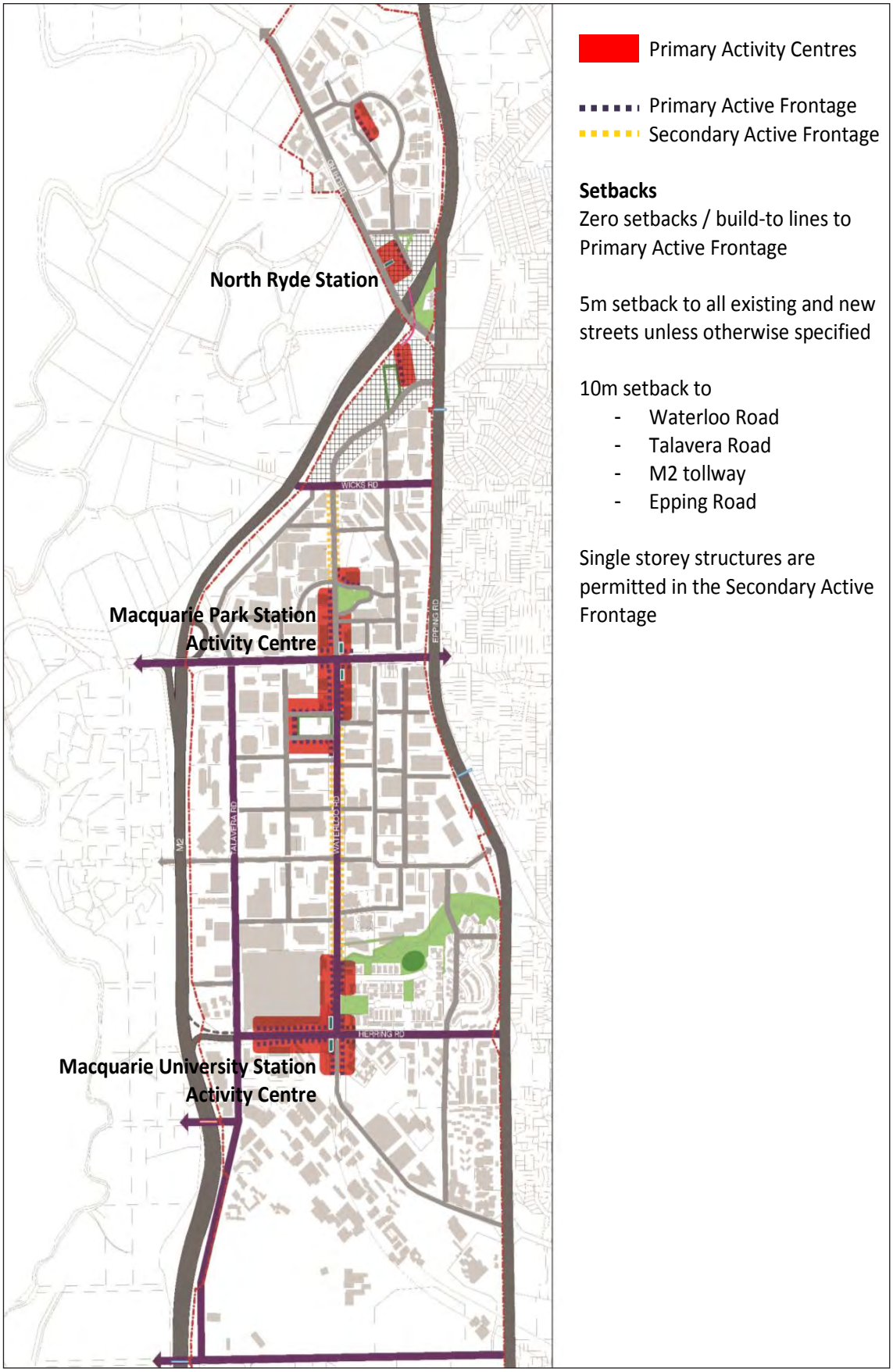

Figure 7.3.2 Active Frontage and Setback Control Drawing

7.4 Setbacks and Build-to Lines

Setback controls define the building line and determine the location of buildings relative to the street boundary. General setback controls apply throughout the corridor. Specific street setback controls are provided where a particular existing or desired future street character is to be reinforced.

Buildings are encouraged to treat the setbacks as build-to-lines in order to promote a consistent setback and safe attractive public domain. However, subject to negotiation with Council, buildings may setback further from the street or public domain according to specific site conditions. This will include consideration of the impacts on underground infrastructure associated with the Epping Chatswood Rail Link (ECRL) running under Waterloo Road.

Objectives

1. To enhance the existing character of streets within the Corridor.
2. To create new streets which contribute to the character and identity of the Corridor.
3. To increase pedestrian amenity and provide pedestrian sight lines to train stations.
4. To retain and reinforce the existing character of green setbacks with mature planting.

Controls

a. Minimum setbacks and build-to lines must be provided as shown Figure 7.3.2 Active Frontage and Setback Control Drawing – summarised as follows:
   i. Zero setbacks / build-to lines to Primary Active Frontage;
   ii. 5m setback to all existing and new streets unless otherwise specified;
   iii. 10m setback to Waterloo Road and Talavera Road;
   iv. 10m green setbacks to the M2 tollway and Epping Road; and
   v. 5m built form setback to all parks (existing and proposed – subject to providing a Riparian Corridor in accordance with the NSW Office of Water's *Guidelines for Riparian Corridors on Waterfront Land*).

b. Subject to negotiation with Council single storey structures which include active uses may be located within the Secondary Active Frontage. These structures must address the public domain, be transparent as far as practicable and will be subject to the ECRL Guidelines.

c. Provide 2m setbacks to pedestrian pathways (unless within a building).

d. Despite clause 7.2.a development may be set back further from the street or public domain where it can be demonstrated to Council that the impacts of development on underground rail infrastructure are not in accordance with the ECRL Underground Infrastructure Protection Guidelines Report No. 20007300/ PO-4532 obtainable from Transport for NSW.

e. Council encourages development that complies with Figure 7.3.2 Active Frontage and Setback Control Drawing and meets the requirements of the ECRL Second Reserve Support Zone. The following are permitted in the Second Reserve support zone:
   i. Excavations less than 3m in depth are not required to be assessed. Excavations 3m or more in depth are required to be assessed for their impact on the underground infrastructure, including impacts during construction.
   ii. Shallow footings with relatively light loadings (allowable bearing pressure of less than 150kPa on small pad or strip footings) are not required to be assessed. Other shallow footings and deep foundations are required to be assessed.

f. Underground parking is not permitted to encroach into the front setback areas unless it can be demonstrated that the basement is designed to support significant mature trees and deep root planting. Refer to Figure 7.4.1.

g. Awnings, canopies, balconies, sun shading and screening elements can project forward of the street setback line.

h. 60% of the street setback area is to be soft landscaping. Existing mature trees are to be retained where possible. Paved areas are to relate to the materials and finishes of the adjacent streetscape. At grade car parking must not be located within this setback.

