

2016

Discussion Paper

Sustainability and Wollongong
Development Control Plan 2009

April 2016



UNDERSTANDING OUR FUTURE GROWTH
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Contents

1.	Introduction	1
1.1	Defining sustainability	1
1.2	Initial stakeholder feedback	2
1.3	Benchmarking	2
1.4	The role of Wollongong DCP	3
2.	Sustainability and Wollongong DCP	5
2.1	Biodiversity.....	8
2.1.1	Neighbourhood planning and subdivision.....	9
2.1.2	Individual allotments	9
2.1.3	Floor space ratio and site coverage.....	12
2.1.4	Benchmarking across other Councils	12
2.1.5	Recommended amendment to Wollongong DCP 2009.....	14
2.2	Energy and Water	17
2.2.1	Residential development and BASIX.....	17
2.2.2	Commercial and Industrial development	17
2.2.3	Subdivision.....	19
2.2.4	Floodplain, stormwater and riparian management	19
2.2.5	Building Code of Australia	19
2.2.6	National Australian Built Environment Rating System	19
2.2.7	Benchmarking across other Councils	20
2.2.8	Recommended amendment to Wollongong DCP 2009.....	22
2.3	Waste.....	23
2.3.1	Wollongong DCP and waste minimisation during demolition and construction.....	23
2.3.2	Wollongong DCP and waste collection requirements for different development types.....	23
2.3.3	Benchmarking across other Councils	23
2.3.4	Recommended amendment to Wollongong DCP 2009.....	24
2.4	Transportation.....	25
2.4.1	Car and bicycle parking in Wollongong DCP 2009.....	25
2.4.2	Car parking incentive for development near transport nodes in Wollongong.....	26
2.4.3	Encouraging active transport through subdivision and road design.....	26
2.4.4	Benchmarking across other Councils	26
2.4.5	Recommended amendment to Wollongong DCP 2009.....	27
2.5	Building design and materials.....	29
2.5.1	Residential development	29
2.5.2	Commercial and industrial development.....	30
2.5.3	Recommended amendment to Wollongong DCP 2009.....	32
3	NSW legislation under review.....	33
3.1	NSW Government expanding complying development.....	33
3.2	NSW Government BASIX target review	33
4	Conclusion and Recommendations	34
	Appendix A.....	39

1. Introduction

Like many other areas across New South Wales, Wollongong is experiencing development pressures and this pressure will continue into the future. The Illawarra Shoalhaven Regional Plan 2015 has identified projected housing needs for the Wollongong local government area of 14,600 by 2036. The vision set for the Illawarra and Shoalhaven in the regional plan is *a sustainable future and resilient community, capable of adapting to changing economic, social and environmental circumstances*. The plan identifies the need to support the sustainable use of land and water resources and build resilience to natural hazards and climate change.

Wollongong Local Environment Plan 2009 (Wollongong LEP 2009) is Council's primary statutory document regulating land use and development for the city. Wollongong Development Control Plan 2009 (Wollongong DCP) supplements Wollongong LEP 2009 and contains development objectives and controls which guide permissible development. Wollongong DCP came into force on 3 March 2010 and has since been subject to periodic review. No review has been completed targeting sustainability. Council's Environmental Sustainability Strategy and associated implementation plan, as well as Council's Environmental Strategy and Planning Division 2015/2016 Business Plan seeks development of a sustainability DCP chapter. This discussion paper aims to:

- a) review Wollongong DCP in the context of sustainability as defined by Council's Environmental Sustainability Policy and ESD as defined by the *Environmental Planning and Assessment Act 1979* and *Local Government Act 1993*.
- b) document strengths and shortfalls of current development objectives and controls contained in Wollongong DCP relating to sustainability.
- c) outline legislation affecting development outcomes and the application of Wollongong DCP.
- d) benchmark Wollongong's DCP provisions against the DCP provisions of other NSW Councils.
- e) provide recommended amendments for Wollongong DCP to enhance the sustainability of development.

