



Part D - Locality Based DCPs/Precinct Plans

Chapter D13: Wollongong City Centre

Contents

1.	INTRODUCTION	4
1.1	This DCP Chapter	4
1.2	Strategic Priorities	4
1.3	Good Design and Design Excellence	6
2.	CITY CENTRE PRECINCTS & KEY SITES	7
2.1	City Precincts	7
2.2	Key Sites	8
2.3	Rail Arrival and Southern District	10
2.4	MacCabe Park	11
2.5	Western Crown and Keira Streets	14
2.6	Market Street West	16
2.7	Crown Street Mall	18
2.8	Market St to Harbour	20
2.9	Eastern Crown and Arts Precinct	22
2.10	Foreshore	24
3.	CONTEXT	26
3.1	Site Analysis	26
3.2	Solar Access to Public Spaces	27
3.3	Public Views	37
3.4	Permeability	42
3.5	Heritage	46
4.	BUILT FORM	47
4.1	General	47
4.2	Building setbacks – General	47
4.3	Front Setbacks at Ground Floor	48

4.4	Side and Rear Setbacks	51
4.5	Street Frontage Heights and Setbacks	52
4.6	Street Frontage Massing and Form.....	55
4.7	Street Frontage Modulation and Articulation	56
4.8	Tower Massing and Form	58
4.9	Wind Effects	60
5.	PUBLIC INTERFACE	61
5.1	Activity and Program.....	61
5.2	Active street frontages	63
5.3	Residential Frontages at Ground	66
5.4	Materials - Character	69
5.5	Materials – Reflectivity	69
5.6	Materials –Sustainable Buildings	70
5.7	Awnings	71
5.8	Landscaping and Greening on Structures	72
5.9	Publicly accessible spaces.....	74
5.10	Public Art	76
5.11	Acoustic Privacy	77
5.12	Car parking requirements.....	79
5.13	Vehicular Footpath Crossings	80
6.	energy MANAGEMENT	81
6.1	General.....	81
6.2	Energy efficiency	81
6.3	Energy supply	82
7.	Water Conservation.....	82

Figures

Figure 1 - City Precincts	8
Figure 3: Sun Plane diagram.....	28
Figure 4: relationship between sun plane provision and height of building controls	28
Figure 5: MacCabe Park Sun Plane	30
Figure 6: Civic Square Sun Plane.....	31
Figure 7: Market Square Sun Plane	32
Figure 8: Pioneer Park Sun Plane	33
Figure 9: Crown Street Mall Sun Plane	34
Figure 10: Market Square Sun Plane	35
Figure 11: Arts Precinct Lawn Sun Plane	36
Figure 12: Contextual views	37
Figure 13: Public Views.....	39
Figure 14: Pedestrian link – indicative sketch (Pig Alley).....	42
Figure 15: Through site link diagram	44
Figure 16: Existing and proposed through site links and lanes	45
Figure 17: Front setbacks at ground floor.....	49
Figure 18: (including 6 sections) Front setbacks at ground floor	50
Figure 19: side setbacks diagram.....	51
Figure 20: Street frontage height and setback diagrams	53

Figure 21: Street frontage heights and setbacks above street frontage height.....	54
Figure 22: The street frontage responds to the texture and scale of the street	56
Figure 23: Large commercial buildings are modulated to the street through the articulation of a street frontage which responds to the scale and detailing of adjacent buildings.	56
Figure 24: Street frontage heights and setbacks above street frontage height.....	58
Figure 25: Maximum residential tower floorplate dimensions.....	59
Figure 26: Maximum commercial tower floorplate dimensions.....	59
Figure 27: Towers with a length over 30m should be expressed as two vertical forms	60
Figure 28: minimum 15% difference between tower heights above ground level	60
Figure 29: The relationship between the uses and the public domain must contribute positively to a people's experience of the city by creating spaces that are attractive, interesting, comfortable, safe, functional and accessible for all.....	63
Figure 30: A positive building address to the street improves the functionality of the building and the quality of the public domain for people	64
Figure 31: Active frontages: improving the interface with the public domain	65
Figure 32: In the mixed use and residential zones residential development at ground contributes positively to the activation and safety of the street	67
Figure 33: Residential ground floors are raised for privacy	67
Figure 34: Individual entries activate the street.....	67
Figure 35: Residential at ground floor levels should be raised 0.6 - 1.4m above street level to provide visual privacy	68
Figure 36: Awnings encourage pedestrian movement and staying activities by providing shelter	71
Figure 37: Publicly accessible spaces are healthy and vibrant environments for people to enjoy.	74
Figure 38: Publicly accessible spaces are healthy and vibrant environments for people to enjoy.	75
Figure 39: Public art enhances the visual quality and cultural influence of the public domain. Artist credit: Mike Hewson	76
Figure 40: Artist credit: SMUG (demolished 2025)	76

DOCUMENT CONTROL

Rev No.	Adoption Date	In Force Date	Revision Details
	23 July 2008	30 July 2008	Adopted
1	15 December 2009	1 March 2010	Incorporated into Wollongong DCP 2009
2	21 November 2016	14 December 2016	Updates resulting from sustainability review
3	TBA	TBA	Revised DCP chapter - to implement actions of Wollongong City Centre Urban Design Framework 2020

1. INTRODUCTION

1.1 This DCP Chapter

1.1.1 Purpose of this Chapter

The Wollongong Development Control Plan (DCP) 2009 - Chapter D13 Wollongong City Centre outlines the aims, objectives, and development controls for development in Wollongong City Centre. This chapter supports the objectives contained in the Wollongong Local Environmental Plan (LEP) 2009 Part 8 Wollongong City Centre.

This Chapter is informed by:

- The vision for the City Centre – A City for People: Public Spaces Public Life (2016)
- The Wollongong City Centre Urban Design Framework (2020)

1.1.2 Where this DCP chapter applies

The Wollongong City Centre (City Centre) precinct includes to all land contained within the Wollongong City Centre as defined in the Wollongong LEP 2009 Wollongong City Centre Map.

This chapter provides the site-specific planning requirements for development within the City Centre. In the event of any inconsistency between this part of the DCP and any other part of the DCP, the provisions in this chapter of the DCP will prevail.

The determining authority will take the provisions of this chapter into consideration in determining all applications within the City Centre. Development applications must demonstrate consistency with the aims, objectives and development controls of this and other relevant chapters of the DCP.

1.1.3 Aims of this Chapter

The aims of this chapter are:

- 1) To build upon the Wollongong LEP 2009 by providing detailed, place specific objectives and development controls for development in the Wollongong City Centre.
- 2) To ensure development aligns with A City for People: Public Spaces Public Life (2016) and the directions and recommendations of the Wollongong City Centre Urban Design Framework (2020).
- 3) To guide a place-based development approach through a comprehensive set of objectives and development controls informed by the character of distinct precincts within the Wollongong City Centre.
- 4) To promote design excellence and quality urban design and architectural outcomes in Wollongong City Centre.

1.2 Strategic Priorities

This section outlines the vision for the City Centre in relation to key strategic documents and explains how the approach of this DCP Chapter will help support the City Centre vision.

1.2.1 The vision - A City for People: Public Spaces Public Life 2016

In the 21st century Wollongong City Centre will be a people-oriented, sustainable and livable city.

Wollongong City Centre is a thriving and unique Regional City, delivering a diverse economy and

offering a high quality lifestyle. The City Centre is nationally recognised as a livable city and is the place where people want to live, work and play.

1.2.2 Net Zero Wollongong: Climate Mitigation Plan

Net Zero Wollongong articulates the community's commitment to reach net zero carbon emissions by 2050.

1.2.3 The Wollongong City Centre Urban Design Framework 2020

The Urban Design Framework defines objectives and strategies across three key areas: Land Use; Built form and Public Domain & Connections.

Land Use

A vibrant and growing Regional City: Planning controls promote a diversity of uses to encourage a vibrant City Centre, day and night. Jobs and housing growth support Wollongong's role as a Regional City. Wollongong is an attractive place to live, work, visit and invest.

Built Form

An attractive and diverse city in a unique natural and historic setting: Clear planning controls preserve the unique character of Wollongong's precincts. Renewal at all scales is encouraged and this creates an interesting built fabric. Built form variety creates a recognisable city skyline that celebrates the natural setting and responds to human scale.

Public Domain & Connections

A green and walkable city: The city grid is clear and facilitates walking. Revitalised public spaces are a catalyst for growth and support an active, healthy community. A significant increase to the City's tree canopy contributes to a green and sustainable city.

1.2.4 Wollongong City Centre DCP

This DCP chapter has been developed with reference to the strategic priorities and recommendations identified above and to work in conjunction with the provisions of the Wollongong LEP 2009.

The role and application of this chapter has particular relevance to the following directions:

- 1) Prioritise jobs growth and establish a resilient commercial core;
- 2) Develop active commercial streets that respond to character;
- 3) Plan for a variety of housing to support a lively and inclusive city;
- 4) Grow a legible city that supports a distinctive and evolving character;
- 5) Strengthen and simplify planning controls to promote built form diversity in response to people and place;
- 6) Elevate the importance of design quality in the City Centre;
- 7) Strengthen the structure of the City through a permeable grid that prioritises pedestrians;
- 8) Create a green network of open spaces and a strong street tree grid for a sustainable, healthy and attractive city; and
- 9) Protect sunlight to key public spaces.

1.3 Good Design and Design Excellence

The *NSW Environmental Planning and Assessment Act 1979 (the Act)* requires that all development demonstrate “good design”. The objects of the Act section 1.3(g) include: “to promote good design and amenity of the built environment”.

Better Placed: An integrated design policy for the built environment of NSW (GANSW 2017) establishes what the NSW Government expects regarding good design and effective process across all built environment projects in NSW. *Better Placed* explains how we can raise quality, expectations, and standards, and establishes a set of seven objectives for the NSW built environment:

- 1) Better fit: contextual, local, and of its place
- 2) Better performance: sustainable, adaptable, and durable
- 3) Better for community: inclusive, connected, and diverse
- 4) Better for people: safe, comfortable, and livable
- 5) Better working: functional, efficient, and fit for purpose
- 6) Better value: creating and adding value
- 7) Better look and feel: engaging, inviting, and attractive

Built environment projects should be evaluated against these objectives at several stages throughout their development. *Better Methods: Evaluating Good Design (GANSW 2018)* sets out relevant criteria for each of the seven objectives.

Wollongong City Centre Urban Design Framework (UDF) defines the future character of the City Centre’s key precincts, streets and open spaces. It provides a framework through which the objectives of *Better Placed* can be tested and realised when designing development within the City Centre.

All developments in the City Centre are assessed under object 1.3g) of the Act, and are expected to demonstrate achievement of the 7 objectives of *Better Placed*.

1.3.1 Design Excellence Process Requirements

Consent for developments involving the construction of a new building or external alterations to an existing building in the City Centre is contingent on whether they achieve design excellence, as defined by the criteria set out in the Wollongong LEP 2009. To achieve design excellence an increased rigor must be applied to the resolution of the design.

Design excellence requirements in the Wollongong LEP 2009 include the requirements for review by the Design Review Panel. In addition to these minimum requirements, applicants are encouraged to seek review by the Design Review Panel at multiple stages through their application. Applications for development on Key Sites or sites over 5,000m² are strongly encouraged to seek pre-lodgment review by the Design Review Panel.

2. CITY CENTRE PRECINCTS & KEY SITES

Great places build on their unique characteristics to reflect shared community values and culture. Through this, they attract residents, workers, visitors, enterprise and investment to grow and enhance the city for the enjoyment of its people.

This Section describes the character of the different Precincts within the City Centre, including relating specific objectives to those Precincts and the Key Sites within them.

2.1 City Precincts

The City Centre is made up of a collection of precincts which provide a foundation for its ongoing renewal and revitalisation. These 'City Centre precincts' each have their own blend of history, culture, activity, built form and natural features, creating places with distinctive identities and functions.

Significant heritage places within these city precincts contribute to the quality and experience of the built environment. Shaped by their cultural, social, historical, political, economic, and physical contexts, heritage places provide meaningful links to our past and have a significant role to play in the future of our city.

2.1.1 General Objectives

Overarching objectives for all City Precincts include:

- a) The unique character of each Precinct is enhanced.
- b) New development has regard to the existing fabric and character of each Precinct in scale, proportion, street alignment, materials and finishes; and reinforces their distinctive attributes and qualities through the new built form.
- c) Heritage items and their setting are protected, enhanced and valued for their contribution to the City Centre's character.
- d) Public spaces, including streets, lanes and parks maintain a high level of amenity, especially regarding solar access, physical accessibility and greening.
- e) Active frontages address the public domain.
- f) Existing significant views and vistas to buildings, and places of historic and aesthetic importance, are protected.
- g) New development responds appropriately to the future desired context of the site.
- h) Development incorporates best practice sustainability in both design and operation.

2.1.2 General Development Controls

- 1) New development is to demonstrate how development aligns with the Precinct Character and Precinct Objectives as outlined in the City Precinct sections. Sites located where Precincts overlap should consider the Character and Objectives of both Precincts, as appropriate.

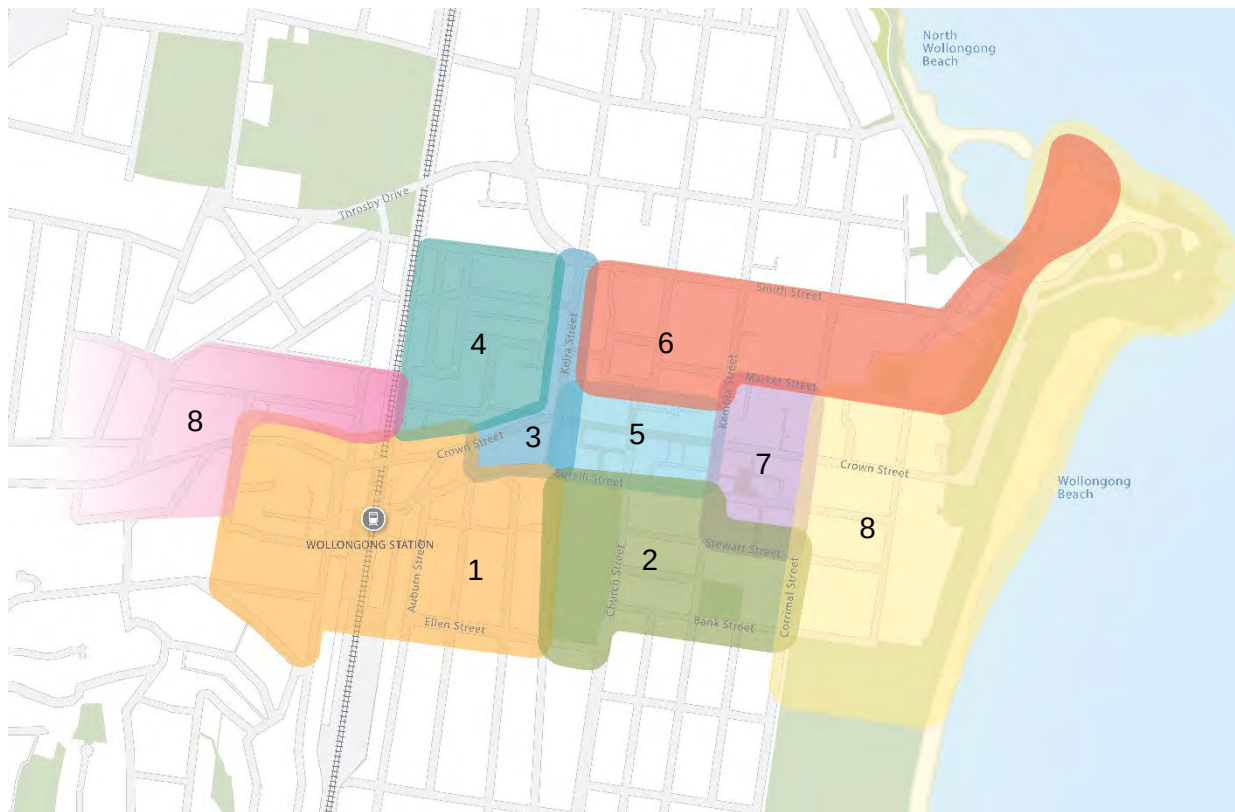


Figure 1 - City Precincts

1. Rail Arrival and Southern District
2. MacCabe Park
3. Keira and Western Crown
4. Market Street West
5. Crown St Mall
6. Market St to Harbour
7. Arts and Eastern Crown
8. Foreshore
9. Health

2.2 Key Sites

This Section includes objectives and controls relevant to all sites mapped as 'Key Sites' in the Wollongong LEP 2009. The objectives, controls and contextual information provided in this section will assist applicants and the determining authority in understanding the desired urban design outcomes for key sites in Wollongong City Centre.

Key Sites have an important role to play in the urban fabric of the City Centre. These sites act as catalysts for urban renewal and provide an opportunity to improve urban design and amenity outcomes for the greater public domain. The Wollongong LEP 2009 requires that development (valued over \$3,000,000) on a Key Site be reviewed by a design review panel.

The Design Review Panel will advise the assessment and determination authority as to whether the objectives and controls have been appropriately addressed.