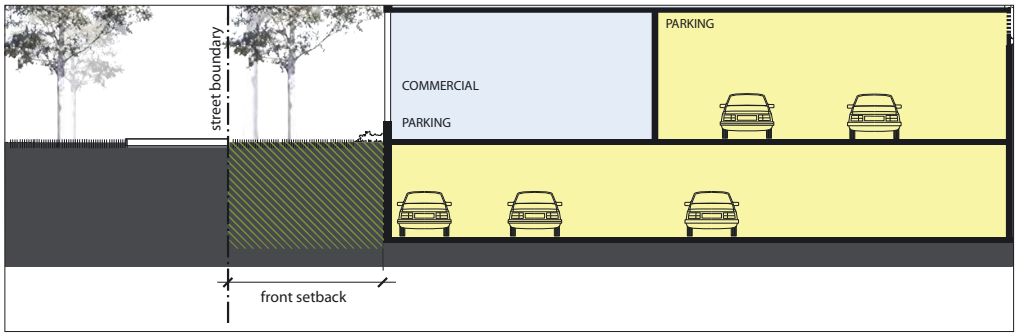

Figure 7.4.1 **Parking is not permitted within required setbacks, allowing for deep soil landscaping along streets**

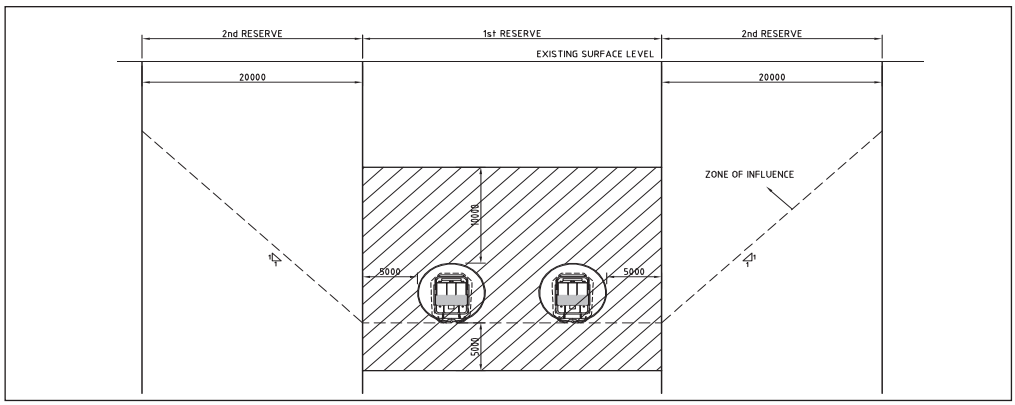

Figure 7.4.2 **Section showing First and Second Reserve Zones associated with ECRL underground rail infrastructure in Macquarie Park Corridor**

Source: *ECRL Underground Infrastructure Protection Guidelines Report No. 20007300/ PO-4532*

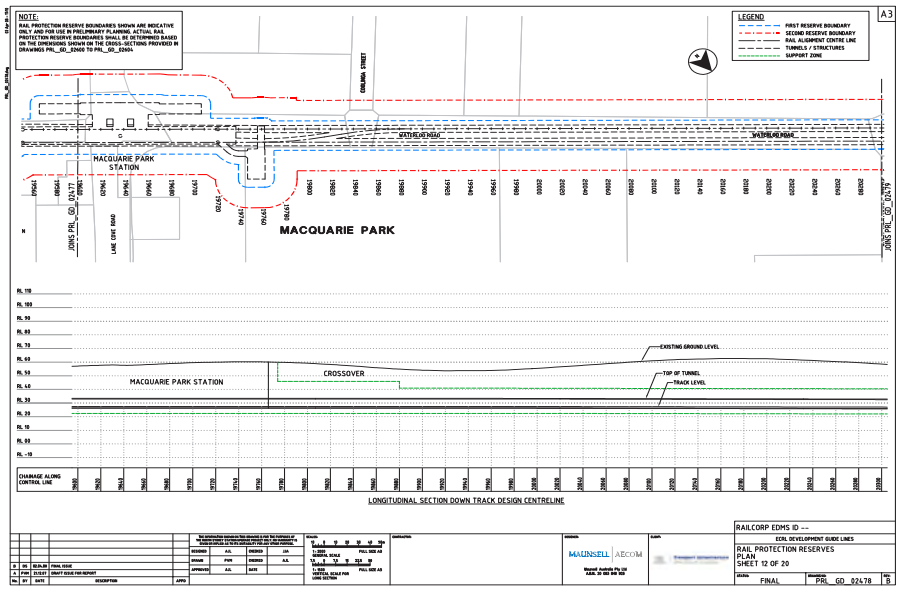

Figure 7.3.3 **Sample plan showing First and Second Reserve Zones associated with ECRL underground Rail infrastructure in Macquarie Park Corridor**

Source: *ECRL Underground Infrastructure Protection Guidelines Report No. 20007300/ PO-4532*

7.5 Awnings and Canopies

Awnings increase pedestrian amenity by providing shelter and enclosure at a pedestrian scale. They encourage pedestrian activity along streets and, in conjunction with active edges such as retail frontages, support and enhance the vitality of the local area. Awnings and entry canopies provide a public presence and interface within the public domain, contributing to the identity of a development.

Objectives

1. To unify the streetscape.
2. To provide weather protection, safety and security for pedestrians.
3. To demarcate building entries and contribute to the image and identity of development.

Controls

a. Awnings must be provided where Primary Active Frontages are shown in Figure 7.3.2 Active Frontage and Setback Control Drawing. Entry canopies and discontinuous awnings and entry canopies are encouraged elsewhere in the Corridor.

b. Awning width is to be 3 m. Refer to Figure 7.5.1 below.

c. Provide awnings with a soffit height of 3.6 m above the finished ground floor level. On sloping sites, awning soffit height may vary from 3.6 m - 4.2 m. Refer to Figure 7.5.1 and 7.5.2 below.

d. Awning heights are to be coordinated with adjoining properties.

e. Where the topography slopes along the street, awnings are to step to provide a regular height over the footpath. Steps in awnings should not exceed 600 mm.

f. Stepped awnings must be detailed to provide continuous weather protection.

g. Glazing is not permitted in continuous awnings.

h. Under awning lighting is to be provided to achieve appropriate luminance levels for pedestrians (Refer to relevant Australian Standards). This should be recessed into the soffit of the awning.

Entry Canopies

i. Entry canopies and discontinuous awnings may be provided to building entries not located along Active Frontages.

j. Entry canopies may be glazed or solid, and are to be coordinated with a soffit height of 3.6 m minimum.

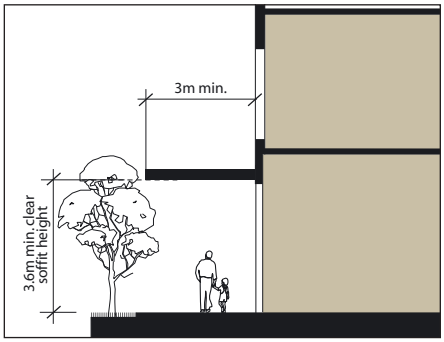

Figure 7.5.1 Awnings: Section

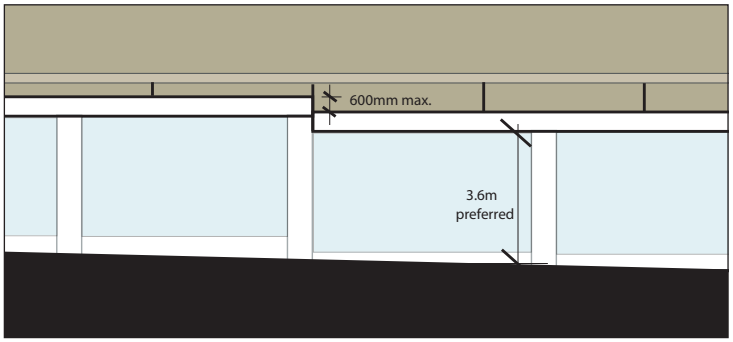

Figure 7.5.2 Awnings: Elevation

Figure 7.5.3 Continuous awnings integrating signage and recessed lighting

Figure 7.5.4 Entry canopy integrated with landscape and building design

7.6 Rear and Side Setbacks

Side and rear setback spaces provide a corridor of deep soil between sites. This area allows for the retention of existing mature trees, and future tree planting. Side and rear setbacks also provide an opportunity to resolve changes in level between sites.

Objectives

1. To create a pattern of development that positively defines the streetscape.
2. To provide building separation for visual and acoustic privacy
3. To provide deep soil zones, and maintain mature/significant vegetation.
4. To contribute to the landscape character of the Corridor.

Controls

a. Buildings are to be set back 10m from the rear boundary and 5m from a side boundary unless a proposed new road is shown on the site.

b. Buildings are not to be constructed on the locations for proposed new roads. An allowance for a 5m setback from a proposed road should also be made.

c. Awnings, canopies, balconies, sun shading and screening elements may project into the rear setback zones.

d. Basement car park structures should not encroach into the minimum required rear or side setback zone unless the structure can be designed to support mature trees and deep root planting.

e. Above ground portions of basement car-parking structures are discouraged and deep soil planting is promoted.

f. Natural ground level is to be retained throughout side and rear setbacks, wherever possible. Refer to Section 8.4 Topography and Building Interface for controls.

7.7 Building Separation

Where buildings face each other within the same site, provide adequate separation to allow visual privacy and solar access to buildings and courtyard spaces.

Objectives

1. To allow solar access to buildings and communal areas.
2. To retain mature vegetation between buildings and allow for deep soil planting.
3. To provide a visual break between buildings and reduce the perceived bulk and scale of the built environment.
4. To provide visual privacy between buildings.
5. To provide outlook from buildings.

Controls

Commercial:

a. Provide minimum 20 m separation between buildings facing each other within a site. Refer to Figure 7.7.1 Commercial Building Separation Controls.

b. Provide minimum 10 m separation between buildings perpendicular to each other within a site. This reduced building separation control only applies where the width of the facing facades does not exceed 20 m. Refer to Figure 7.7.1 Commercial Building Separation Controls.

Residential:

c. Provide building separation as per SEPP 65 - Design Quality of Residential Apartment Development requirements.

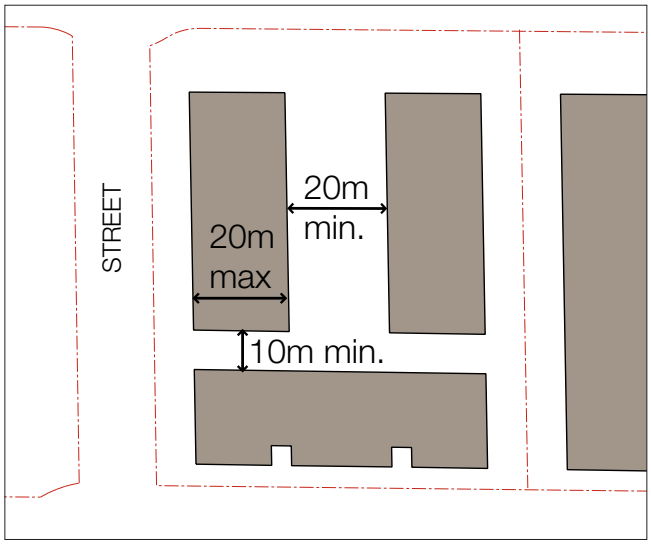

Figure 7.7.1 Commercial Building Separation Controls

7.8 Building Bulk and Design

To allow for a diversity of building types, flexible performance based controls are provided. Generally thin cross section buildings improve the amenity of living and working environments. Commercial buildings with larger footprint requirements can adopt creative solutions (such as atria or internal courtyards) to meet the environmental performance standards within this plan.

Taller buildings have an increased impact on their surroundings. As such, the bulk and form of taller buildings is numerically controlled. This ensures that the environmental impacts of taller buildings on the surrounding areas are minimised, and that the forms of these buildings contribute positively to the skyline of the Corridor.

Objectives

1. To minimise overshadowing and visual impact of taller buildings.
2. To contribute to the scale and proportion of the urban form.
3. To contribute to energy efficiency of buildings.
4. To provide internal spaces of a high quality and amenity.
5. To create modelled buildings which address the public domain.
6. To ensure that new developments have facades which define and enhance the public domain.
7. To ensure that building elements such as awnings, sun screens, shading devices, roof structures and services elements are integrated into the overall building form and façade design.

Controls

a. The floor-plate of buildings above 8 storeys is not to exceed 2,000m^2, unless it can be demonstrated that slender building forms are achieved through courtyards, atria, articulation or architectural devices.

b. Buildings are to address the street, and are to have a street address.

c. Facade design is to
   i. Reflect and respond to the orientation of the site using elements such as sun shading and other passive environmental controls where appropriate.
   ii. Provide building articulation such as well design roof forms, expressed vertical circulation etc.
   iii. Express corner street locations by giving visual prominence to parts of the façade (eg a change in building articulation, material or colour, or roof expression).
   iv. Integrate and co-ordinate building services such as roof plant, parking and mechanical ventilation with the overall façade and building design, and be screened from view.
   v. Roof forms, building services and screening elements are to occur within the overall height controls. Refer to Ryde LEP 2014 for height controls.
   vi. Ventilation louvres and car park entry doors are to be coordinated with the overall façade design.

d. The distance of any point on a habited floor from a source of natural daylight should not exceed 12m (such as from the core to an external window).
   i. Atria and courtyards are to be used to promote access to natural light, pedestrian links and slender building forms.
   ii. Arrange courtyards and atria to respond to street lot & solar orientation.
   iii. The preferred height to width ratio of atria is 3:1.

e. Buildings are to be designed to be flexible – car parking above the ground level is to have a floor to ceiling height of not less than 2.7m.