2.2.1 General Objectives

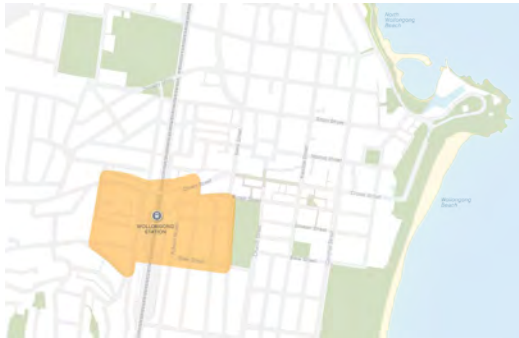
Overarching objective for all Key Sites include:

- a) To ensure appropriate site planning resolution through a detailed Urban Design and Architectural analysis and design process
- a) To achieve high quality urban design and amenity outcomes for the City Centre
- b) To protect solar access to the public domain including key open spaces
- c) To protect public views and street vistas
- d) To protect all trees and significant landscape elements contributing to the public domain
- e) To respond appropriately to the future desired context of the site
- f) To ensure appropriate distribution of height, especially regarding the positioning of towers
- g) To ensure appropriate public domain outcomes are delivered on the site, including mid block links, new streets and lanes

2.2.2 General Development Controls

- 1) Key Sites must be developed in accordance with the objectives and character statement for the relevant City Precinct/s, including the delivery of public domain improvements.
- 2) A detailed urban design study is required for all Key Sites.

2.3 Rail Arrival and Southern District



Precinct Location

2.3.1 Character

This precinct is the western entrance to the City Centre and development supports the City's role as a vibrant and growing Regional City. The precinct is an inviting, high quality and well-connected transport hub, with strong pedestrian links to the commercial centre, MacCabe Park, the coast and the health precinct.

Buildings and public domain along Burelli Street and interfacing the Rail Corridor support this precinct by providing high-quality urban design outcomes that contribute to a positive first impression of Wollongong. Burelli Street is the city's premier location for A-grade office development, showcasing the highest quality, new office buildings in a well connected and high amenity location.

East-west permeability for pedestrians and cyclists connecting the Station to MacCabe Park breaks up long north-south blocks offering high levels of accessibility and complimenting the role of Burelli Street as the City Centre's key public transport corridor.

Moving south from Burelli St, the precinct offers an eclectic mix of uses and scales. The diversity of the existing built form is maintained and complemented by new development. New buildings transition sympathetically from the large-scale commercial office towers along Burelli Street to mixed uses and residential buildings of a range of scales.



Concept perspective: The Southern District supports a range of uses

2.3.2 Objectives

- a) Improve pedestrian experience by increasing permeability from Station through to MacCabe Park and the commercial core
- b) Provide a high quality public domain
- c) Integrate vegetation into both the public and private domain to increase canopy cover and amenity and add colour to the streets
- d) Ensure excellent solar access to Lowden Square
- e) Promote 'A-grade' office development along Burelli Street to support Wollongong City Centre's role as the core of the Region's commercial activity
- f) Create a positive arrival experience with high-quality urban and architectural design
- g) Promote and retain diversity of land uses and built form throughout the mixed use area
- h) Open up views from the station through to MacCabe Park
- i) Retain views to the escarpment, including along the Rail Corridor

2.4 MacCabe Park



Precinct location

2.4.1 Character

MacCabe Park is approximately 5.6 hectares in size and is bounded by Burelli Street to the north, Ellen Street to the south, Keira Street to the west and Church Street to the east. MacCabe Park has been a formal city park since 1929 and has played host to a range of utility, sporting and recreational uses since that time. Since the 1970s Council has been gradually acquiring properties along Keira Street and Ellen Street to expand the Park.

MacCabe Park is the City Centre's premier park. It is a significant green open space which is integrated with the commercial and retail core and surrounding residential areas through a network of high-quality streets and lanes. The Park is a focal point for everyday outdoor activity, active and passive recreation, festivals and informal occasions. The Park is emerging as a destination for evening visitation, with festival style lighting and a growing number of planned events and activities.

MacCabe Park is a sustainable landscape acting as a green filter for the city. Development surrounding the Park provides a strong urban identity built on the quality of the streets and building facades. The Park's surroundings provide passive surveillance, good public transport, facilities and services. The Park is framed by low and medium density buildings to the south and east, stepping up to the higher density residential through the rail arrival and southern precinct and the taller commercial towers of Burelli Street. Integrated transport routes along Burelli Street facilitate a hive of activity, helping to establish a series of exciting, comfortable and activated places to socialise.



Concept perspective: MacCabe Park will be a focal point for the City

2.4.2 Objectives

- a) Ensure MacCabe Park is welcoming, accessible and functional for all city users providing breakout areas for office workers, spaces for reflection, urban sports opportunities, and infrastructure that supports events, festivals and activities.
- b) Renew connections and enhance sightlines to the park.
- c) Maintain and open up views from the park to the escarpment and foreshore
- d) Prioritise the amenity of the park and its users by maintaining solar access in alignment with the sun plane provisions.
- e) Maintain views to the sky from the park by creating a transition in height away from the park edges.
- f) Create a green network by linking tree-lined streets to the park and other open spaces
- g) Residential and commercial development around the park provides a strong and active interface day and night, creating a safe and welcoming space.
- h) Any redesign of the park retains the heritage listed Canary Date Palms and responds to their existing definition of space and role as landmarks.
- i) Stormwater is captured and filtered through the park's landscaping.
- j) Pedestrian and cycle paths trace key desire lines.
- k) Views and connections within the park are clear and open.
- l) Significant heritage structures are retained and interpreted through the park's landscape including: Canary Island Date Palms (item 6587), Monument & Memorial Arch (item 6324)



Activations and events add to a rich experience of the Park



The Park is safe for all at night



Concept perspective: Medium Density Residential Buildings make up the eastern area of the Precinct. Limited commercial offerings are provided as needed to support the Precinct.

2.5 Western Crown and Keira Streets



Precinct location

2.5.1 Character

Western Crown and Keira Streets contribute to a regionally significant retail and entertainment precinct.

This precinct hosts a range of small and medium offers, including selected late-night food and beverage offers.

The built character of the street is a result of the small lot subdivision patterns from 1800s. Clusters of fine-grain heritage and character buildings in the form of one and two-storey interwar buildings line Crown and Keira Streets.

Grand buildings of up to 3 storeys articulate key corners such the former Crown Hotel, former Marcus Clark Building, The Illawarra Hotel and former National Mutual Life Assurance Building.

Detailing of the existing buildings utilise traditional materials such tiles and brickwork with molding and contrasting paint schemes to vertically articulate the facades and bring the buildings down to a human scale.

Pedestrian movement and amenity are prioritised with wide footpaths, through-site links, integrated seating, continuous awnings and accessible at-grade entrances, creating a pleasant walking experience linking the City to the station and health precinct.



Pedestrian spaces are high amenity



Outdoor dining enlivens the street



Concept perspective: Western Crown Street will be a pedestrian friendly, active high street with mixed use development set back above fine grain retail street frontages

2.5.2 Objectives

- a) Reinforce and emphasise the historical street proportions and street wall of main street shop typologies along Keira Street.
- b) New development preserves and responds to the existing rhythm typical of a traditional retail high-street including low scale street walls, continuous awnings, generous shopfront glazing, narrow frontages and multiple entrances at-grade.
- c) Continuous built edges and generous setbacks frame views north-west to the escarpment and create a street open to the sky.
- d) New development complements the existing landmarks on the northeast corner of Market and Keira Streets (formerly the National Mutual Life Assurance Building) and the northwest corner (Illawarra Hotel).
- e) Shopfronts are to be expressed at a maximum width of 6m wide to retain fine grain character of the Precinct.
- f) The heritage listed row of early federation shops is conserved and informs the character of the surrounding precinct.
- g) Traditional shop facades are conserved.
- h) Where traditional façade elements are reconstructed this is based on documentary evidence.
- i) Small tenancies continue to host local offers that are valued by the community and contribute to the vibrancy of Wollongong.
- j) Encourage further agglomeration of active uses (day and night) such as boutique

restaurants, specialty shops, grocery stores, clubs and pubs (that characterise land north and south of Victoria Street).

- k) Shopfronts are active and clean with simple signage, clear glazing and open-able facades.
- l) Integrate vegetation into both the public and private domain to increase canopy cover and amenity and add colour to the streets.
- m) Maintain the amenity of the street by maximising solar access and minimising wind effects from taller buildings.
- n) Preserve the curvature of Crown Street to the point where it extends west after Keira Street.

2.6 Market Street West



Precinct location

2.6.1 Character

The precinct is an important place of local commerce and thrives as a supplementary commercial precinct in the north west of the City Centre. High density residential on the top of the hill supports this precinct by bringing a transition of workers, visitors and residents day and night. Small and interesting food and beverage offers are integrated into the commercial fabric of the precinct, and connect to the night-time hub of small bars and eateries on Keira Street and Crown Lane.

Opportunities to provide new public open spaces are integrated into the redevelopment of the neighbourhood, which together with tree-lined, landscaped streets provide amenity and connectivity throughout, and contributes positively to streetscape character. Redevelopment of larger blocks considers the opportunity to introduce new pedestrian paths to break up long blocks, connecting people with new open spaces and to upgraded station connections off Crown Street.

Mid-scale office development addresses the street providing a continuous built edge with awnings. A strong street wall of up to four storeys responds to the heritage buildings at the intersection of Keira and Market.

Views to the escarpment and to the St Michael's Cathedral Spire from this precinct are retained and accentuated due to their significance.



Concept perspective: Market Street will continue to develop as a vibrant commercial services precinct with new open space and improved public domain



Landscaped urban spaces provide a place for casual interaction



Contemporary architecture complements heritage buildings



Smaller professional office suites are clustered in this area

2.6.2 Objectives

- a) New development includes small to medium offices buildings to complement and support the varied employment functions of the area.
- b) High density residential apartment buildings maintain slender tower forms to maintain significant public views west to the escarpment and St Michael's Cathedral spire.
- c) Generous setbacks are maintained along the northern side of Market Street to allow for wider footpaths and increased street tree planting.
- d) Where possible, long blocks are made more permeable by new pedestrian through-site links.

2.7 Crown Street Mall



Precinct location

2.7.1 Character

Crown St has been the city's high street for over a century and remains a significant contributor to the commercial and social life of the city. Crown St Mall is an urban event space, and supports activity day and night through a complementary mix of leisure, entertainment, education, arts and music.

The Mall is the pedestrian spine of the city with laneways running north-south to connect to surrounding streets. Views from the Mall to the Foreshore and Escarpment are key to orientation and appreciation of the natural landscape.

East of Church Street, clusters of two storey character buildings promote a fine grain, human scale. A variety of ornamented parapets provide visual interest and tell the story of Crown Street's commercial history. West of Church Street larger retailers provide open and active facades which offer multiple entry points and promote pedestrian activity on their edges and through larger sites.

A defined street frontage height of up to two-storeys along the length of the Mall, continuous built edges and generous setbacks above street wall frame views and create a street that is open to the sky.

The materiality of the street is varied and colourful, ranging from the sandstone of the Wesley Uniting Church and seating elements throughout the mall, through decorative tiled, rendered and painted shopfronts to clean and crisp commercial office lobbies.



The pedestrian space is active day and night



Lanes are activated with dining and bars



Small offers bring variety and activity



Concept perspective: New development on Crown Street will be set back to protect the fine grain character of Crown Street Mall, and preserve solar access to the open space

2.7.2 Objectives

- a) Views to the escarpment and foreshore are preserved.
- b) Views of St Michael's Square are maintained from Church Street and the mall looking north.
- c) Solar access to the Mall is protected in alignment with the sun plane provisions in the Wollongong LEP 2009.
- d) The Mall is prioritised as an active urban event space.
- e) Large format retail buildings are redeveloped to respond to the fine grain context.
- f) Heritage listed buildings are conserved, small infill development is encouraged and all new development responds to the established heritage scale, fine grain character
- g) The materiality of new developments responds to the vibrant materiality, colour and facade treatment of the historic buildings and contemporary artworks.
- h) Commercial and retail uses are prioritised.
- i) Residential uses are setback from the street frontage.
- j) Service and vehicle entries are consolidated on rear laneways.

2.8 Market St to Harbour



Precinct location

2.8.1 Character

This precinct includes the area of the city's first town plan of 1834. The plan integrated topography, street layout, public buildings and places and lot subdivision into one cohesive design. The layout connects Crown Street to Wollongong Harbour via an orthogonal street grid centred on Market Street and punctuated by St Michael's Cathedral Square. The street layout has heritage significance and includes areas of high archeological potential.

A network of heritage items is connected visually and physically across the precinct. Each item retains critical significance for the identity and character of Wollongong City, both individually and in connection with the other sites. Market Square's formal presentation and relationship with surrounding residential buildings is unique in the City Centre.

Views and pedestrian connections from the Square down to the Harbour and Breakwater Lighthouse connect the City Centre with its economic history.



Concept perspective : New development provides a strong built edge, framing the view up to the Courthouse and St Michaels Church.



Pedestrian paths are green and comfortable



Existing heritage fabric is retained and revealed beside contemporary additions



Heritage Buildings are celebrated with adequate curtilage and quality activation. Location: Joynton Ave Creative Precinct: Peter Stutchbury Architecture in association with Design 5 Architects

2.8.2 Objectives

- a) Maintain the established moderate scale and civic nature of developments surrounding St Michael's Square, Wollongong Courthouse and Wollongong Public School.
- b) Preserve the significant view looking West along Market Street to St Michael's Cathedral and east along Market Street towards the coast.
- c) Maintain the courthouse clock tower and Cathedral steeples as the highest structures on the hill.
- d) Retain the established residential character and moderate scale of development on land surrounding Market Square.
- e) Solar access to Market Square is protected in alignment with the sun plane provisions in the Wollongong LEP 2009.
- f) Enhance Market Street through public domain improvements that build upon the notable existing landscaping and mature vegetation
- g) Active transport links along streets are to be improved.
- h) Improve pedestrian permeability through the provision of new through block links where appropriate.
- i) The historic, visual and physical link provided by Harbour Street between Market Square and Wollongong Harbour should be preserved and reinforced.
- j) Conserve and manage the archaeological resources that are likely to remain throughout this precinct, which provide evidence of ongoing Aboriginal occupation and cultural heritage and the earliest period of colonial invasion and occupation in the Illawarra and the beginnings of the Township of Wollongong.

2.9 Eastern Crown and Arts Precinct



Precinct location

This precinct is the city's cosmopolitan civic and office core. The Arts Precinct is a welcoming and active city plaza with high amenity and a range of offers for city workers, residents and visitors. Venues including bars, live performance venues and restaurants activate the area at night.

Interconnected laneways, and streets and buildings, celebrate art, music and culture through the installation of public art. The Arts Precinct lawn provides a key passive recreation and event space, activated by surrounding cultural institutions such as the Town Hall, Gallery and IPAC.

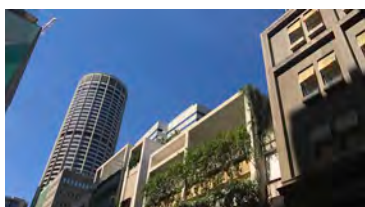
Lower Crown Street is defined by clusters of heritage listed civic and commercial buildings. The high-quality form and materiality of the building facades is complemented by the amenity of the public domain.

Mature trees line Burelli and Crown Streets and the Arts Precinct, and are integral to its public character.

Burelli Street provides a prestigious front door to the commercial core of the city. A-grade commercial buildings define the City's commercial centre and support the economy of the Regional City. Burelli Street is a key green street with generous ground setbacks, mature canopy trees and streetscape upgrades that prioritise pedestrian movement and staying and interface well with the public transport. Generous foyers and forecourts at ground are an integral part of the commercial feel of the street, incorporating internal portions of public domain and offering opportunities to meet and interact.

Towers are slender and distributed to maximise solar access, preserve key view corridors and encourage view sharing.

Canopy and vegetation cover is increased with efforts on both private and public land to achieve canopy targets. Tree-lined streets with ground setbacks frame views along streets, generous well-lit footpaths create safe and pleasant walking routes in this precinct.