8.0 SITE PLANNING AND STAGING

8.1 Site Planning and Staging

Objectives

1. To ensure that development occurs within the framework of proposed streets and open spaces.
2. To ensure that the built form structure plan is reinforced.
3. To encourage buildings to address existing and proposed streets.

Controls

a. Sites are to be planned to allow for the future provision of new streets, pedestrian connections and open spaces in accordance with Figure 4.1.1 Access Network and Figure 5.1.1 Proposed Open Space Network. Where it is proposed to vary the locations of open space, and roads; a master plan must be submitted with the development application in accordance with clause 8.1.b (below) and the following:
   i. Equal or greater quantum of open space or road area than shown in Figure 4.1.1 Access Network and Figure 5.1.1 Proposed Open Space Network;
   ii. A highly visible and publicly accessible location for passive open space bounding Waterloo Road;
   iii. The same functional outcomes for open space as specified in Section 5.2;
   iv. The same connection points to existing roads as shown in the Figure 4.1.1 Access Network and the ability to enhance connectivity; and
   v. Where the site abounds Shrimptons Creek Parklands, a Riparian Corridor in accordance with the NSW Office of Water's *Guidelines for Riparian Corridors on Waterfront Land.*

b. All sites 15,000m^2 or more in area should lodge a site-specific Master Plan and/or Stage 1 development application for approval. The Master Plan must be supported by a:
   i. Transport Management and Access Plan that entails the following measures:
      - Maximise access by sustainable modes of transport and reduce cardependency (i.e. Public Transport, Cycling and Walking)
      - Maximise public access (example: Bus Stops, public pick-up and drop-off points, 'thru' pedestrian connections and links);
   ii. Proposed vehicular access to and from the site; including the provisions parking;
   iii. Economic Impact Report which details retail floor space and impacts on local centres with 5 kms, the quantum of employment floor space and likely employment generation;
   iv. Proposed floor space and height and general site layout that preserve the natural heritage of the site (as appropriate) and protect the amenity of the local neighbours;
   v. Details of any proposed public benefits and proposed incentive bonus;
   vi. Arts Plan; and
   vii. Social Impact Study.

Note: Stage 1 DAs (Master plans) approved by Council may guide general variations to the DCP provisions.

8.2 Site Coverage, Deep Soil Areas and private open space

Site coverage controls limit the extent of building footprint within each site, providing significant areas of open space and landscape. Within the remaining open space, deep soil areas are to be provided. Each site is to provide a consolidated area of deep soil, located to provide maximum benefit in terms of landscape planning. This may require the deep soil area to be located to retain significant vegetation, or to be located adjacent to deep soil areas on neighbouring sites.

Objectives

1. To maintain the 'campus style' industrial parklands character that typifies much of the Corridor.
2. To provide developments with a high level of amenity and landscape character.
3. To retain existing mature trees and allow for future tree planting.
4. To provide occupants with passive recreational opportunities.
5. To provide an area on site for soft landscaping and deep soil planting.
6. To improve stormwater quality and minimise water consumption through implementation of water sensitive urban design guidelines.

Controls

a. A minimum 20% of a site must be provided as deep soil area.

b. Deep soil areas must be at least 2 m deep.

c. For the purpose of calculating deep soil areas, only areas with a minimum dimension of 20 m x 10 m may be included.

d. A minimum 20% of the site area is to be provided as Landscaped Area. Landscaped Area is defined as: Area on the site not occupied by any buildings, except for swimming pools or open air recreation facilities, which is landscaped by way of gardens, lawns, shrubs or trees and is available for use and enjoyment by the occupants of the building, excluding areas used for driveways, parking areas or drying yards.

e. Solar access to communal open spaces is to be maximised. Communal courtyards must receive a minimum of 3 hours direct sunlight between 9 am and 3 pm on the 21st of June.

f. Appropriate shading is to be provided so that communal spaces are useable during summer.

g. Communal open spaces are to incorporate the primary deep soil area where possible.

h. Landscaping is to contribute to water efficiency and effective stormwater management. Landowners are to consult with Council for requirements to address stormwater quality.

8.3 Planting on Structures

Quality landscape design and open space amenity relies in part on the quality and health of plants. Planting above structures places a range of environmental stresses on vegetation as a result of limited soil depth, artificial soils, limited drainage and/or irrigation. Where landscaped courtyards are located above basement car parking or other structures, provide the following minimum standards to improve the quality and longevity of landscaping.

Objectives

1. To contribute to the quality and amenity of communal open space on roof tops, podiums, internal courtyards and above basement car parks.
2. To encourage the establishment and healthy growth of trees.
3. To promote 'green buildings' that reduce the overall environmental impact of development.

Controls

a. Provide optimum conditions for plant growth by providing appropriate irrigation and drainage methods.

b. Design planters to provide the largest possible volume of soil, in accordance with the following recommended standards:

i. Large trees (canopy diameter up to 16 m at maturity)

Min. soil volume 150 m^3
Min. soil depth 1.3 m,
Min. soil area 10 m x 10 m or equivalent

ii. Medium trees (canopy diameter up to 8 m at maturity)

Min. soil volume 35 m^3
Min. soil depth 1 m
Min. soil area 6 m x 6 m or equivalent

iii. Small trees (canopy diameter up to 4 m at maturity)

Min. soil volume 9 m^3
Min. soil depth 800 mm
Min. soil area 3.5 m x 3.5 m or equivalent

iv. Shrubs

Min. soil depth 500-600 mm

v. Ground cover

Min. soil depth 300-450 mm

vi. Turf

Min. soil depth 100-300 mm

8.4 Topography and Building Interface

The topography within the Macquarie Park Corridor creates significant issues for the interface between buildings, private open spaces and streets. Roadways, landscape and open space infrastructure should address the interface between the public and private domain.

The design of private landscapes within this zone, both soft and hard, should integrate with the public domain landscape. In order to maximise continuity between these zones, the erection of boundary walls or fences should be minimised and at grade connections provided wherever possible.

Changes in level across a site should be accommodated internally within the building design to ensure that internal spaces integrate with external movement patterns and public uses (eg. cafés and shops). Designers should consider the degree to which building frontages can activate or enhance the use of the public domain. The success of the public domain will depend on the degree to which these sites can facilitate through connections and also provide facilities that encourage people to stop and linger.

Objectives

1. To ensure that buildings and courtyard spaces are connected to the street.
2. To ensure that building entries and forecourts contribute positively to the streetscape and public domain.
3. To address level changes across street frontages, and between adjoining properties.
4. To reduce the impact of site levelling on adjacent properties, and future site development opportunities.
5. To ensure visibility and surveillance of all publicly accessible open spaces from streets and the public domain.

Controls

a. Level changes across sites are to be resolved within the building footprint.
   i. Where buildings are built to the street boundary (i.e. zero setbacks, refer to Section 7.4 Setbacks and Build-to Lines), a level transition must be provided between the building and the adjacent footpath. This level must be maintained for a minimum depth of 10 m into the building.
   ii. Where buildings are set back from the street boundary, entries are to be provided at street level wherever possible.

b. An accessible path of travel is to be provided from the street through the main entry door of all buildings.
   i. Where necessary, stairs and ramps are to be integrated with the landscape design of front setbacks.

c. Natural ground level is to be retained for a zone of 4 m from the side and rear property boundaries. Retaining walls, cut and fill are not permitted within this zone.

d. The maximum height of retaining walls within the front, side and rear setbacks is not to exceed 1.2 m.

e. Publicly accessible open spaces under private ownership (courtyards, forecourts) must be provided at footpath level. Where level changes cannot be avoided due to topography, the finished level of the open space must not exceed 1.2 m above footpath level.