Office towers contribute to a consolidated commercial precinct



The public domain is welcoming and activated



The pedestrian network is alive with greenery and artwork. Artist credit – 'Heaven' by Peter McGregor



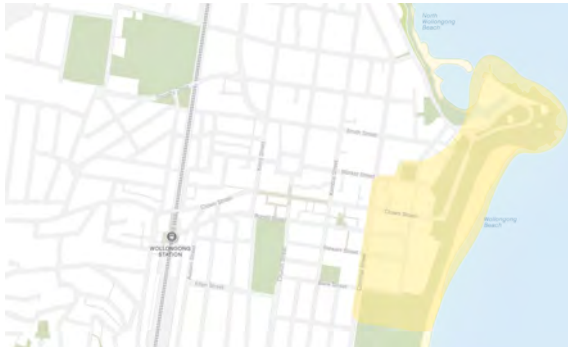
Concept perspective

Active laneways support the integration of commercial and civic uses across this precinct

2.9.1 Objectives

- a) Art and Culture are celebrated in the public domain
- b) Buildings addressing Burelli Street have a high quality commercial or civic character.
- c) Building envelopes maximise winter solar access to the public domain
- d) Building envelopes sensitively transition to heritage and character items.
- e) Undesirable wind action on prominent public and private open spaces is alleviated
- f) Existing Heritage and character buildings along east Crown Street between Kembla and Corrimal Streets are conserved and activated.
- g) Ground and first floor frontages of new buildings along East Crown Street from Kembla Street to Corrimal Street are sympathetic to the late 19th Century Victorian and Italianate shop front styles without replicating such styles.
- h) The appearance of building external finishes and colour promotes a sense of unity and character that consolidates the heritage environment.
- i) Shop signage and lighting is sympathetic to the heritage context and is not installed above awning height.

2.10 Foreshore



Precinct location

2.10.1 Character

The foreshore precinct is characterised by its natural setting. The continuous coastal edge and sand dune environment are complemented by the high-quality landscape design of Lang Park and connective public domain of the adjacent, heavily treed streets.

Active transport networks are well maintained and used. Public transport links the precinct to other key city areas. Pedestrians are prioritised throughout the precinct, especially at the foreshore edge. Entertainment and sporting venues are integrated with Lang Park and provide flexible venues for play, training, festivals and relaxation.

The locality has a residential, leafy character with generous side setbacks and landscaping. Residential development in this precinct is high quality and of slender proportions, preserving views in both directions to the escarpment and ocean. Mixed civic, education and retail uses create a mixed-use precinct which serves residents and visitors alike.

Long views north to Flagstaff Hill, south to the steel works and Port Kembla and west to the escarpment, are significant to the identity and character of the Precinct.



Concept perspective : The foreshore will become an important gathering place with a variety of active and passive uses



Arrival at the beach is a focal point



The edges of the public domain are activated



Parkland connects seamlessly to the beach as a continuous, active space

2.10.2 Objectives

- j) Development responds to and enhances the natural setting
- k) Views to the escarpment, foreshore and significant places are preserved.
- l) Buildings have a landscape setting with appropriate side setbacks to allow view sharing for other buildings and pedestrians.
- m) Tourism, recreational and cultural uses and activities are provided in appropriate locations.
- n) Redevelopment of large format facilities opens up views and pedestrian links to the foreshore.
- o) Large city blocks are made more permeable for pedestrians with new through block links
- p) Architectural diversity is increased through smaller site development
- q) Development in the vicinity of the avenue of Heritage listed Norfolk Pines (item 6590) along Marine Drive is sensitive to their role as landmarks
- r) Development along the foreshore is small footprint and low impact, reflecting the area's sensitive coastal and flood prone environment.
- s) The foreshore area and open spaces are protected from detrimental overshadowing.

3. CONTEXT

This section demonstrates in detail how the land use and built form requirements of the Wollongong LEP 2009 are to be realised through development. The objectives and controls are supported by the contextual information presented in the previous section – 2. City Precincts and Key Sites.

3.1 Site Analysis

Site analysis identifies the key elements of the site and its context. By identifying and describing the physical elements of the locality and the conditions that impact upon the development site, opportunities and constraints for development can be understood and addressed in the design.

A good site analysis underpins the design response to create a harmonious and seamless relationships with a site's surroundings and characteristics.

Site planning will then coordinate responses to issues relating to noise, overshadowing, safety, access, circulation, place, green cover, native habitat, views, privacy and energy consumption.

Site analysis should inform clear strategies and principles about how the design will respond to elements of site and context.

Site Analysis requirements are set out in Chapter A1 of the Wollongong DCP.

The following diagrams and notes are to assist in the development of site analysis for development in the City Centre.



Broad context: where does the site sit in relation to major natural and human-made elements? How does it relate to the Foreshore and Escarpment, the City Centre or City Fringe, topographic high or low points, and environmental conditions?

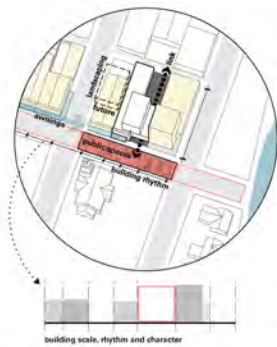


Precinct Character: How should the historic context inform the development? How will the development respond to the character of the precinct and contribute to its sense of place and history, its role in the city, the distinctive patterns of development and landscape, and its uses and activity.

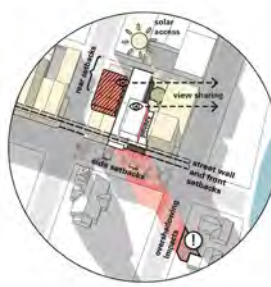


Urban structure: What role does the site play in the multiple layers of the city's structure? How will the development connect with the historic street grid and subdivision, the movement networks and major infrastructure systems, the open spaces, significant landscape and major public realm elements, the green networks and the important view corridors.



**Urban grain and massing:**

What is the pattern and scale of the surrounding streets, blocks and lots, the rhythm of building frontages to the street and the relationship between built form and landscaped areas. How will the development contribute to this scale and rhythm?



Amenity: What are the existing challenges to providing amenity to the new development? What amenity impacts to neighbouring developments and nearby public domain need to be considered? How will access to daylight, privacy, and view sharing be ensured for all?



Materiality: What of the natural and built context will influence the materiality of the development? How will the contextual environmental conditions impact sustainable material choices? What amenity impacts need to be considered when defining the material palette.



3.2 Solar Access to Public Spaces

Good solar access is a key contributor to the amenity of public spaces. Public Spaces include all parts of the public domain including parks, plazas, building forecourts and footpaths. Good solar access ensures that public spaces are inviting and well used, and that landscape elements are healthy and resilient.

Solar access to public spaces is protected through two key mechanisms; Sun Planes and No Additional Overshadowing (NAO) controls. General controls may also stipulate how much of a space must receive sunlight for how long, and during what part of the day.

Sun Plane and NAO controls establish both dates and time periods to protect spaces. Generally, the times for protection are in the middle of the day when most use occurs.

Direct sunlight access to parks and places is important throughout the year. The dates used to generate these controls are set at the most conservative sun angles, which ensures protection throughout the remainder of the year when the sun is higher in the sky.

The dates and times of protection vary for each place according to the type of activities occurring in that place that benefits from sunlight, when those activities are likely to occur, and existing levels of sunlight and overshadowing.

3.2.1 Objectives

- Protect and improve sunlight access to important public spaces throughout the year, and during periods in the day when they are most used.
- Ensure city streets and the broader public domain receive sunlight to a high level of amenity.
- Ensure that sunlight to new and planned future important public parks and places are protected by solar access controls.

- d) Ensure the healthy growth of trees, grass and other vegetation in the public domain.

3.2.2 General Development Controls

- 1) New public spaces must be protected from overshadowing. When redeveloping sites to create new public spaces 70% of the open space provided to receive a minimum of 4 hours continuous sunlight between 9am and 3pm on 21 June.
- 2) Outdoor communal open space provided in association with commercial developments must be designed to ensure that at least 50% of the open space receives a minimum of 2 hours continuous sunlight between 11am and 2pm on 21 June.
- 3) An overshadowing analysis is to be submitted with all development applications for new buildings or extension to existing buildings. The analysis must indicate the existing and proposed condition at 9am, 12 noon and 3pm on 14 April and 21 June. This can be in the form of a traditional set of overshadowing plans or sun-eye diagrams. If required, the consent authority may request additional detail to assess the overshadowing impacts.

3.2.3 Sun Planes

Sun planes are an arrangement of planar surfaces that are set at the same angle as the sun at specific dates and times.

The Sun plane defines an upper building height limit for the land impacted by the plane. Sun Plane controls are expressed as contoured planes extending between node points on the ground, and rays extending upward from those node points. The heights of the contours are measured in Australian Height Datum (AHD), unlike Height of Building limits (HOB) which are measured in metres above natural ground.

Development on land is prohibited if the development results in any part of the building projecting above the sun plane. Where an LEP height of building limit exists which sits lower than the Sun Plane, the lower height applies.

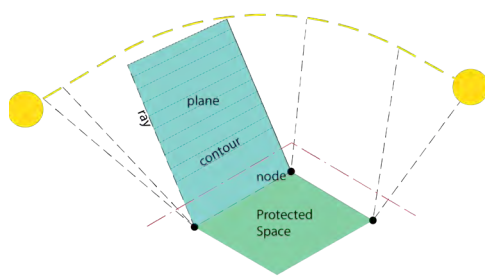


Figure 2: Sun Plane diagram

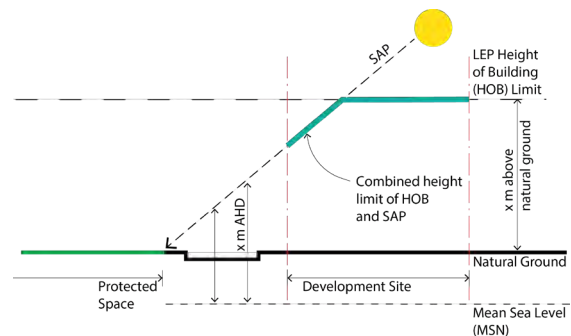


Figure 3: relationship between sun plane provision and height of building controls

Wollongong LEP 2009 establishes Sun Planes for 7 public spaces. The Sun Plane Protection Open Spaces and the set-out parameters of the sun planes are detailed in the Wollongong LEP 2009. To determine the actual height of a Sun Plane at any point, the description of the Sun Plane in Wollongong LEP 2009 prevails over the diagrams in Wollongong DCP 2009, in the case of an inconsistency.

Table 1: Sun Plane Protected Spaces

	Park or Place	Intended period of protection	Primary SP date	Primary SP times	SP Extension dates and times
1	MacCabe Park	12noon - 2pm, all year	21 June	2pm	23 September, 21 December, 2pm from Node D
2	Civic Square	11am - 3pm, all year	21 June	3pm	23 September, 21 December, 11am from Node A, 3pm from Node D
3	Market Square	12noon - 2pm, all year	21 June	2pm	23 September, 21 December, 2pm from Node C
4	Pioneer Park	12noon - 2pm, all year	21 June	2pm	23 September, 21 December, 2pm from Node C
5	Crown Street Mall	12noon - 2pm, all year	21 June	2pm	23 September, 21 December, 2pm from Node D
6	Church Street (Mall)	11am - 1pm, all year	21 June	1pm	23 September, 21 December, 11am from Node A, 1pm from Node C
7	Arts Precinct Lawn	9am - 3pm, all year	21 June	3pm	23 September, 21 December, 9am from Node A, 3pm from Node D

The contour diagrams on the following pages provide an indication of the maximum height above which development is prohibited for land affected by sun planes. The diagrams include height contours which set the height limit (RL AHD) across the impacted sites. To determine the actual height of a sun access plane at any point, the description of the sun planes in the Wollongong LEP 2009 is to be used.

An indicative digital model of the sun protection controls can be provided by Council.

3.2.4 Sun Plane Control assessment requirements

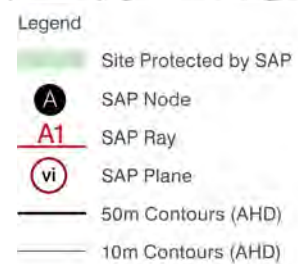
- 1) Development applications for sites impacted by a Sun Plane are to demonstrate compliance by providing:
 - i. an envelope analysis showing that the proposed building form does not extend above the relevant sun plane; and
 - ii. hourly diagrams in plan that show the shadow impact of the proposal on the protected open space on the primary sun plane dates and the sun plane extensions dates for the relevant intended period of protection. The diagrams must:
 - illustrate accurately the potential overshadowing of the proposed development;
 - be drawn to an appropriate scale;
 - reflect the topography of the site context and its impact on the length of shadows
 - use different colours or styles to clearly differentiate between existing and proposed shadows;
 - indicate the outline of the protected space consistent with the surveyed node points described in the Wollongong LEP 2009
 - indicate and use the true north point (not magnetic north).

1. MacCabe Park

Intended period of protection	12 noon - 2pm all year
Primary Date	21 st June
Primary Plane Time	2pm
Details	Comprised of 4 Nodes, 6 Planes and 7 Rays
Secondary Dates	23 rd September, 21 st December
Secondary Times	2pm from Node D



Figure 4: MacCabe Park Sun Plane



2. Civic Square

Intended period of protection	11am - 3pm all year
Primary Date	21 st June
Primary Plane Time	3pm
Details	Comprised of 4 Nodes, 8 Planes and 9 Rays
Secondary Dates	23 rd September, 21 st December
Secondary Times	11am from Node A, 3pm from Node D



Figure 5: Civic Square Sun Plane



3. Market Square

Intended period of protection	12 noon – 2pm all year
Primary Date	21 st June
Primary Plane Time	2pm
Details	Comprised of 3 Nodes, 5 Planes and 6 Rays
Secondary Dates	23 rd September, 21 st December
Secondary Times	2pm from Node C



Figure 6: Market Square Sun Plane



4. Pioneer Park

Intended period of protection	12 noon – 2pm all year
Primary Date	21 st June
Primary Plane Time	2pm
Details	Comprised of 3 Nodes, 5 Planes and 6 Rays
Secondary Dates	23 rd September, 21 st December
Secondary Times	2pm from Node C



Figure 7: Pioneer Park Sun Plane



5. Crown Street Mall

Intended period of protection	12 noon – 2pm all year
Primary Date	21 st June
Primary Plane Time	2pm
Details	Comprised of 4 Nodes, 6 Planes and 7 Rays
Secondary Dates	23 rd September, 21 st December
Secondary Times	2pm from Node D



Figure 8: Crown Street Mall Sun Plane



6. Church Street (Mall)

Intended period of protection	11am – 2pm all year
Primary Date	21 st June
Primary Plane Time	1pm
Details	Comprised of 3 Nodes, 7 Planes and 8 Rays
Secondary Dates	23 rd September, 21 st December
Secondary Times	1am from Node A, 1pm from Node C



Figure 9: Market Square Sun Plane

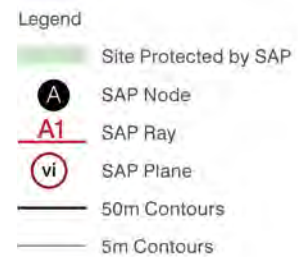


7. Arts Precinct Lawn

Intended period of protection	9am – 3pm all year
Primary Date	21 st June
Primary Plane Time	3pm
Details	Comprised of 4 Nodes, 8 Planes and 9 Rays. Set out at edge of raised area.
Secondary Dates	23 rd September, 21 st December
Secondary Times	9am from Node A, 3pm from Node D



Figure 10: Arts Precinct Lawn Sun Plane



3.3 Public Views

Views contribute to the understanding of a place's context and character. Views towards the escarpment and ocean reinforce an understanding of Wollongong City Centre's natural setting.

Views to the south towards the Port Kembla Steelworks and north-east towards the Harbour are important in referencing the City's industrial, "working" character.

Views to special places or buildings within the City Centre, such as the Cathedrals and Courthouse, reinforce an understanding of the City's heritage and act as landmarks, contributing to the legibility of the city for the public.



Figure 11: Contextual views



Views can be appreciated in different ways:

- *Composed views to significant features:* for example, the site of St Michael's Cathedral sits where Market and Church Streets intersect at the crest of the hill, meaning it is intended to remain visible from the north, south, east and west extents of the city grid



Composed views: Market and Church Streets align to views of St Michael's Cathedral

- *Contextual views of significant landscape:* these may be available as glimpses between buildings (as in the foreshore and ocean) or retained as continuous features of the skyline (as in the escarpment ridgeline).



Contextual Views: the Escarpment is seen along streets and between buildings

- *Silhouette views:* A silhouette is the outline of a building against the sky. The silhouettes of many buildings are significant and contribute to the identity of the city and its skyline.



Silhouette views: the Courthouse clock tower is framed against the sky

Within the City Centre, the original 1834 street grid and its 1850s and 1900s additions capture and enhance significant views to key locations including:

- St Michael's Cathedral
- Wollongong Courthouse clock tower
- MacCabe Park
- Market Square
- Breakwater Lighthouse

Other important views captured along streets, and between and over buildings include those to:

- Lang Park (and associated Norfolk Pines)
- City Beach and the ocean and the 5 islands beyond
- The continuous ridgeline of the Illawarra escarpment, including the significant high points of Jumbulla/Mount Kembla (west- south-west), Djeera/Mount Keira (west-north-west) and Kurimul/Brokers Nose (north-west).
- Port Kembla and the Ports area



Figure 12: Public Views

Legend

- * Selected key locations
- Framed views along streets
- - -> Distant views to the Illawarra Escarpment
-> Views to be opened up through redevelopment

3.3.1 Objectives

- a) To maintain and enhance views from the City Centre to the foreshore, escarpment and significant built form.
- b) To enhance views along city streets.
- c) To protect silhouettes of the tops of significant buildings or structures as seen against the sky, escarpment or foreshore.
- d) Ensure the escarpment remains the dominant feature of the skyline.