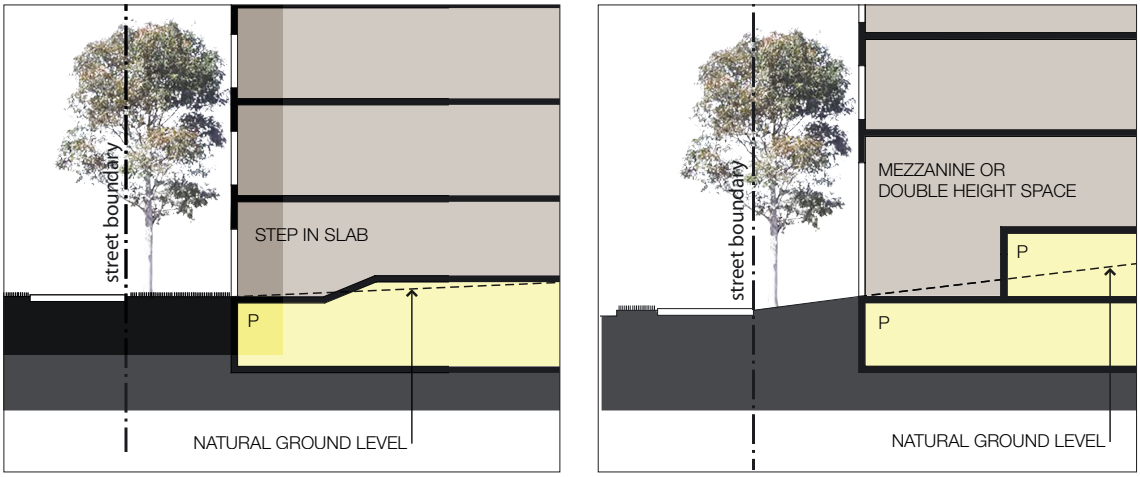

Figure 8.4.1 **Level change across site resolved within building entry**

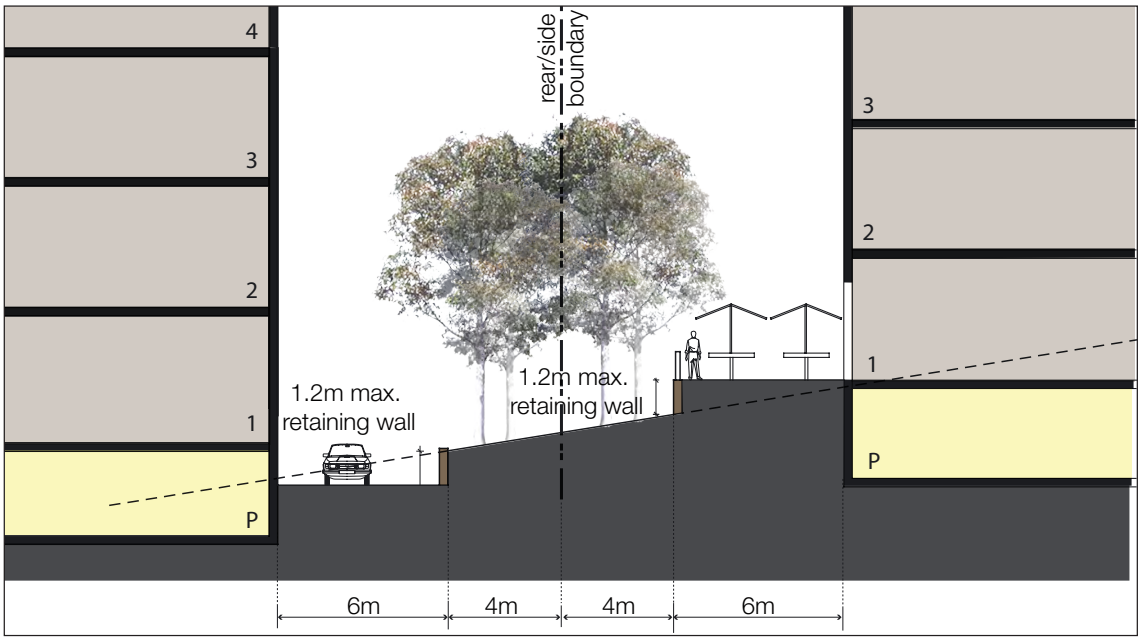

Figure 8.4.2 **Level change controls at side and rear setbacks**

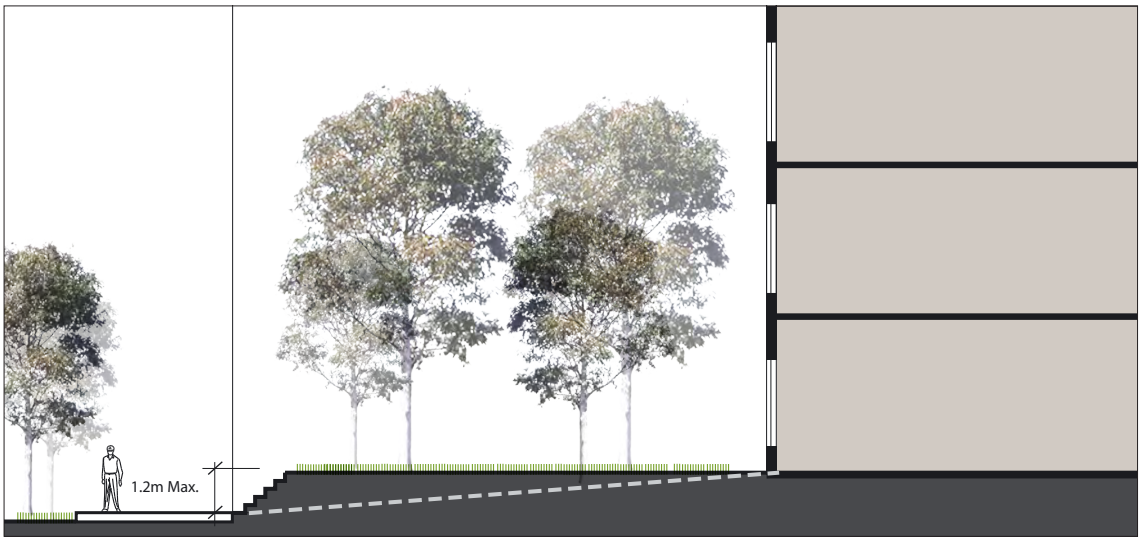

Figure 8.4.3 **Level change controls where publicly accessible open space is located adjacent to a street**

8.5 Site Facilities

Site facilities include loading areas, garbage areas, mail boxes, external storage areas, courier/ service entries, and residential clothes drying facilities.

Site facilities are to be considered at an early stage of design development. This ensures that the impact of necessary site facilities on the public domain and adjacent properties can be minimised.

Objectives

1. To provide appropriate site facilities for retail, commercial and residential uses.

2. To minimise the impact of site facilities on the streetscape and public domain.

3. To provide adequate garbage and recycling areas to all developments.

Controls

Commercial

a. Vehicular access to loading facilities is to be provided from secondary and tertiary streets where possible.

b. Rubbish and recycling areas must be provided in accordance with Section 6.3 Waste Management. These areas must:
   i. be integrated with the development;
   ii. minimise the visibility of these facilities from the street; and
   iii. be located away from openable windows to habitable rooms.

c. Barrier free access is to be provided to all shared facilities.

Residential

d. Provide either communal or individual laundry facilities to each dwelling, and at least one external clothes drying area. The public visibility of this area should be minimised. Clothesdrying is only permitted on balconies that are permanently screened from view from the public domain.

e. Provide storage to dwellings in accordance with SEPP 65 requirements.

f. Lockable mail boxes are to be provided in a location visible from the public domain. Mailboxes are to be integrated with the design of building entries and to Australia Post standards.

8.6 Vehicular Access

Vehicular access is the ability for cars and maintenance and service vehicles to access the development. The location, type and design of vehicle access points to a development will have significant impacts on the streetscape, the site layout and the building façade design. It is important that vehicle access is integrated into site planning from the earliest stages to balance any potential conflicts with streetscape requirements and traffic patterns and to minimise potential conflicts with pedestrians.

Objectives

1. To integrate adequate car parking and servicing access without compromising street character, landscape or pedestrian amenity and safety.
2. To encourage the active use of street frontages.

Controls

a. Vehicular access is not permitted along streets identified as 'Active Frontages' (refer to Section 7.3 Active Frontages).

b. Where practicable, vehicle access is to be from secondary streets.

c. Potential pedestrian/vehicle conflict is to be minimised by:
   i. limiting the width and number of vehicle access points
   ii. ensuring clear site lines at pedestrian and vehicle crossings
   iii. utilising traffic calming devices
   iv. separating and clearly distinguishing between pedestrian and vehicular accessways

d. The appearance of car parking and service vehicle entries is to be improved by
   i. locating or screening garbage collection, loading and servicing areas visually away from the street
   ii. setting back or recessing car park entries from the main façade line
   iii. avoiding black holes in the façade by providing security doors to car park entries
   iv. where doors are not provided, it is to be ensured that the visible interior of the car park is incorporated into the façade design and material selection and that building services pipes and ducts are concealed, and
   v. returning the façade material into the car park entry recess for the extent visible from the street as a minimum.

e. The width of driveways is to be determined in accordance with the requirements of Ryde DCP 2014 and the relevant Australian Standards.

8.7 On-site Parking

The accommodation of car parking on site, underground and on-grade, has a significant impact on the site layout, landscape design, deep soil zones and storm water management. It is important new developments consider the local context such as the location of public transport facilities, services and recreational facilities within walking or cycling distance, which will reduce the need for parking spaces.

Objectives

1. To minimise car dependency for commuting and recreational transport use, and to promote alternative means of transport - public transport, bicycling, and walking.
2. To minimise traffic congestion in the Corridor.
3. To provide adequate car parking for building users and visitors, depending on building use and proximity to public transport.
4. To minimise the visual impact of car parking on streets, public spaces and adjoining sites.
5. To maximise opportunities for consolidated areas of deep soil planting and landscaping.

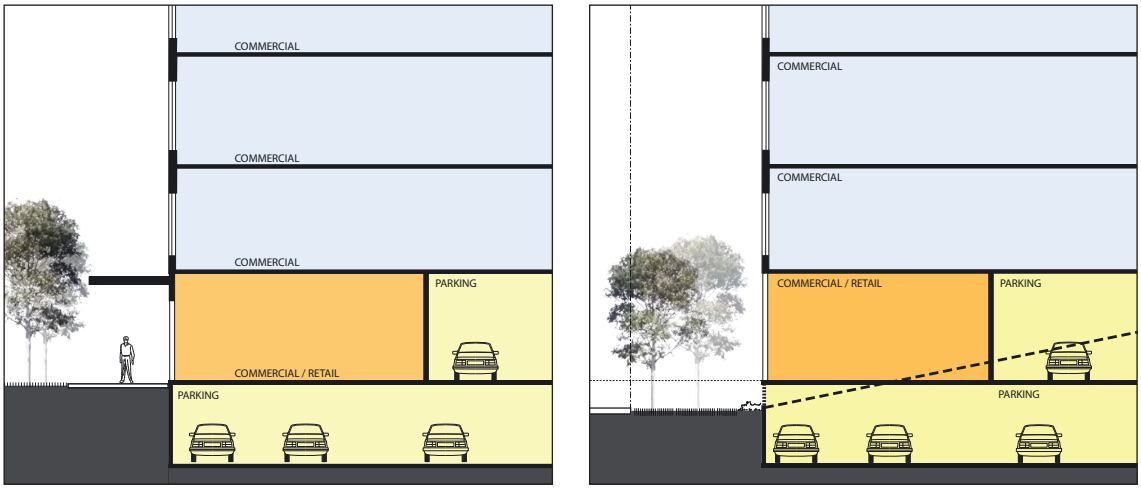

Figure 8.7.1 **Along Active Frontages, basement parking must be located fully below footpath level. However to accommodate topography, basement levels may protrude by a maximum of 1.2 m beyond ground level. Along street frontages, above ground parking must be laminated with another use**

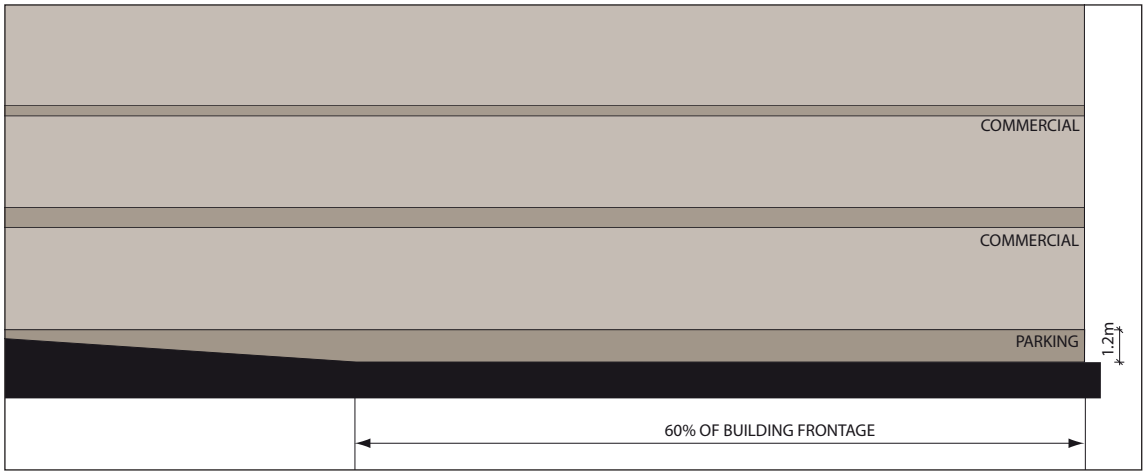

Figure 8.7.2 **Along public streets, basement parking must protrude no more than 1.2 m above ground for no more than 60% of the building frontage**

Controls

a. Safe and secure 24-hour access to car parking areas is to be provided for building users.

At-grade parking

b. Parking areas must not be located within the front, side, or rear setbacks.

c. Parking areas are to be screened from view from the street, public domain and communal open space areas, using site planning and appropriate screen planting or structures.

d. Provide safe and direct access from parking areas to building entry points.

e. Provide appropriate mature vegetation between parking bays to provide shade and enhance visual impact.

Basement parking

f. Basement parking areas should be located directly under building footprints to maximize opportunities for deep soil areas unless the structure can be designed to support mature plants and deep root plants.

g. Basement parking areas must not extend forward of the building line along a street.

h. Along active frontages, basement parking must be located fully below the level of the footpath. Refer to Section 7.3 Active Frontages.

i. Basement parking should be contained wholly beneath ground level along public streets.

j. Where this cannot be achieved due to topography, the parking level must protrude no more than 1.2 m above ground level for no more than 60% of the building frontage along a public street (Refer to Figures 8.7.1 and 8.7.2).

k. Ventilation grills or screening devices of car park openings are to be integrated into the overall façade and landscape design of the development.

Parking in structures

l. Along all street frontages, above ground parking levels are to be laminated with another use for a minimum depth of 10 m, e.g. building entry lobbies, retail tenancies, commercial floor space.

m. Temporary above ground parking structures are to be designed to allow future adaptation to other uses. Ramps should be located internally rather than on the facades of parking structures to allow ease of adaptation of use.

8.8 Fencing

Security fencing is inconsistent with the vision of this DCP to promote and open landscaped centre.

Objectives

1. To create an attractive public domain and open landscaped character within the Macquarie Park Corridor.

Controls

a. Fencing is not permitted on the perimeter boundary of sites. Security should be provided within buildings.

9.0 ENVIRONMENTAL PERFORMANCE

Assessment of both commercial and residential development within the Macquarie Park Corridor utilises comprehensive state and national building assessment and rating tools.

Commercial office design and construction is rated using the Green Building Council of Australia's Green Star rating system. Using this tool, projects are evaluated against eight environmental impact categories, plus innovation. Within each category, points are awarded for initiatives that demonstrate that a project has met the overall objectives of Green Star, and the specific criteria of the relevant rating tool credits. Points are then weighted and an overall sore is calculated, determining the Green Star rating.

Residential developments, and the residential component of mixed-use development is required by legislation to pass BASIX. The Building Sustainability Index ensures homes are designed to use less potable water and be responsible for fewer greenhouse gas emissions by setting energy and water reduction targets.

Objectives

1. To reduce the necessity for mechanical heating and cooling.
2. To reduce reliance on fossil fuels.
3. To minimise greenhouse gas emissions.
4. To reduce environmental impact over the life cycle of a building.
5. To promote renewable energy initiatives.

Controls

a. Commercial development is required to achieve a 4 Star Green Star Certified Rating.

b. Additional floor space maybe permitted within a development where the building can demonstrate design excellence and environmental sustainability. For consideration of the additional floor space a minimum 5 Green Star- Green Building Council of Australia (GBCA) should be provided. Refer to Ryde LEP 2014 and Section 6 of this Part.

c. Residential development is to comply with BASIX (Building Sustainability Index) requirements.

d. Development is required to comply with Section 7 Built Form.

9.1 Wind Impact

Being located on a ridge above the Lane Cove River, the Corridor is relatively exposed to prevailing winds. In order to maximize the amenity of new developments and their adjoining public domains it is important that the design of new buildings incorporate measures to minimize any wind impacts, particularly on the proposed public spaces.

Objectives

1. To protect the public domain from the impact of undesirable winds while allowing the penetration of cooling summer breezes, and
2. To minimise any adverse wind impacts from the introduction of new structures.

Controls

a. Buildings shall not create uncomfortable or unsafe wind conditions in the public domain which exceeds the Acceptable Criteria for Environmental Wind Conditions. Carefully locate or design outdoor areas to ensure places with high wind level are avoided.

b. All applications for buildings over 5 storeys in height shall be accompanied with a wind environment statement. For buildings over 9 storeys and for any other building which may be considered an exposed building shall be accompanied by a wind tunnel study report. Refer to Council for documentation and report requirements.

c. Calculation rules

   i. Natural wind conditions are intensified by certain types of buildings by the way they relate to the surrounding area. In this section, those buildings are called exposed buildings.

   ii. A building may be considered exposed if half or more of its height rises above surrounding buildings and/or the building lies on the perimeter of a built up area.

   iii. Exposed buildings are likely to create unpleasant and even dangerous high winds, mainly in three locations: at the base, around corners or through arcades or other openings at the base of the building.

   iv. In addition the areas within the exposed buildings that could potentially experience adverse wind effects are the areas on the podium, terraces on the roof or on setbacks in the tower as well as projecting or corner balconies.