3.3.2 Development Controls

- 1) Existing views shown in Figure 13 are to be protected to the extent that is possible within the context of the existing LEP height of building and building separation controls.
- 2) Site analysis must identify relevant public views, taking into account existing topography, vegetation and surrounding development.
- 3) The massing and arrangement of the skyline and existing building silhouettes must be carefully considered and proposed development must be designed so that its appearance complements the city skyline.
- 4) The proposed development must demonstrate how it achieves the view objectives and controls.
- 5) The redevelopment of sites with potential to open a blocked view shown in Figure 13 must take into account the restoration of that view.
- 6) Building forms are to be aligned to maximise view corridors between buildings.
- 7) Remove or avoid installation of built elements that obstruct significant views.
- 8) Carefully consider street tree selection to maintain views along streets in Figure 13.
- 9) Keep under-storey planting low where possible to maintain clear sightlines along streets for pedestrians.
- 10) The impact of development on views to the ridgeline of the Escarpment from Flagstaff Hill are to be tested from view point 34° 25' 19.32"S 150° 54' 33.71"E (Captain Cook Concrete Memorial)
- 11) The height of development on the St Michael's Cathedral Square site must not exceed the existing ridgeline of the cathedral (RL 43.45 AHD).
- 12) The view and silhouette of the St Michael's Cathedral Square against the skyline at any point east of the Cathedral looking west along Market Street must be maintained. Future developments that propose to penetrate this view will not be permitted.
- 13) Development surrounding St Michael's Cathedral Square must be designed so as not to compromise the existing views appreciated to and from the site.
- 14) The view and silhouette of Wollongong Courthouse Clock Tower against the skyline at any point east of the Courthouse looking west along Market Street must be maintained. Future developments that propose to penetrate this view will not be permitted.
- 15) Signage or building elements which distract from the subject of key views are not permitted.



Views to Port Kembla steelworks down Corrimal Street



Views to Escarpment from Flagstaff Hill



Views to Breakwater Lighthouse down Harbour Street



Views to MacCabe Park down Bank Street



View to Escarpment down Bourke Street



Views to Ocean down Crown Street

3.4 Permeability

Great places are walkable – this means they are designed, built and managed to encourage people of all ages and abilities to walk or cycle for leisure, transport or exercise. This requires a fine grain urban form and land use diversity. Places that demonstrate these characteristics promote healthy, active lifestyles and social interaction.

Permeability describes the ease to which people can move through the urban environment. The street structure provides the framework for a permeable city, and this is supported by finer grain connections created by pedestrian links including: through- site links; through-block links; laneways; arcades; and shared zones.



1. Existing laneways are retained and enhanced
2. Wider spaces provide opportunities for people to dwell
3. Narrow width of existing laneway creates an intimate and human-scale pedestrian experience
4. Presence of public art adds visual amenity and helps foster a "lived-in" atmosphere
5. Retail activation provides activity and entices pedestrian traffic
6. Windows opening onto laneway provide passive surveillance.
7. Clear visual connection through the laneway identifies it as a pedestrian connection and not a service passage
8. Views to the sky boost laneway brightness and amenity
9. Ample lighting adds to safety at night
10. Greening enhances the intimate pedestrian experience and amenity

Figure 13: Pedestrian link – indicative sketch (Pig Alley)

3.4.1 Objectives

- a) Contribute to a network of pedestrian links throughout the City Centre by providing through-site links; through-block links; laneways; arcades; and shared zones.
- b) Retain existing through-block links, laneways, arcades shared zones.
- c) Provide new pedestrian links that connect private and public open space to existing pedestrian and cycle networks, public facilities and dwellings.
- d) Promote the use of through-site links through their design and operation.
- e) Ensure pedestrian links are welcoming and have a public character.
- f) Ensure pedestrian links are safe, well lit and accessible.
- g) Maximise low angle (eye-level) views between buildings to allow orientation throughout the City Centre and to reduce the effects of visual enclosure.
- h) Ensure pedestrian links are well designed and activated.
- i) Ensure pedestrian links respond to the scale of adjacent developments.
- j) Support vehicle access and servicing via rear lanes to protect pedestrian amenity on streets.
- k) Ensure visual permeability at ground level in commercial buildings through the design of open floor layouts and transparent materials.

3.4.2 Development Controls

- 1) Existing pedestrian links are to be retained.
- 2) New through-site links are to be provided:
 - i) in the locations identified on Figure 16: Through site links
 - ii) within a development site where site analysis indicates the need for, or desirability of, a through-site link.
- 3) Through-site links are to be an easement on title unless identified for dedication to Council.
- 4) New through-site links are to be designed to:
 - i) have a clear height of at least 6m;
 - ii) have a minimum width of 6m, unless built form analysis of the scale of the adjacent built form justifies a narrower width;
 - iii) be direct and publicly accessible, allow visibility along the length of the link to the public domain;
 - iv) be easily identified by users and have a public character;
 - v) be clearly distinguished from vehicle accessways;
 - vi) include active uses and opportunities for natural surveillance;
 - vii) include materials and finishes (paving materials, tree planting, furniture etc.) integrated with adjoining streets and public spaces and be graffiti and vandalism resistant;
 - viii) ensure no structures (for example, electricity substations, carpark exhaust vents, etc) are

- constructed in the through-site link; and
- ix) be accessible 24 hours a day
- 5) Through-site links are only to pass through or under a building where:
- i) the building's height is greater than 3 storeys; and
 - ii) the distance of the link under any structure is less than 50% of its total length to a maximum length of 18m.
- 6) In addition to complying with the above controls, internal components of a through-site link must be:
- i) able to maintain access to natural light;
 - ii) open at each end or, where air conditioned, provide entry doors that are glazed and comprise a minimum 50% of the width of the entrance;
- 7) Where residential development fronts a through-site link, windows, doors, verandahs and courtyards are to front the through-site link at ground level. Privacy is to be managed through level changes, threshold areas and landscape.

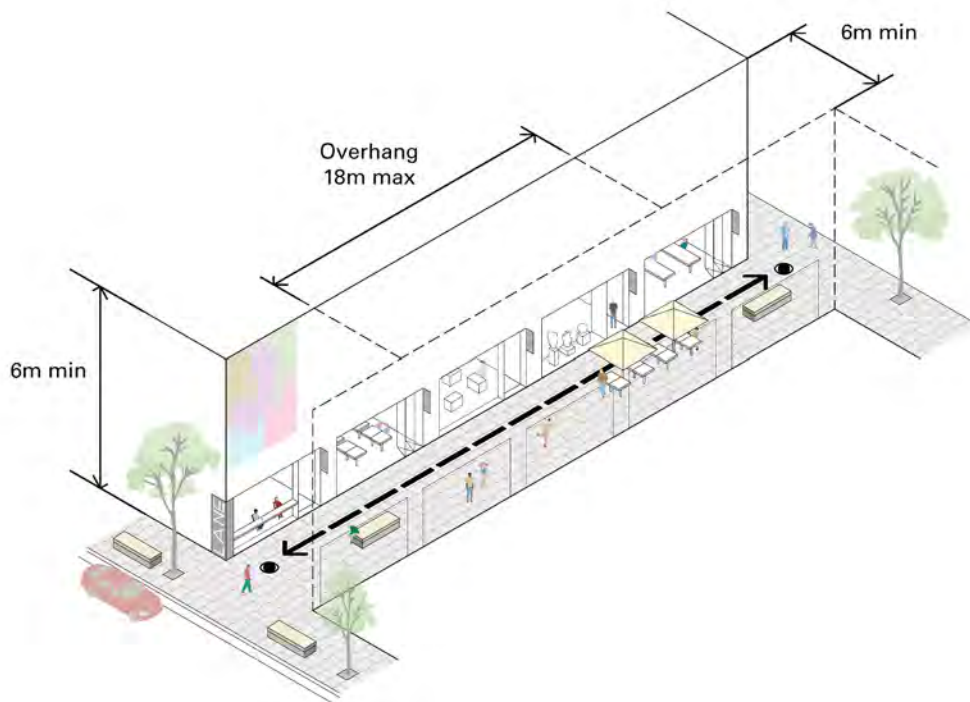


Figure 14: Through site link diagram



Figure 15: Existing and proposed through site links and lanes

Legend

- Proposed lane
- ↔ Existing pedestrian through site link
- ↔ Proposed pedestrian through site link
- Existing pedestrian priority areas

3.5 Heritage

Heritage items are identified in Schedule 5 of the Wollongong Local Environmental Plan 2009. Works to listed heritage items, or development on listed heritage sites, or within Heritage Conservation Areas, are subject to the provisions of Clause 5.10 of the Wollongong LEP 2009.

3.5.1 Objectives

- a) To facilitate the conservation and protection of heritage items and Heritage Conservation Areas and their settings.
- b) To reinforce the special attributes and qualities of heritage items by ensuring that development has regard to the fabric and prevailing character of the item or special area e.g., scale, proportions, materials and finishes.
- c) To conserve, maintain and enhance existing views and vistas to buildings and places of historic and aesthetic significance.

3.5.2 Development Controls

- 1) All Development:
 - of listed Heritage items,
 - within Heritage Conservation Areas,
 - within the curtilage of a listed item or a Heritage Conservation Area,
 - which will impact upon the setting of a heritage item or Heritage Conservation Areamust address the following:
 - i) Heritage provisions in the Wollongong LEP 2009
 - ii) Wollongong DCP 2009 – Chapter E11 Heritage Conservation and Chapter E10 Aboriginal Heritage
 - iii) Heritage objectives as listed in 3.5.1 of this DCP Chapter
 - iv) The relevant Statement of Significance for each item
 - v) The relevant development principles and controls contained in this DCP
 - vi) Any conservation management plan, heritage impact statement or study required by the consent authority in response to proposed development of these areas
- 2) For development specified in 1) information addressing 1) i) to vi) must be included in a Statement of Heritage Impact submitted with the development application.
- 3) Some city centre sites may contain significant Archaeology relating to Aboriginal occupation or the development of the City Centre. This archaeology is to be investigated, conserved, managed (including retention in situ) and interpreted as part of development.

4. BUILT FORM

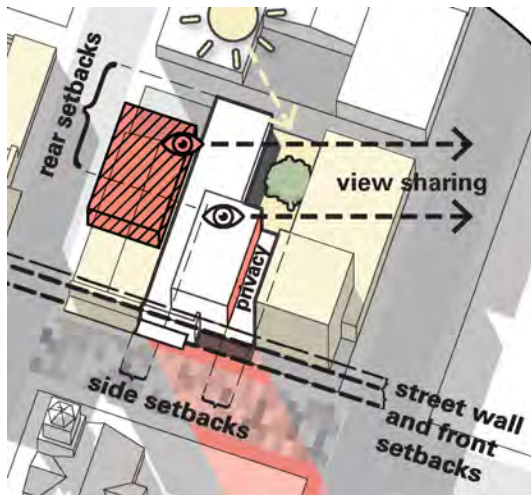
4.1 General

Built form describes the collection of individual building design elements that contribute to the overall character and performance of the built environment. New built form in Wollongong City Centre will be contextual, sustainable and functional, design in place to enhance the experience of that place for people.

Built form has a high impact on people. Building users, those occupying adjacent buildings and people in the public domain are all impacted by a building's design. New built form in Wollongong City Centre will be people-oriented, catering for the individual and the community.

Built form presents an image of place, demonstrating the values and aspirations of a community. New built form in the City Centre will respond to the beautiful natural setting with high quality urban and architectural design, appropriate for a significant regional city.

4.2 Building setbacks – General



A building setback is the distance between the building and a defined site boundary or object. Building setbacks are important because they:

- relieve the scale of a building;
- manage amenity between sites;
- protect areas for landscaping;
- and create interest in the street.

Building setbacks may create a separation from:

- the street boundary;
- a neighbouring site or an adjacent built form;
- a rear boundary ;
- a heritage building;
- an open space.

4.2.1 General Objectives

The following objectives apply to all building setbacks:

- a) Provide amenity to the site, neighbouring sites, adjacent public domain and pedestrians. This includes their access to sunlight, views, wind mitigation, ventilation and breezes, noise attenuation, safety and privacy.
- b) Reinforce the desired function and built character of the street.
- c) Give curtilage to significant buildings and places.
- d) Maximise view corridors to significant landscape and built form to enable orientation and way-finding, and protect and enhance the City Centre's scenic character.
- e) Provide room for tree planting.

4.3 Front Setbacks at Ground Floor

4.3.1 Objectives

- a) Front street setbacks for public domain (publicly accessible) are well designed for active use by pedestrians.
- b) Front setbacks for private use (private domain) include well designed landscaping to provide an appropriate threshold between the footpath and building line.
- c) 0m setbacks and setbacks for public domain (publicly accessible) promote active streets with excellent visual and physical connection between the footpath and building functions.
- d) Building alignment responds to the character and role of the street.
- e) Front setbacks assist in retaining solar access to the public domain.

4.3.2 Development Controls

- 1) Comply with the setback controls in Figure 17.
- 2) Setbacks required in this control are in addition to any road widening or acquisition applied to the land. Applicants are encouraged to seek advice via a Planning Certificate if acquisitions or road widening applies to their property.
- 3) Front setbacks at ground floor in the R1 General Residential zone are to be a minimum of 4m (for private domain) unless mapped differently in Figure 17.
- 4) Front building setbacks at ground floor in the SP1 Special Activates zone are to be a minimum of 4m (for public domain) unless mapped differently in Figure 17.
- 5) Front setbacks at ground floor are to be deep soil and contain no parking structures at or below ground.
- 6) Balconies may project up to 600mm into the front building setbacks, provided the cumulative width of all balconies at that level is no more than 50% of the horizontal width of the building facade measured at that level. This control does not apply to buildings with 0m build to alignment setback.
- 7) Where towers to ground are permitted and realised, an additional front setback at ground floor is required equal to the required setback above street wall.
- 8) A 3m by 3m chamfered setback must be provided from the site boundary up to street frontage

height at the intersection of streets to allow for the future increase to the radius of the kerb.

9) Notwithstanding the requirements of Figure 17, where:

- i) the site is adjacent to a heritage building which is setback, or in a precinct with significant heritage character the new building should respond to the setback of the heritage building and/or streetscape and justify the setback configuration in a Heritage Impact Statement.
- ii) a setback in excess of the requirement contributes an appropriate public space at the street frontage this should be justified through an urban design analysis.
- iii) the street frontage includes existing street trees these are to be maintained in place which may require site specific setbacks.

10) 'Publicly accessible' setbacks are to comply with 5.9 Publicly Accessible Spaces.

11) Where private open space faces the street any front fencing must be of a design and/or height which allows for passive surveillance of the street.

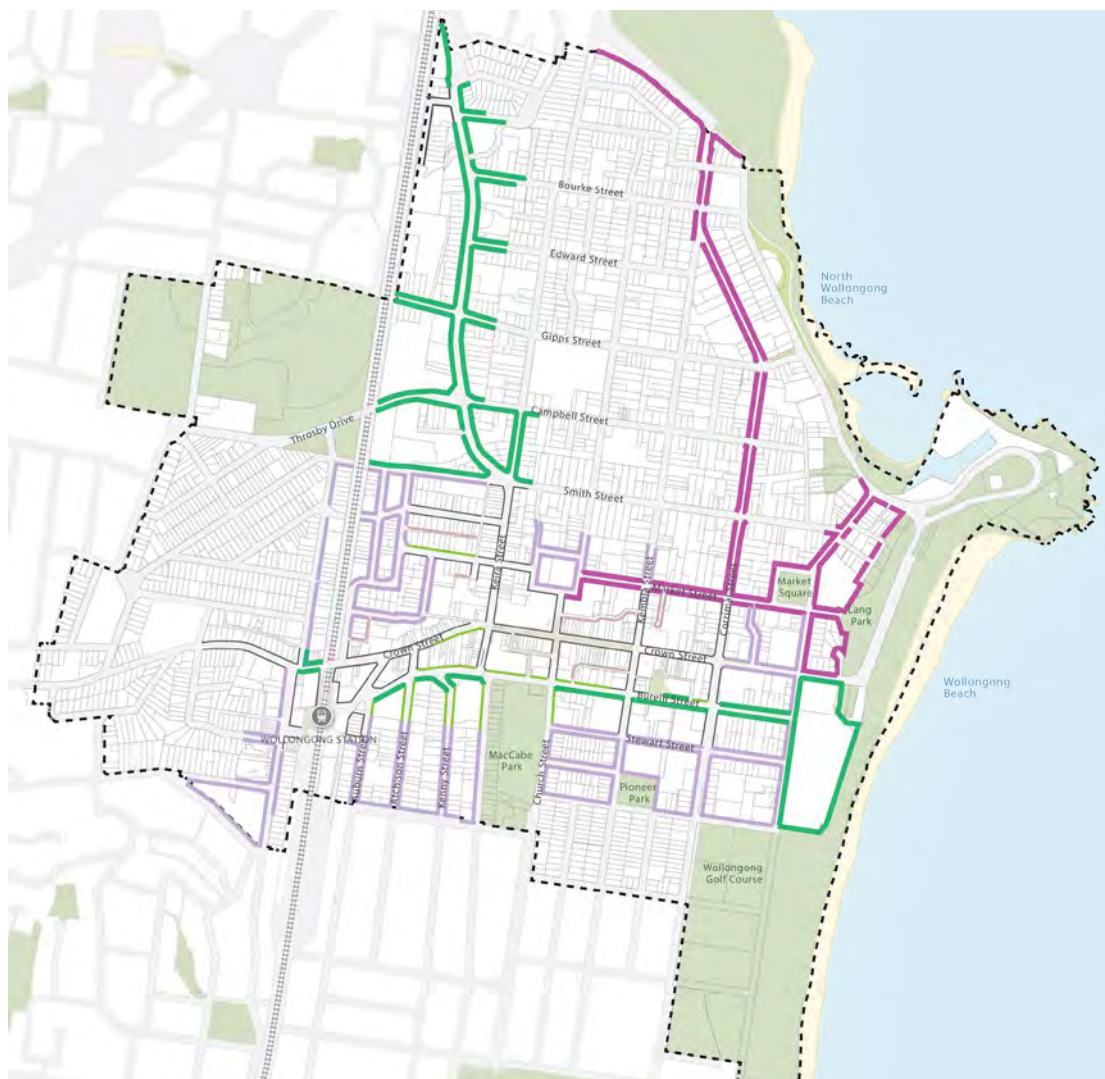


Figure 16: Front setbacks at ground floor

Legend

- 0m setback
- 2m setback – publicly accessible
- 3m setback – private domain
- 4m setback – publicly accessible
- 4m setback – private domain
- 2m setback - for footpath access

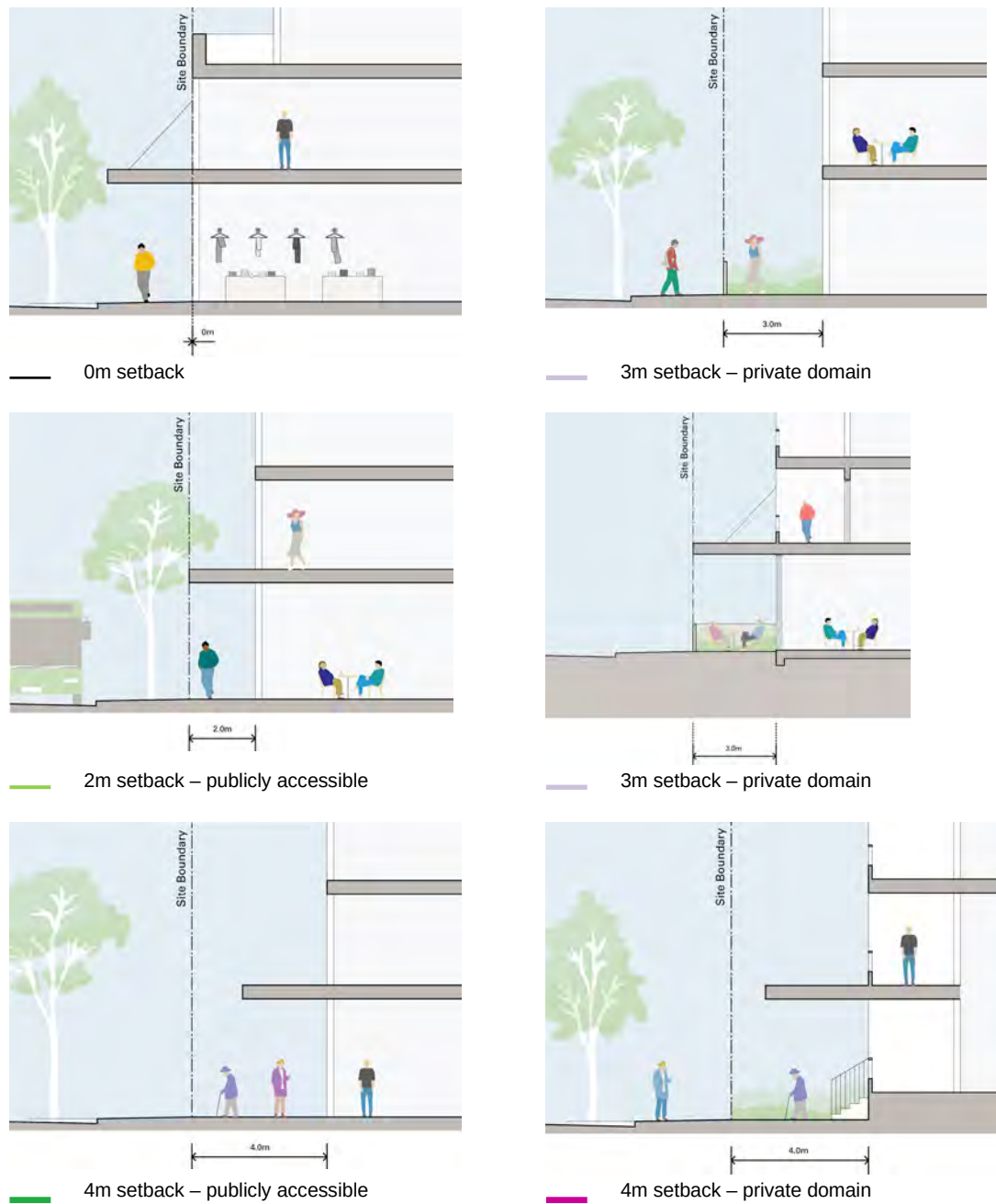


Figure 17: (including 6 sections) Front setbacks at ground floor

4.4 Side and Rear Setbacks

4.4.1 Objectives

- a) Ensure side setbacks preserve amenity between adjacent buildings and allow solar access and views to the sky from the street.
- b) Ensure rear setbacks provide deep soil and private recreation zones.
- c) Provide sufficient mid-block pedestrian connections to ensure walkability.

4.4.2 Development Controls

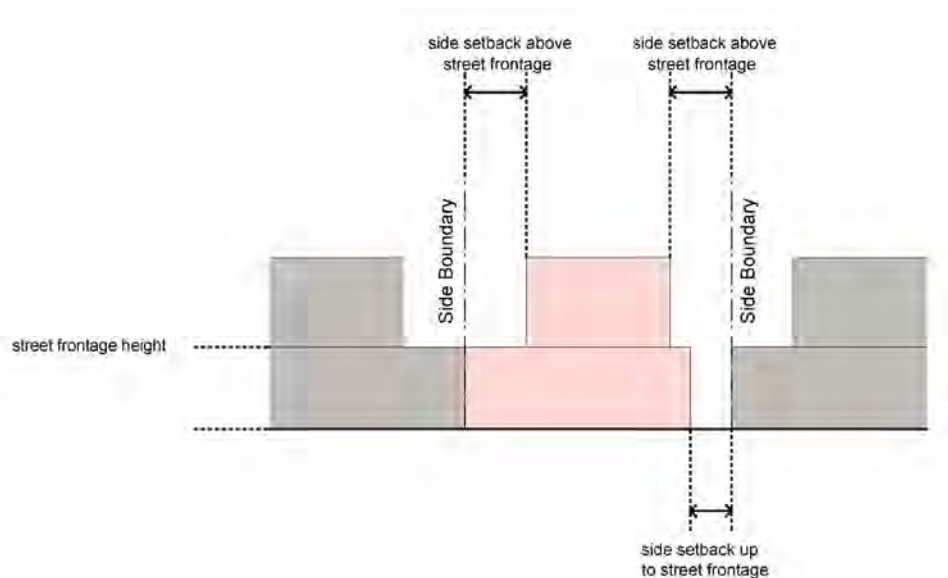


Figure 18: side setbacks diagram

- 1) Comply with the setback controls in Table 2.
- 2) Residential setbacks are to achieve the building separation requirements of the Apartment Design Guideline unless this DCP imposes an increase.
- 3) Rear setbacks are to be deep soil and contain no parking structures at or below ground.

Table 2: Minimum Side and rear setback controls

		Minimum Side Setback from boundary (m)	Minimum Rear setback from boundary (m)
Non-residential Uses			
Up to Street Frontage Height	In other zones	3 Zero side boundary setback is not permitted in any circumstance	0
	In Commercial Centre Zone	0 or 3m either side of street frontages over 55m in length or as required to establish a publicly accessible open space or through site link	0
Above street frontage height and less than 45m	In E2 Commercial Centre	6	6
	In other zones		12
Above street frontage height and over 45m	In other zones	12	12
Residential Uses (subject to ADG building separation requirements)			
Up to 4 storeys (approx 12m)	In area east of Corrimal St and In area bound by Church St, Stewart St, Corrimal St and Bank St	3 Zero side boundary setback is not permitted in any circumstance	4.5
Up to 12m (4 storeys)	In other areas	0 or 3m either side of street frontages over 55m in length	4.5
12 - 25m (5-8 storeys)	In all areas	4.5	4.5
Over 25m (9+ storeys)	In all areas	6	6

4.5 Street Frontage Heights and Setbacks

The 'street frontage height' is the part of a building that directly addresses the street, from the ground level up to the first building setback.

Street frontages have a direct impact on the experience of the street for pedestrians. They bring a larger building down to the human scale at the street level, contributing to a sense of enclosure whilst maintaining access to sunlight and reducing the impacts of wind downdrafts from tall towers.

Street frontages also influence the character of the street. Uniform street wall height creates a consistent built form typology amongst a mix of uses, building ages and styles.

4.5.1 Objectives

- a) Protect and enhance the character and historic streetscape quality and character of Crown Street Mall, Crown Street, Keira Street and Market Street.
- b) Promote the civic character of the Burelli Street commercial spine.
- c) Ensure a human scale interface with MacCabe Park
- d) Ensure a transition in height to low scale areas
- e) Ensure street frontage lengths and permeability are consistent with precinct character, and promote pedestrian walkability
- f) Protect the solar amenity of public spaces and streets
- g) Provide for open views of the sky and prevent 'canyoning'.
- h) Provide higher heights at corners to mark breaks in the street pattern.

4.5.2 Controls

- 1) Comply with the setback controls in Figure 21.
- 2) Notwithstanding the maximum street frontage heights and setbacks shown in Figure 21 buildings may need to have a lower street frontage height or greater setbacks for contextual reasons including compliance with LEP Sun Plane provisions.
- 3) Minor variations under the maximum street frontage height on Crown Street and Keira Street (where 2 storey street wall heights apply) are encouraged to realise modulation and visual interest in the street frontage, as consistent with the established streetscape character of diverse parapet walls.

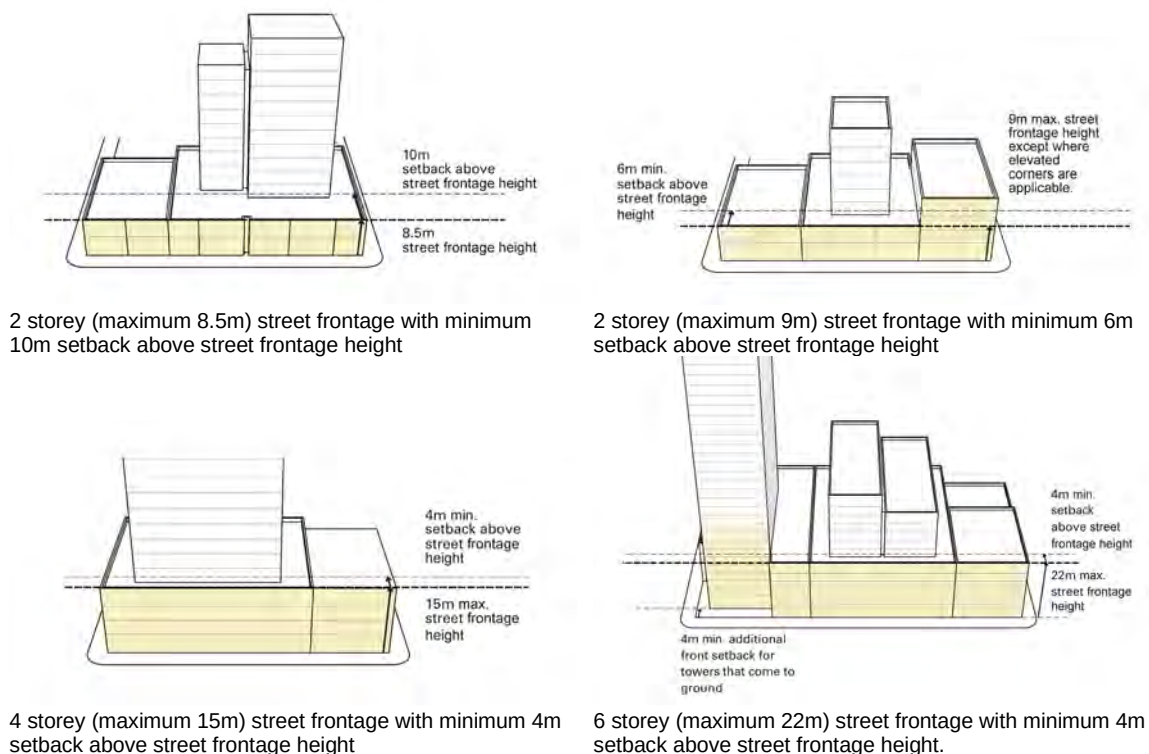


Figure 19: Street frontage height and setback diagrams

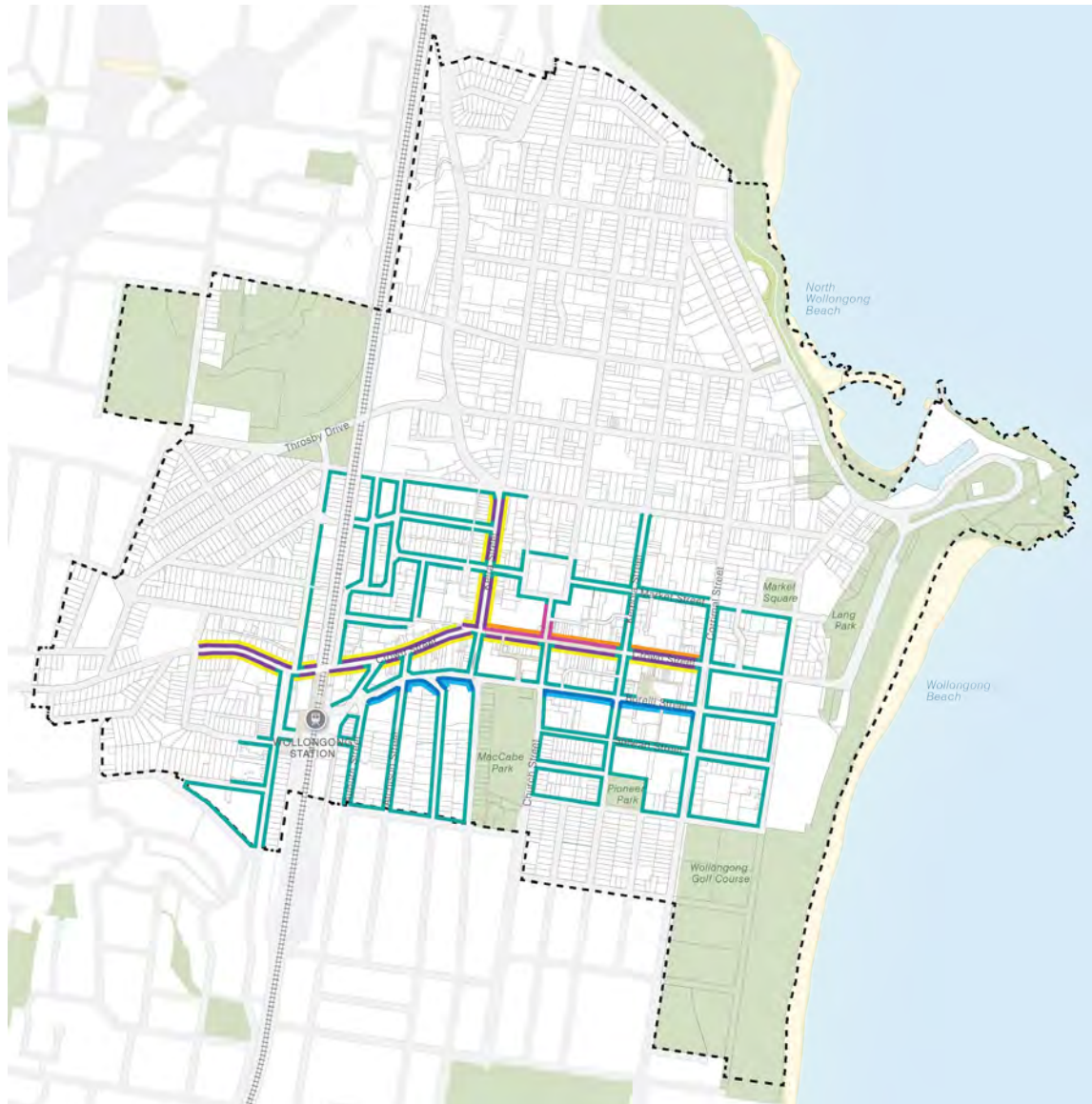


Figure 20: Street frontage heights and setbacks above street frontage height

Legend

- Maximum 6 storey (22m) street frontage height with 4m setback above street frontage height or towers permitted to ground
- Maximum 4 storey (15m) street frontage height with 4m setback above street frontage height
- Maximum 2 storey (8.5m) continuous street frontage height to align with prevailing heritage parapet with 10m setback above street frontage height
- Maximum 2 storey (9m) street frontage height to align with prevailing heritage parapet with 10m setback above street frontage height
- Maximum 2 storey (9m) street frontage height to align with prevailing heritage parapet with 6m setback above street frontage height

4.6 Street Frontage Massing and Form

4.6.1 Objectives

- a) Achieve high amenity for streets and open spaces by preserving access to sunlight and views to the sky.
- b) Respond to opportunities to improve pedestrian permeability or access to open space.
- c) Preserve and open up public views of significant built form, open spaces and natural features available from and around the site.
- d) Achieve high quality streets for pedestrians.
- e) Create a strong and interesting street edge to City Centre Streets.
- f) Reinforce corner locations.
- g) Respond to the character created by dominant street wall heights and setbacks.
- h) Protect and enhance adjacent heritage or character items.
- i) Minimise the visual and amenity impacts of large scale buildings on the public domain.
- j) Clearly define the adjoining streets, street corners and public spaces and avoid ambiguous external spaces with poor pedestrian amenity and security.