Acceptable criteria for environmental wind conditions:

AREA CLASSIFICATION	LIMITING WEEKLY MAXIMUM GUST-EQUIVALENT MEAN	LIMITING ANNUAL MAXIMUM GUST
Outdoor dining areas, amphitheatres etc	3.5 m/s	10 to 13 m/s
Main retail centres and retail streets, parks, communal recreational areas	5.5 m/s	13 m/s
Footpaths and other pedestrian accessways	7.5 m/s	16 m/s
Infrequently used laneways, easements, private balconies	10 m/s	23 m/s

Note: The Gust -Equivalent Mean is defined as the maximum 3 second gust divided by a local Gust Factor for the local wind speed. It is recommended that the local gust factor be derived from the measured local turbulence intensity. If the mean wind speed happens to be greater than the Gust -Equivalent Mean then the Mean wind speed is to be adopted in place of the Gust -Equivalent Mean.

The Annual Maximum Gust wind speed criteria can be used as an alternative to the Gust-Equivalent Mean Criteria.

If the Gust-Equivalent Mean criteria are being used then a check should also be made to ensure that all areas studied are within the Annual Maximum Gust wind speed of 23 m/s.

When assessing the impact of a proposed development, no increase over the existing wind conditions is acceptable unless the increase over the existing conditions is such that the relevant criterion for that type of space is still satisfied.

9.2 Noise and Vibration

Loud noise affects the amenity of places, particularly in mixed-use areas where developments need to consider the amenity of a range of occupants. The impact of rail, commercial and industrial noise and vibration on residential development and pedestrian amenity is to be considered in the design and siting of all commercial, mixed use, industrial and community developments. Commercial and industrial developments can be designed and managed to minimise noise and vibration generation and intrusion.

Objectives

1. The impacts of noise and vibration on residential development are to be mitigated through appropriate design and the use of insulation.
2. The operation of commercial and industrial developments is to protect the amenity of residential and public spaces.

Controls

a. An Acoustic Impact Assessment report prepared by a suitably qualified acoustic consultant is required to be submitted with all development applications for commercial, industrial, retail and community buildings, with the exception of applications minor building alterations.

b. Development is to comply with all relevant statutory regulations.

c. Where light industrial and commercial development adjoins residential development, the use of mechanical plant equipment and building services will be restricted and must have appropriate acoustic insulation.

d. Loading and unloading facilities must not be located immediately adjacent to residential development.

e. Retail premises must limit any spruiking and the playing of amplified music or messages so as not to disturb the amenity of other public and private places.

f. Air conditioning ducts shall not be situated immediately adjacent to residential development.

9.3 Bushfire Management

This section is based on the Planning for *Bushfire Protection Guidelines* prepared by the NSW Rural Fire Service.

Council's customer service department has copies of the Bushfire Hazard and Fire Prone Lands maps produced by the Rural Fire Service which identify hazard risk based on vegetation and slope classes.

AS 3959 currently sets out requirements for the construction of buildings in designated bushfire prone areas. It is referred to by the BCA as a Standard, which is, deemed-to-satisfy the Performance Requirements of that Code relating to bushfire protection.

Objectives

1. Consider bushfire protection and management issues in land use planning and development decisions, to provide a safe environment for the community.
2. Manage vegetation to reduce potential bushfire attack in the vicinity of habitable buildings.
3. Design and siting of habitable buildings to improve the survivability of the building and the protection of life during the passage of the fire front.
4. Provide safe access for emergency and other vehicles at all times.
5. Ensure water is available to landholders and emergency services to enable the defence of habitable buildings against bushfire attack.
6. Establish a maintenance regime for fire protection for the life of the habitable building.

Figure 9.3.1 Bushfire Prone Land - 01 January 2006

Controls

a. A Bushfire Threat Assessment report, prepared by a suitably qualified bush fire consultant, must form part of all development applications for lands identified as 'fire prone' on the Bush Lands Maps. This assessment is to be prepared in accordance with the Planning for Bushfire Protection Guidelines, prepared by the Rural Fire Service.

b. Assessment of threat from bushfire must examine impacts of the proposal both within and external to the site, including the capacity of the existing road network serving the site to accommodate traffic in emergency situations.

c. Preparation of an assessment of threat from bushfire should include reference to:

   i. NSW Rural Fire Service (RFS) - Planning for Bushfire Protection - a guide for land use planners, fire authorities, developers and home owners; and

   ii. Consultation with Council and RFS staff.

d. The recommendations of the Assessment report must be incorporated into the design of the proposed development.

e. Fire protection measures must be capable of being maintained by owners and users.

f. The design of a development in a fire prone area must provide for adequate emergency vehicle access to those parts of the site fronting a potential bushfire source.

9.4 Soil Management

Management of soil loss during construction is an important consideration in ensuring the continued health of the nearby waters of the Lane Cove River and groundwater. Sediments can also mobilize pollutants, which may have an adverse impact on natural bushland areas. It is essential that adequate soil management practices are followed during the development of the Corridor.

Objectives

1. To ensure that development does not contribute to environmental damage of waterways and bushland in and adjacent to Macquarie Park.

2. To minimise air and water pollution due to soil loss either through erosion or poor site practices.

Controls

a. Development is to comply with the City of Ryde DCP 2014.

b. Development is to be designed and constructed to integrate with the natural topography of the site to minimise the need for excessive sediment disturbance and prevent soil loss.

c. Effective site management and maintenance practices are to be followed to prevent soil loss.

d. Ensure that suspended Solid concentrations in stormwater leaving the site do not exceed more than 50 mg/litre.

e. An Erosion and Sediment Control Plan (ESCP), prepared by a suitably qualified environmental engineer, is required to be submitted in support of all development proposals requiring development consent under the Ryde Local Environmental Plan, (other than for minor building modifications) including: Demolition; Excavation; Trenching and Building.

f. The ESCP must make reference to the entire construction and post construction period, and all devices must be installed prior to commencement of any demolition or construction works on-site.

g. The ESCP is to be prepared in conjunction with the Site Stormwater Management Plan and as a minimum contain the following information:

   i. Property details;
   ii. Site analysis (contours, access points, location of existing vegetation/creeks or other features);
   iii. Extent and degree of clearing works and any excavations;
   iv. Conservation/protection of sensitive areas and trees either on site or adjoining development;
   v. Truck movements and access arrangements/routes (load limits);
   vi. Sediment and Erosion Control Measures (location and type of all control measures);
   vii. Excavation pit protection;
   viii. Material stockpile location and control method, waste management;
   ix. Pump out method (if required);
   x. Dust control measures to reduce surface or airborne movement of sediment from exposed areas of the site;
   xi. Hours of operation
   xii. Ongoing maintenance methods
   xiii. Risks, safeguards and safety precautions; and
   xiv. Contingencies.

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