4.6.2 Development Controls

- 1) Buildings with street frontages greater than 55m in length are not permitted. Where a development site frontage is in excess of 55m in length, two or more buildings with different architectural expressions should be developed to front the street or public domain with a building separation of not less than 6m for the full height of the building.
- 2) Where two different street wall conditions meet at a corner the higher street wall frontage will wrap around the corner. The higher street wall frontage will turn the corner for a length that is the lesser of 30m or 2.5 times the lower street wall height.
- 3) Towers on corners are encouraged to come to ground, adopting an additional ground floor setback equal to the corresponding setback above street frontage height.



Figure 21: The street frontage responds to the texture and scale of the street



Figure 22: Large commercial buildings are modulated to the street through the articulation of a street frontage which responds to the scale and detailing of adjacent buildings.

4.7 Street Frontage Modulation and Articulation

Modulation and Articulation refers to those design elements that bring interest, character and a sense of scale to the streetscape and broader built environment. Ground floor articulation and modulation is essential to create welcoming and vibrant streets for people.

4.7.1 Objectives

- a) Achieve diversity and interest in the architectural character of the streetscape.
- b) Provide identity for residents in large developments by visually differentiating groups of dwellings.
- c) Developments respond to the existing built form and grain of surrounding facades to reinforce a sense of address and a cohesive street character, without being the same in design.
- d) Maintain and develop fine grain modulation and articulation along Crown and Keira Streets. Existing fine grain buildings are retained and contribute to the character of place and inform surrounding new development.
- e) Buildings express their different functions through modulation and allow the public to read and connect with the building's function.
- f) Introduce fine grain built form and varied architectural character in large developments.

4.7.2 Development Controls

- 1) All building facades throughout the City Centre are to be articulated into smaller elements at a

scale or grain that reflects:

- i) the use of the building and the various components of the building;
 - ii) the details and building elements including building entries, ground floor, lower floors, top floor and roof.
 - iii) the positive elements of the character of the street and/ or precinct.
- 2) Articulate each facade so that it addresses what is adjacent, including the street, through site links, and side and rear boundaries. Each facade should respond appropriately to its context, this may be through adding visual interest or receding visually to maintain the prominence of an adjacent feature.
- 3) Minor projections up to 450mm from building walls in accordance with those permitted by the Building Code of Australia may extend into the public space providing it does not fall within the definition of gross floor area and there is a public benefit, such as:
- i) Expressed cornice lines that assist in enhancing the streetscape,
 - ii) Projections such as entry canopies that add visual interest and amenity, and
 - iii) Provided that the projections do not detract from significant views and vistas
- 4) Within larger developments, built elements are to be limited in length, have a variety of facades, articulation, physical breaks at ground, massing and architectural character so the street block presents as a group of buildings rather than a single building.
- 5) Buildings may have a single architectural character provided that the facade elements establish a 'fine grain' vertical articulation.
- 6) Separate buildings on the same development site must have a different architectural character.

Area specific controls

- 7) The traditional shop-front pattern of 6-12m should be maintained and reinforced in new developments on Keira Street between Burelli and Smith Streets, and Crown Street between the Railway line and Corrimal Street.



Figure 23: Street frontage heights and setbacks above street frontage height

4.8 Tower Massing and Form

Tower massing and form describes the overall three-dimensional configuration of the upper elements of a building. In most cases this refers to the portion of the building that sits above the street frontage height.

Tower massing will be realised differently across the different city precincts, responding to their different characters. Tall, slender commercial buildings are concentrated in a spine of height in the Burelli Street commercial precinct, signaling the importance of this area to the City Centre. The historic low scale, fine grain form is maintained to the street along the key retail streets of Crown and Keira with upper-level forms set back and discrete. Narrow tower floorplates and generous side setbacks preserve views of the landscape and ocean at the Foreshore.

4.8.1 Objectives

- a) Achieve an attractive city skyline which is informed by the topography, natural setting, character and particular activity of the precinct.
- b) Preserve and open up public views of significant built form, open spaces and natural features available from and around the site.
- c) Achieve high amenity for streets and open spaces by preserving access to sunlight and views to the sky.
- d) Reduce the shadowing impacts of towers,
- e) Minimise the visual and amenity impacts of large scale buildings on the public domain.
- f) Proportion floor plates to allow for high internal amenity and minimise floor plate length to maintain oblique views across the city and views of the sky.

- g) Ensure that the fine-grain evident in frontages is carried through to the skyline character through differentiation in urban modelling.

4.8.2 Development Controls

- 1) Comply with Table 3. This control relates to building floor plates above street frontage (podium) height. Where tower to ground forms (no setback above street frontage height) are proposed, the maximum floor plate size must be taken from ground. Note that in some cases, site and urban design analysis, as well as other building envelope controls will prevent the realisation of these maximum floorplates. Where the unique circumstances of a site demonstrate that a more skillful design can achieve improved outcomes or public domain views and public amenity, variation from strict application of this control, where appropriately justified, may be possible.

Table 3: Tower floor plate maximum dimensions

	Tower floor plate maximum dimensions		
	Maximum Area	Maximum shorter dimension (depth)	Maximum longer dimension (length)
	(GBA*)	(m)	(m)
Commercial	1,410	30	47
Residential	1,000	21 (max 18 glassline to glassline as per ADG)	47

Note: The building depth or length includes the internal floor plate, external walls, balconies, external circulation and articulation such as recesses and steps in plan and section

* GBA (Gross Building Area) is defined as the area of the building at all building levels, measured between the normal outside face of any enclosing walls (or the centre line of common walls between different properties), balustrades and supports. The enclosed and unenclosed areas are usually shown separately and added together to give the total GBA.

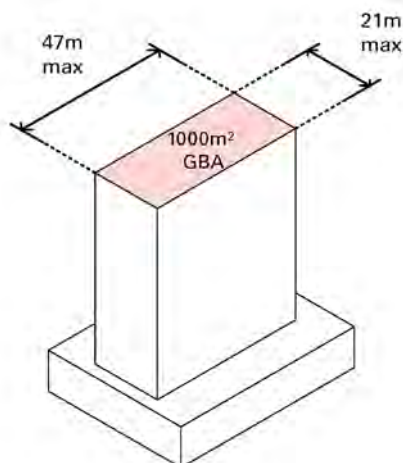


Figure 24: Maximum residential tower floorplate dimensions

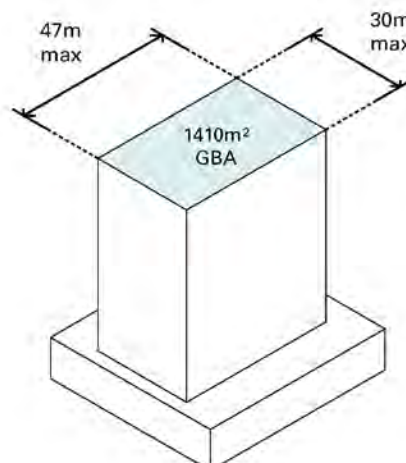


Figure 25: Maximum commercial tower floorplate dimensions

- 2) Separate building elements to visually differentiate large building mass, rather than building mass being uniform. Towers with a length over 30m should be expressed as two vertical forms

with a clear break of at least 2m wide and 1m deep extending the full height of the tower. A stepped height difference of a minimum of two storeys is to be applied to the two forms. See Figure 27.

- 3) On larger sites with more than one tower, there is to be a minimum 15% difference between tower heights above ground level. See Figure 28.
- 4) Towers should be designed 'in the round' - to be seen from all sides. Walls facing side and rear boundaries should have equal design consideration to the street facing wall.
- 5) Roof spaces and their forms should be treated as a considered aspect of the overall building form - effectively a fifth elevation.

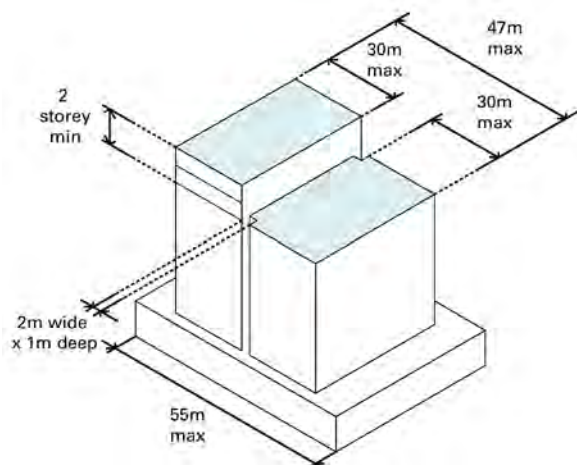


Figure 26: Towers with a length over 30m should be expressed as two vertical forms

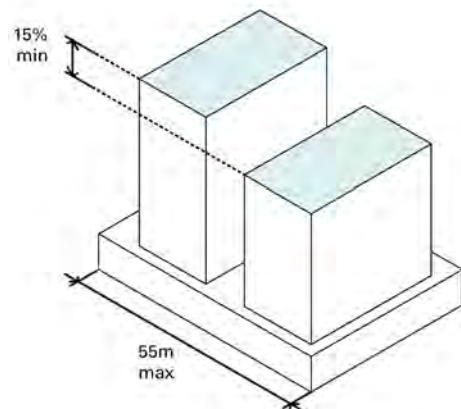


Figure 27: minimum 15% difference between tower heights above ground level

4.9 Wind Effects

Wind effects are the positive and negative impacts of built form on the wind conditions of the surrounding area.

The useability of the street, open elevated terraces and balcony spaces is somewhat dependent on comfortable wind conditions being achieved. Moderate breezes can enhance pedestrian comfort and disperse vehicle emissions and air-conditioning plant exhausts. Conversely, windy conditions can cause discomfort and danger to pedestrians and downdraughts from buildings can inhibit the growth of street trees.

4.9.1 Objectives

- a) New developments maintain comfortable street level conditions for pedestrians and encourage the growth of street trees.
- b) New developments provide comfortable upper level conditions for users of balconies and other elevated outdoor areas.

Table 4: Wind speed impacts

Annual Maximum Gust speed	Impact on perceived Pedestrian Comfort
>23m/s	Unsafe (frail pedestrians knocked over)
<16m/s	Acceptable for Walking (unsteady steps for some pedestrians)
<13m/s	Acceptable for standing (window shopping, vehicle drop off, queuing)
<10m/s	Acceptable for Sitting (outdoor cafes, pool areas, parks and gardens)

4.9.2 Development Controls

- 1) To ensure public safety and comfort the following maximum wind criteria are to be met by new buildings:
 - i) 10 metres/second in retail streets,
 - ii) 13 metres/second along major pedestrian streets, parks and public places, and
 - iii) 16 metres/second in all other streets.
- 2) Site design for tall buildings (over 32m) should:
 - i) Set tower forms back from lower structures built at the street frontage to protect pedestrians from strong wind downdrafts at the base of the building,
 - ii) Ensure that tower forms are well spaced from each other to allow breezes to penetrate City Centre,
 - iii) Consider the shape, location and height of buildings to satisfy wind criteria for public safety and comfort at ground level, and
 - iv) Ensure usability of open terraces and balconies.
- 3) A Wind Effects Report is to be submitted with the DA for all buildings greater than 32m in height,
- 4) For buildings over 50m in height, results of a wind tunnel test are to be included in the report.

5. PUBLIC INTERFACE

5.1 Activity and Program

Building activity and program describes the position and configuration of uses inside building. The relationship between these uses and the public domain must contribute positively to a people's experience of the city by creating spaces that are attractive, interesting, comfortable, safe, functional and accessible for all.

5.1.1 Objectives

- a) The arrangement of internal uses promote a safe and high quality interface between the public and private realm

- b) Position active uses to address main streets, streets and laneway frontages
- c) The lower levels of the building are designed to accommodate a range of tenancy sizes including smaller tenancies
- d) Buildings are designed for future adaptation.
- e) Internal communal areas or rooftop-podium spaces should be positioned and designed to maximise surveillance of and interaction with the public realm.
- f) Maximise the number of pedestrian building entries along street and laneway frontages to provide for public interaction and long term flexibility of tenancies.
- g) Parking and servicing does not negatively impact the public realm.



Rooftop spaces maximise surveillance of and interaction with the public realm

5.1.2 Development Controls

- 1) Design floorplates and floor to floor heights on the first two levels to allow for future adaptation.
- 2) Position active uses to address main streets, streets and laneways.
- 3) Car parking is located away from the street frontage and appropriately integrated into the building.
- 4) Locate site services and facilities satellite dish and telecommunication antennae, air conditioning units, ventilation stacks and any ancillary structures
 - i) Away from the street frontage,
 - ii) Integrated into the roof scape design and in a position where such facilities will not become a skyline feature at the top of any building, and

- iii) Adequately setback from the perimeter wall or roof edge of buildings.
- 5) Provide elements of visual interest, such as display cases, or creative use of materials where fire escapes, service doors and equipment hatches cannot be avoided.
- 6) Where it is not possible to provide basement car parking, car parking may be located above ground.
 - i) Above ground parking is not to be visible from any boundary.
 - ii) At the front boundary, Car parking areas at or above ground level must be concealed by other uses with a minimum depth of 6m which front and activate the street.
 - iii) At side or rear boundaries Car parking areas at or above ground level must either be sleeved by other uses or concealed with high-quality facade treatments.
- 7) Carparking areas at ground must not detract from achieving pedestrian through site links

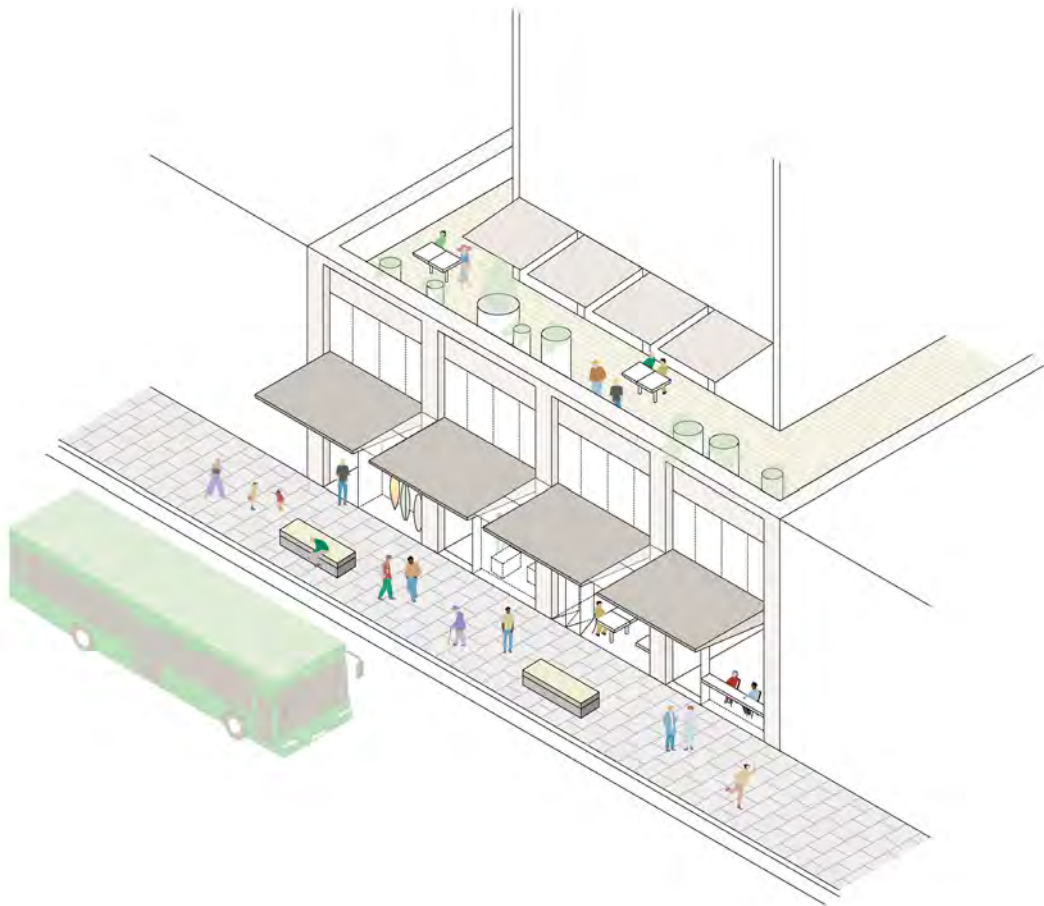


Figure 28: The relationship between the uses and the public domain must contribute positively to a people's experience of the city by creating spaces that are attractive, interesting, comfortable, safe, functional and accessible for all

5.2 Active street frontages

All development in the City Centre must address the street. A positive building address to the street improves the functionality of the building and the quality of the public domain for people. All uses

can activate the street, however non-residential uses such as shops, studios, offices, cafes, recreation and community facilities tend to create the most active street fronts.

The Wollongong LEP 2009 requires non-residential active frontages throughout the City Centre's key retail and commercial streets and precincts. These are defined in the Wollongong LEP 2009 Active Frontages Map.

All ground floor frontages in the City Centre, including those outside the Wollongong LEP 2009 mapped zone, must add to the liveliness and vitality of the street, displaying active frontages which may be retail, commercial or residential.



Figure 29: A positive building address to the street improves the functionality of the building and the quality of the public domain for people

5.2.1 Objectives

- a) The City Centre's streets are lively and active places of social, civic and economic interaction.
- b) The space between the public street and the built form invites interaction and engagement providing both a seamless transition and an extension of the public domain.
- c) The street frontage and ground floor of buildings is prioritised for active use by people.
- d) Building frontages contribute to the use, activity, safety and interest of the public realm.
- e) Development allows for unobstructed views into the ground floor of buildings
- f) Development presents welcoming, engaging and active edges to streets and other public spaces at ground floor and the street frontages of lower storeys.



No:

- Dark glazing or opaque transfers to façade conceals activity inside
- Raised entrances for commercial tenancies are not inclusive or accessible
- Awnings that don't shelter pedestrians
- Ramps protrude into public domain
- Lack of differentiation in materials to highlight ground floor



Yes:

- Clear glazing and operable facades
- Opportunities for passive surveillance
- Visually interesting activities and objects visible from the street
- Awnings which shelter pedestrians

Figure 30: Active frontages: improving the interface with the public domain

5.2.2 Development Controls

- 1) Non-residential uses are to be provided on the ground floor in the locations nominated on the Wollongong LEP 2009 Active Frontages map.
- 2) Non-residential frontages are to be designed with the ground floor level at the same level as the footpath. Entrances are accessed directly off the street, and not via an off street lobby or foyer.
- 3) Entrances to buildings with multiple tenancies are distributed along the street, rather than consolidated into a single entrance.
- 4) Development addresses the street with frontages at ground and on upper floors with physical openings including doorways, verandahs, terraces, windows and balconies.
- 5) Publicly accessible built form elements at ground are scaled for a positive human experience and provide amenity to pedestrians in the form of weather protection, seating and visual interest.
- 6) Colours, lighting and materials contribute to the vibrancy of the street and respond to the context.

- 7) Ground floor tenancies are transparent and permeable and provide a seamless transition between public and private places and invite interaction and engagement.
- 8) Where non-residential floor plates must be elevated above street level for flood resilience, access between the street level and floor plate level shall be accommodated within the building footprint so that all ramps, stairs and associated handrails for the level transition occur behind the building facade and are not located in the public domain. This may also assist in the articulation of facades at street level
- 9) Provide entrances which are in visually prominent positions and which are easily identifiable, with visible numbering.
- 10) Provide adequate lighting of all pedestrian access ways, parking areas and building entries.
- 11) Comply with Table 5

Table 5: Active frontage controls

Location	Nominated on the Wollongong LEP 2009 Active Frontages Map	Not nominated on the Active Frontages Map
Uses on public domain frontage	Entries or display windows to shops and/or food and drink premises; open and transparent lobbies to commercial offices	Entries to shops, commercial offices or residential properties. Note: residential developments at ground are to provide individual entries to ground floor dwellings.
Transparency	A minimum of 70% of the ground floor frontage is to be clear glazing with a predominantly unobstructed view from the adjacent footpath to at least a depth of 6m within the building	No requirement
Preferred ground floor tenancy grain and width on Keira and Crown Streets	Fine grain: 6 - 12m (8-16 separate tenancy entries per 100m.	Grain is to reflect precinct character and be reflected in the modulation and materiality of the building.
Minimum ground floor floor-to-ceiling height	4m	3.3m
Provide Awnings	Fixed	As appropriate

5.3 Residential Frontages at Ground

Paired with commercial and retail uses residential can contribute positively to the activation of streets by providing a clear street address, direct access from the street, passive surveillance on to the street and landscaping.



Figure 31: In the mixed use and residential zones residential development at ground contributes positively to the activation and safety of the street

5.3.1 Objectives

- a) Residential frontages contribute to the use, activity, safety and interest of the public realm.
- b) Residential interfaces are high quality and durable and add value to the public domain.
- c) Development sets a fine-grain rhythm and character to residential streets.
- d) A diversity in housing types and architectural styles creates an interesting and varied streetscape
- e) Residential development provides a clear distinction between private and public space
- f) New development brings life to the street with individual entries to ground floor dwellings, to provide passive surveillance and opportunities for social interaction.
- g) Planting or landscaped areas visually extend open areas at the lower levels.



Figure 32: Residential ground floors are raised for privacy



Figure 33: Individual entries activate the street.
Source: Toronto Draft Townhouse and Low-Rise Apartment Guidelines October 2015

5.3.2 Development Controls

- 1) Ground and first floor residential uses should be designed as split level apartments or two-storey terrace houses with individual entries to the street and elevated for visual privacy
- 2) Ground setbacks should be designed to provide privacy and amenity at ground with abundant, quality landscaping. Residential at ground floor levels should be raised 0.6 - 1.4m above street level to provide visual privacy.
- 3) Basements are not to encroach forward of the building setback so that landscape areas can provide adequate soil volume for successful tree growth.
- 4) Building setbacks of new developments are to accommodate existing street trees.
- 5) Private open spaces addressing the street may be raised or at street level. The top of any fencing to private open space is not to exceed 2m above street level so as not to obstruct casual surveillance.
- 6) Locate communal access points perpendicular to the street
- 7) Dwellings are to be designed and laid out so that every 6m a dwelling, communal space or other high use space provides opportunities for direct surveillance of the adjacent street or public domain.
- 8) Provision for bin storage is to be provided in a concealed location which does not face the street.

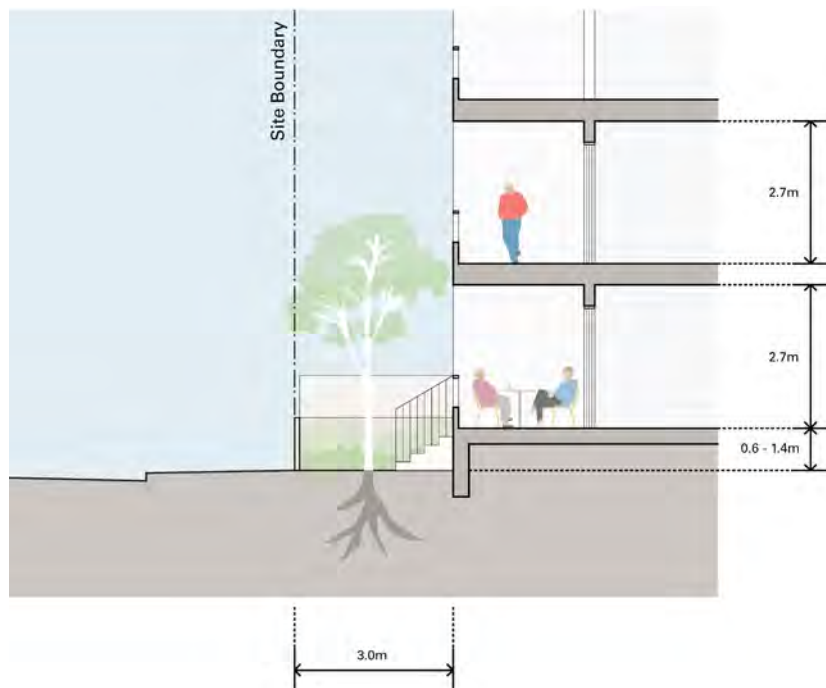


Figure 34: Residential at ground floor levels should be raised 0.6 - 1.4m above street level to provide visual privacy

5.4 Materials - Character

Wollongong's cityscape and public domain is defined by its buildings, streets and public places. The quality of these places is influenced by the character and performance of the materials that make up the built fabric.

5.4.1 Objectives

To ensure that new buildings in Wollongong:

- a) contribute positively to the streetscape and public domain by means of high quality architecture and robust selection of materials and finishes.
- b) provide richness of detail and architectural interest especially at visually prominent parts of buildings such as lower levels and roof tops.
- c) present appropriate design responses to nearby development that complement the streetscape.
- d) maintain a pedestrian scale in the articulation and detailing of the lower levels of the building.

5.4.2 Development Controls

- 1) A materials sample board and schedule is required to be submitted with applications for development over \$1 million or for that part of any development built to the street edge.
- 2) Material choice must reflect the character of the precinct.
- 3) Materials and finishes selection is to be appropriate to adjoining buildings (particularly heritage buildings).
- 4) External walls should be constructed of high quality and durable materials and finishes with 'self- cleaning' attributes, such as face brickwork, rendered brickwork, stone, concrete and glass.
- 5) To assist articulation and visual interest, avoid expanses of any single material.
- 6) Limit opaque or blank walls for ground floor uses to 30% of the street frontage.
- 7) Maximise glazing for retail uses, but break glazing into sections to avoid large expanses of glass.
- 8) Glass at street level is to be clear to allow visual connection between inside and outside. Tinted glass of any kind will not be accepted at ground level.
- 9) The materials and design of service elements such as plant rooms, lift overruns and service entries is to be integrated into the overall architecture of the building.

5.5 Materials – Reflectivity

Reflective materials used on the exterior of buildings can result in undesirable glare for pedestrians and potentially hazardous glare for motorists. Reflective materials can also impose additional heat load on other buildings. The excessive use of highly reflective glass should be discouraged. Buildings with a glazed roof, façade or awning should be designed to minimise hazardous or uncomfortable glare arising from reflected sunlight.

5.5.1 Objectives

- a) Development is to restrict the reflection of sunlight from buildings to surrounding areas and

buildings.

5.5.2 Development Controls

- 1) New buildings and facades should not result in glare that causes discomfort or threatens safety of pedestrians or drivers.
- 2) Visible light reflectivity from building materials used on facades of new buildings should not exceed 20%.
- 3) Subject to the extent and nature of glazing and reflective materials used, a Reflectivity Report that analyses potential solar glare from the proposed development on pedestrians or motorists may be required.
- 4) Highly reflective finishes and curtain wall glazing are not permitted above ground floor level

5.6 Materials –Sustainable Buildings

5.6.1 Objectives

- a) Building components are to be designed for, in order of priority, longevity, adaptation, disassembly, re-use and recycling.
- b) Development must use materials that are environmentally sustainable whenever available.
- c) The amount of materials used in the construction of a building is to be minimised.

5.6.2 Development Controls

- 1) Development is to prioritise the use of building materials, fittings and finishes that:
 - i) have been recycled;
 - ii) are made from or incorporate recycled materials; and
 - iii) have been certified as sustainable or 'environmentally friendly' by a recognised third party certification scheme.
- 2) The amount of material required for a building are to be minimised through:
 - i) exposing structures to reduce the use of floor, ceiling and wall cladding and finishes;
 - ii) naturally ventilating buildings to reduce ductwork;
 - iii) providing waterless urinals to reduce piping;
 - iv) using prefabricated components for internal fit outs;
- 3) Finishes with high maintenance costs, those susceptible to degradation or corrosion from a coastal or industrial environment are to be avoided.

5.7 Awnings

Awnings are roof structures that project over the footpath to provide weather projection for passing pedestrians, entries to buildings and outdoor activities such as dining. They encourage pedestrian activity along streets and, in conjunction with active edges, support and enhance the pedestrian experience.



Figure 35: Awnings encourage pedestrian movement and staying activities by providing shelter

5.7.1 Objectives

- a) Encourage pedestrian activity along streets to support and enhance the vitality of the local area.
- b) Increase the usability and amenity of footpaths by providing a consistent and safe path of travel with shelter to pedestrians from sun and rain.
- c) Ensure street awning designs provide reasonable levels of natural and/or artificial lighting to footpaths and to ground floor spaces within buildings.
- d) Ensure street awning designs are of a high architectural merit, are consistent with surrounding streetscape elements, reduce visual clutter and provide visual continuity to the streetscape.
- e) Encourage the conservation, restoration, reconstruction or reinstatement of street awnings that are of heritage significance

5.7.2 Development Controls

- 1) Awnings are to be provided along the streets mapped as Active Frontages on the Wollongong LEP 2009 Active Frontages Map
- 2) Notwithstanding the extent of awnings required by the Active Frontages Map, where the building is sited on a street corner, awnings must wrap around corners for a minimum 6m.
- 3) New awnings are to be compatible with the scale and architectural features of the building and adjacent buildings to maintain continuity along the entire street.
- 4) Reconstruction or renovation of existing awnings must retain any significant fabric, for example pressed metal soffits
- 5) Where the provision of an awning would have a major adverse impact on the consistency of

development within a heritage conservation area or adjacent to a heritage item, they may not be required, as determined in consultation with the determining authority.

- 6) Awnings are to be cantilevered and non-trafficable.
- 7) Provide under awning lighting to facilitate night use and to improve public safety. Lighting fixtures are to be recessed into the awning. All wiring and conduits are to be concealed.
- 8) Gutters are to be concealed from the footpath. Downpipes are to be fully concealed within the ground floor frontage of the building.
- 9) Steeply sloped, arched or barrel-vaulted awnings are not permitted.
- 10) The conversion of awnings to verandahs or balconies is not permitted.
- 11) Awnings are to:
 - i) be horizontal in form
 - ii) have a minimum soffit height of 3.2m and maximum of 4.2 metres above the footpath,
 - iii) be a minimum of 2.4 metres deep (dependent on footpath width),
 - iv) ensure steps for design articulation or to accommodate sloping streets are integral with the building design and do not exceed 700mm,
 - v) be low profile, with slim vertical fascias or eaves (generally not to exceed 350mm height)
 - vi) have a maximum slope of 5 degrees sloped towards the building so that gutters and downpipes are not required at the street edge.
 - vii) be setback at least 1.2m from the back of the kerb to accommodate street tree.

5.8 Landscaping and Greening on Structures

Landscaping includes the planning, design, construction and maintenance of all utility, open space and garden areas. Greening on structures includes green roofs and walls and other landscaping not on natural ground. Good landscaping provides breathing space and enhances air quality in City Centres. More importantly it delivers passive and active recreational opportunities and an improved public realm experience by activating streets, through-site links and public spaces. It is fundamental to the amenity and quality of life for residents and workers.

Greening in our urban environment can reduce energy consumption and carbon emissions, increase the value of residential property, and is key to attracting high value commercial investment to our city.

5.8.1 Objectives

- a) Ensure landscaping is part of the design process from the outset to ensure it is a fully integrated part of the development.
- b) Reduce urban heat load, increase canopy coverage, and ground absorption of water.
- c) Preserve and enhance native wildlife populations and habitat through appropriate planting of indigenous vegetation.
- d) Improve the microclimate of open space within developments.
- e) Ensure the landscape design is appropriate for the use of the building function and creates a variety of functional spaces that allow a flexibility of program for users.

- f) Ensure landscaped areas are useable and maintainable spaces that contribute to the existing landscape character of the street.
- g) Encourage the establishment and healthy growth of trees in urban areas.
- h) Use landscaping to contribute to the quality and amenity of the public and private domain.

5.8.2 Development Controls

- 1) Development is to comply with the provisions of the Wollongong DCP 2009 Chapter E6 Landscaping and E17 Preservation and Management of Trees and Other Vegetation.
- 2) Development including the public Domain is to comply with the provisions of the Wollongong City Centre Public Domain Manual.
- 3) Provision of all landscape components of residential apartment development shall comply with the requirements of the Apartment Design Guide.
- 4) In addition to requirements set out elsewhere in this DCP, Landscape Plans and supporting documents must demonstrate:
 - i) How the design and location of landscaped spaces responds to the availability of summer shade and winter sun and that chosen vegetation complements this seasonal change
 - ii) How impervious areas have been minimised to facilitate rainwater infiltration.
 - iii) How landscaping and tree placement in public or communal areas facilitates safe movement and use by people.
 - iv) How tree selection and placement of trees in public footpaths has considered the preservation of key views along streets
- 5) Where non-residential components of mixed-use development result in full site coverage and there is no capacity for water infiltration, the deep soil component must be provided on structure, in accordance with the provisions of DCP Chapter B3 Mixed Use Development Section 4.12.2. In such cases, compensatory stormwater management measures must be integrated within the development to minimise stormwater runoff.
- 6) Where setbacks from side and/or rear boundaries are required at ground, landscaping is to be included within these setbacks to reduce urban heat, increase canopy cover, facilitate water filtration, improve the microclimate and enhance biodiversity. This landscaping is to be designed to compliment the active users of these spaces, including pedestrian and vehicle movements where relevant.
- 7) Existing trees and vegetation are to be retained and protected wherever practical by locating built elements, paved areas, underground services and external structures where there will be minimum impact on the growing conditions needed by those trees.
- 8) A long-term landscape management plan must be provided for all landscaped areas, particularly any deep soil landscape zone. The plan must outline how landscaped areas are to be maintained for the life of the development, considering`.
- 9) On Key Sites and sites with frontages exceeding 55m in width, existing underground services within the footpath shall be relocated to ensure adequate space for new street trees behind the kerb.

5.9 Publicly accessible spaces

The urban environment is shaped by a complex interrelationship between a wide range of stakeholders – public and private. The public domain includes streets, footpaths, parks, plazas and some publicly owned buildings. Many publicly accessible private spaces in the city act as de-facto public domain, and extend the amenity and spatial dimension of the public domain. These spaces include building forecourts, colonnades, arcades, through site links and publicly accessible courtyards that have a connection to the street.

Good public spaces make people feel safe and secure. They are healthy and vibrant environments for people to enjoy. Publicly accessible areas of private developments, as well as the footpaths, lanes and other open spaces they interface with, must be positive extensions of the public domain.



Figure 36: Publicly accessible spaces are healthy and vibrant environments for people to enjoy.

5.9.1 Objectives

- a) Achieve desirable publicly accessible open spaces with high levels of amenity and design quality.
- b) Achieve publicly accessible open spaces that are inclusive of needs and desires of key community groups such as children, young people, older people, people on low incomes and

people with a disability.

- c) Achieve publicly accessible open spaces that are safe.
- d) Achieve publicly accessible open spaces that reinforce and increase the permeability of the City Centre to increase walkability.
- e) Publicly accessible private spaces visually and physically extend the street.
- f) Achieve publicly accessible open spaces that are activated throughout the day and night.
- g) Achieve publicly accessible open spaces that are attractive aesthetically.
- h) Achieve publicly accessible open spaces that are attractive functionally to allow casual meeting, socialising, various activities and events.
- i) Achieve publicly accessible open spaces that have an appropriate mix of hard and soft landscaping based on the character of the development and precinct in which they sit.

5.9.2 Development Controls

- 1) Any development requiring works to be carried out in the public domain in Wollongong City Centre will be subject to compliance with the requirements of the City Centre Public Domain Technical Manual.
- 2) Publicly accessible open spaces include clear, accessible, safe and convenient linkages to each other
- 3) Publicly accessible open spaces restrict vehicular movements except for public transit, emergency vehicles, servicing and vehicular drop-off, and special events.
- 4) The paving treatment of publicly accessible private spaces is to comply with the City Centre Public Domain Technical Manual.



- 1. Paving extends the street into the site
- 2. Landscaping adds colour and life
- 3. Transparent facades reveal activity
- 4. Movement is safe and easy
- 5. The building alignment clearly communicates the publicly accessible area

Figure 37: Publicly accessible spaces are healthy and vibrant environments for people to enjoy.

5.10 Public Art

Public Art enhances the visual quality and cultural influence of both the private and public domain. It contributes to people feeling positive about their surroundings.

Public art is a defining quality of dynamic, interesting and successful cities. The City recognises the cultural and economic benefits by integrating public art into the urban fabric. Well- integrated ecologically sustainable public art is encouraged in new development within the City Centre. Developers, architects, landscape architects and artists play a key role in shaping the city and should be involved in producing public artworks.



Figure 38: Public art enhances the visual quality and cultural influence of the public domain. Artist credit: Mike Hewson



Figure 39: Artist credit: SMUG (demolished 2025)

5.10.1 Objectives

- a) To promote the inclusion and integration of site specific public artworks within developments which are accessible to the public, make a positive contribution to the urban environment and add to the culture of the City.
- b) Contribute to the physical attractiveness and diversity the public realm of Wollongong City Centre.
- c) Increase the number of high-quality public artworks in private developments.
- d) Ensure that public art is an integrated and cohesive part of new development.
- e) Deliver essential infrastructure in creative and innovative ways through the use of public art.
- f) Provide the opportunity to interpret and express Wollongong's historical and cultural themes.

5.10.2 Development Controls

- 1) Public Art, or publicly accessible spaces for the exhibition of art, are required in developments valued at \$3,000,000 or more on key sites and sites of 5,000m² or more.
- 2) A detailed Public Art Plan is to be submitted with development applications where Public Art is required.

- 3) Public Art must comply with the Wollongong City Council Public Art Council Policy (available on request).
- 4) The Public Art Plan is to demonstrate how high-quality artworks will be included within the development in a publicly accessible or visible location.
- 5) Public Art is to be site-specific with ideas generated as a result of a deep understanding of the site, based on research and analysis, and must therefore enhance the particular site of the development as well as the city as a whole.
- 6) Public Art is to be visible to the broader community and enrich both the public and private domain.
- 7) Public Art is to be well designed and visually interesting and made by artists or organisations that are skilled in the selected field.
- 8) Construct Public Art of materials that are hard wearing, resistant to vandalism and require minimal maintenance.

5.11 Acoustic Privacy

Acoustic privacy is a measure of sound insulation between parts of a building and between external and internal spaces.

Late night trading premises are an important part of Wollongong's social and cultural life and play an important role in contributing to the City Centre's economic growth. City Centre development supports the growth of the night time economy through good design which enables both a vibrant night time economy and acoustic amenity for residents.

5.11.1 Objectives

- a) ensure a high level of acoustic amenity for occupants within residential apartments and / or serviced apartments.
- b) ensure that the City Centre's evening economy is supported by well designed buildings which mitigate against acoustic impacts

5.11.2 Development Controls

- 1) Residential apartments should be arranged to minimise noise transition between apartments by:
 - a) Locating busy, noisy areas next to each other and quieter areas, next to other quieter areas (eg living rooms with living rooms and bedrooms with bedrooms);
 - b) Using storage or circulation zones within an apartment to buffer noise from adjacent apartments, mechanical services or corridors and lobby areas; and
 - c) Minimising the amount of party (shared) walls with other apartments.
- 2) All residential apartments should be designed and constructed with double-glazed windows and / or laminated windows, solid walls, sealing of air gaps around doors and windows as well as insulating building elements for doors, walls, roofs and ceilings etc; to provide satisfactory acoustic privacy and amenity levels for occupants within the residential and / or serviced apartment(s).
- 3) Noise transmission from common corridors or outside the building is to be minimised by providing seals at entry doors.
- 4) To assist acoustic control of sound transmission between units:

- a) A common wall shall have a Field Sound Transmission Class (FSTC) of not less than 50 if it separates;
 - i) Sole occupancy units,
 - ii) A sole occupancy unit from a plant room, stairway, public corridor, hallway or the like.
 - b) A wall separating a bathroom, sanitary compartment, laundry or kitchen in one sole occupancy unit from a habitable room (other than a kitchen) in an adjoining unit, shall have an FSTC of not less than 55.
 - c) A floor separating sole occupancy units must not have an FSTC less than 50.
- 5) To assist acoustic control of impact noise between units:
- a) A floor shall have an Impact Isolation Class (IIC) of not less than 50 if it separates;
 - i) Habitable rooms of sole occupancy units
 - ii) A sole occupancy unit from a plant room, stairway, public corridor, hallway or the like.
 - b) A floor separating a bathroom, sanitary compartment, laundry or kitchen in one sole occupancy unit from a habitable room (other than a kitchen) in an adjoining unit, shall have an FSTC of not less than 55.
 - c) Walls between sole occupancy units shall comply with the impact sound resistance standards specified in the NCC.
- 6) All residential buildings and serviced apartments are to be constructed so that the repeatable maximum L Aeq (1 hour) level not does exceed the following levels:
- a) In a naturally ventilated - windows closed condition:
 - i) Sleeping areas (night time only: Hours - 2200-0700) - 35dB (ii) Living areas (24 hours) - 45dB
 - b) In a naturally ventilated - windows open condition, (ie, windows open up to 5% of the floor area, or attenuated natural ventilation open to 5% of the floor area):
 - i) Sleeping areas (night time only: Hours - 2200-0700) - 45dB
 - ii) Living areas (24 hours) - 55dB
 - c) The following repeatable maximum L Aeq (1 hour) levels shall not be exceeded when doors and windows are shut and mechanical ventilation or air conditioning is operating:
 - i) Sleeping areas (night time only: Hours - 2200-0700) - 38dB
 - ii) Living areas (24 hours) - 46dB
- Note:* These levels correspond to the combined measured level of external sources and the ventilation system operating normally.
- 7) The Statement of Environmental Effects (SEE) accompanying the development application must demonstrate that the abovementioned noise criteria for windows to sleeping areas and living areas, and Field Sound Transmission Class (FSTC) criteria for walls and floors, have been met for each residential apartment or serviced apartment in the development through the provision of appropriate acoustic treatment measures.
- 8) The proposed acoustic measures must also be shown on the required architectural floor layout and elevation plans for the development. Alternatively, the Statement of Environmental Effects

(SEE) may include an acoustic impact assessment study which outlines alternative acoustic treatment measures for any residential apartments and / or serviced apartments in the development. The acoustic impact assessment study must be carried out by a suitably qualified and experienced acoustic consultant (ie a person who is a Member of the Australian Acoustical Society, the Institution of Engineers or the Association of Australian Acoustical Consultants).

5.12 Car parking requirements

High volume traffic affects a number of streets, placing pressure on the City Centre and decreasing the quality of streets for people. Movement in the City Centre is to prioritise pedestrians and their access to public and active transport.

5.12.1 Objectives

- a) Prioritise the City Centre for pedestrians.
- b) Reduce the number of vehicles using the core of the City Centre.
- c) Encourage mode shift to public and active transport.
- d) Provide car parking spaces that are adaptable to future uses.

5.12.2 Development Controls

- 1) Parking rates for cars, motorcycles and bicycles for developments within the City Centre are to be provided as per Part E3 of this DCP.
- 2) Notwithstanding the above control;
 - i) car parking rates on sites incorporating the adaptive use of heritage listed buildings may be subject to a reduction at the discretion of the determining authority (applied to the uses within the heritage building only).
- 3) Car parking and associated internal manoeuvring areas which are surplus to Council's specified parking requirements will count towards the gross floor area, but not for the purpose of determining the necessary parking.
- 4) Car parking areas are to be integrated into the design of the building.
- 5) Car parking is not to be visible at ground level, or on any level up to street frontage height, from any street frontage.
- 6) Above ground carparking levels are to have floor to floor heights that will allow them to facilitate other uses in the future. Any car parking levels provided in a mixed-use building at ground or first floor level are to facilitate a potential future floor to ceiling height of 3.3m. Carparking levels above the first floor are to facilitate future floor to ceiling heights of 2.7m.
- 7) Vehicle access is to meet the requirements of Vehicular Footpath Crossings.
- 8) Ventilation grilles and associated elements are to be:
 - i) integrated into the overall façade and landscape design of the development,
 - ii) not located on the primary street façade, and
 - iii) oriented away from windows of habitable rooms and private opens space areas.

5.13 Vehicular Footpath Crossings

A vehicular footpath crossing includes any driveway or other vehicle access-way that crosses a paved pedestrian footpath.

Footpaths in the City Centre are prioritised for pedestrians. The design and location of vehicle access points should promote safe walkability and maintain the visual continuity of the streetscape.

5.13.1 Objectives

- a) Vehicle access points prioritise pedestrian movement
- b) Vehicle access points minimise disruptions to pedestrian movement
- c) Vehicle entry points do not dominate the design of buildings

5.13.2 Development Controls

- 1) No additional vehicle entry points will be permitted along the streets mapped as Active Frontages on the Wollongong LEP 2009 Active Frontages Map.
- 2) Redevelopment of sites with a dual frontage including one frontage impacted by the restrictions made by the above control, and one not impacted, are to remove existing entries where restrictions apply and locate entries on the alternate street frontage.
- 3) In all areas not mapped as Active Frontages, a maximum of one vehicle access point will be permitted.
- 4) Vehicle access is to be provided off lanes and minor streets rather than primary street frontages to limit conflicts with pedestrian and cyclist activity.
- 5) Vehicle access to heritage building will be assessed on a case-by-case basis by the determining authority.
- 6) Vehicle access driveways and ramps are to be perpendicular to the kerb alignment.
- 7) Driveway grades to be consistent with adjoining footpaths to ensure a continuous path of travel for pedestrians.
- 8) Changes in driveway grade may commence inside the site boundary except where a ground floor setback for wider footpaths and/or street planting is imposed. In these cases the driveway grade must be consistent with the footpath for the extent of the setback.
- 9) Any development requiring works to be carried out in the public domain will be subject to compliance with the requirements of the City Centre Public Domain Technical Manual.
- 10) All driveways and vehicle ramps shall comply with the relevant Australian Standards and the requirements of the Wollongong City Council Standard Engineering Drawings.
- 11) Where practicable, adjoining buildings are to share or amalgamate vehicle access points. Internal on-site signal equipment is to be used to allow shared access. Where appropriate, new buildings should provide vehicle access points so that they are capable of shared access at a later date
- 12) If adjacent to a residential development setback a minimum of 1.5m from the relevant side property boundary.

6. ENERGY MANAGEMENT

6.1 General

This section deals with energy use and efficiency.

6.1.1 Objectives

To satisfy the aims of the Wollongong LEP 2009, support the achievement of design excellence, reinforce the objectives of Wollongong DCP Chapter A2 Ecologically Sustainable Development, this section aims to;

- a) Support the achievement of design excellence
- b) Ensure environmental impacts related to energy use are managed in a sustainable and economical way,
- c) Ensure a healthy internal and external environment,
- d) Support a sustainable supply of energy resources, and
- e) Contribute to the achievement of Net Zero carbon emissions by 2050

6.2 Energy efficiency

The ability of development to optimise thermal performance, thermal comfort and day lighting will contribute to the energy efficiency of the buildings, provide increased amenity to occupants and reduce carbon emissions and, with them, the cost of supplying energy.

6.2.1 Objectives

- a) To reduce the necessity for mechanical heating and cooling.
- b) To minimise carbon emissions.
- c) To use natural climatic advantages of the coastal location such as cooling summer breezes, and exposure to unobstructed winter sun.

6.2.2 Development Controls

- 1) Development is to be designed and constructed to reduce the need for active heating and cooling by incorporating passive design measures. These may include:
 - i) building orientation,
 - ii) location and thermal properties of glazing,
 - iii) natural ventilation,
 - iv) appropriate use of thermal mass and insulation and
 - v) external shading, including vegetation.
- 2) Development is to be designed to enable the efficient operation of:
 - i) mechanical space heating and cooling
 - ii) hot water reticulation

- iii) artificial lighting
- 3) Development Applications for relevant non- residential developments must demonstrate compliance with SEPP Sustainable Buildings energy performance standards by providing a NABERS Commitment to Rate or Commitment Agreement or equivalent.
- 4) Development Applications for residential development must demonstrate compliance with SEPP Sustainable Buildings energy performance standards by providing a BASIX certificate.

6.3 Energy supply

All electric buildings are more energy efficient, economical and healthier for occupants.

All electric buildings reduce construction and operating costs through the elimination of gas pipes and metering and ongoing connection and usage charges.

The combustion of natural gas in homes for cooking and space heating is linked to 12% of asthma cases in Australia (Knibbs et.al.,2018). Using alternative energy sources such as electricity improves indoor air quality and has enduring health benefits for occupants.

6.3.1 Objectives

- a) To improve air quality within the built environment and promote health by reducing exposure to air pollutants.
- b) To ensure new development is energy efficient and therefore cost effective for occupants over the long term, and can avoid future costs of electrification or remaining on the fossil fuel gas network.

6.3.2 Development Controls

- 1) Development applications for new buildings submitted after June 30 2026 are to demonstrate that they will only use electricity (grid provided and on-site renewables) for all energy requirements associated with normal operations.
- 2) Where it is demonstrated that the intended use of the building requires a process or equipment that is not able to be served by electricity or other renewable energy source, fossil fuels (such as gas) may be provided to operate that service only. Evidence shall be provided with the application to confirm that an adequate alternative is not technically possible or feasible.

7. WATER CONSERVATION

The integration of water-saving and reuse measures into development design is critical for reducing the reliance on potable water supplies, supporting climate adaptation, and lowering long-term operational costs for property owners. By incorporating water conservation and Water Sensitive Urban Design (WSUD) principles, development will deliver measurable benefits to building occupants, the environment, and the broader community.

7.1.1 Development Controls

- 1) Water efficiency and WSUD measures shall be provided in accordance with the requirements stated in the Chapter E15 – Water Sensitive Urban Design (WSUD) in Part E of this DCP.