1.1 Defining sustainability

Sustainability is considered an all-encompassing term applicable to Council and our community. Council's Environmental Sustainability Policy defines sustainability as *"meeting the need of present generations without compromising the ability of future generations to meet their own needs"* (Our Common Future, World Commission on Environment and Development 1987).

The *Environmental Planning and Assessment Act 1979* (EPA Act 1979) addresses sustainability through its main objectives, encouraging:

- (i) *the proper management, development and conservation of natural and artificial resources, including agricultural land, natural assets, forests, minerals, water, cities, towns and villages, for the purpose of promoting the social and economic welfare of the community and a better environment... and*
- (vii) *ecologically sustainable development*

Ecologically sustainable development as defined by the *Environmental Planning and Assessment Act 1979*,

... *requires the effective integration of economic and environmental considerations in decision-making processes. Ecologically sustainable development can be achieved through the implementation of the following principles and programs:*

- (a) *the precautionary principle—namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.*

In the application of the precautionary principle, public and private decisions should be guided by:

- (i) *careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and*
 - (ii) *an assessment of the risk-weighted consequences of various options,*
- (b) *inter-generational equity—namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations,*

- (c) *conservation of biological diversity and ecological integrity—namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,*
- (d) *improved valuation, pricing and incentive mechanisms—namely, that environmental factors should be included in the valuation of assets and services, such as:*
 - (i) *polluter pays—that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,*
 - (ii) *the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,*
 - (iii) *environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.*

The *Local Government Act 1993* (LG Act 1993) provides the legal framework for the effective, efficient, environmentally responsible and open system for local government in NSW. There are five overall purposes of the LG Act 1993 including the requirement for councils, councillors and council employees to have regard to the principle of ecologically sustainable development in carrying out of their responsibilities. The principles of ecologically sustainable development are defined the same as that of the EPA Act 1979.

Council's Environmental Sustainability Policy acknowledges the principles of ecologically sustainable development in all Council decision making processes, including the precautionary principle, biological diversity and improved valuation, pricing and incentive mechanisms.

The definition of sustainability as defined by Council's Environmental Sustainability Policy, as well as the definition of ESD defined in accordance with EPA Act 1979, have informed this discussion paper.

1.2 Initial stakeholder feedback

Initial feedback was sought from Council's Neighbourhood Forums and Environment and Sustainability Reference Group in August/ September 2015 to identify issues and concerns for consideration in this sustainability DCP review (Appendix A). Feedback received was wide-ranging but broadly based around the need to:

- ✓ increase native vegetation and biodiversity,
- ✓ decrease permeable surfaces,
- ✓ improve the siting and operation of residential developments,
- ✓ decrease the bulk and scale of development,
- ✓ go beyond the standard BASIX requirements,
- ✓ review universal housing requirements.

A number of issues raised concerned matters outside Council's sphere of influence i.e. those Council is unable to regulate through a development control plan. These included the requirement to increase sustainability features beyond BASIX for dwellings, as well as minimum passive solar design requirements for dwellings.

1.3 Benchmarking

Forming part of this review, Wollongong DCP provisions have been benchmarked against other NSW Councils to highlight differences between local government areas and opportunity for Wollongong. DCP's from the following local government areas have been included in this review:

- City of Sydney 2012
- Gosford DCP 2013
- The Hills DCP 2012
- Kiama DCP 2012
- Newcastle DCP 2012
- North Sydney 2013
- Penrith DCP 2014
- Shellharbour DCP 2013
- Sutherland Draft DCP 2015
- Willoughby DCP 2006

Specific and more targeted DCP chapters from other local government areas have also been included in this review. These have been integrated where appropriate throughout the remainder of this discussion paper.

1.4 The role of Wollongong DCP

In accordance with s74BA of EPA Act 1979, the principal purposes of a DCP are to provide guidance on the following matters:

- ✓ to give effect to the aims of the Wollongong LEP 2009,
- ✓ facilitate permissible development, and
- ✓ achieve the objectives of the various land uses zones under Wollongong LEP 2009.

DCP controls may be varied to provide flexibility for applicants, whilst still achieving the DCP objectives.

The Wollongong DCP is divided into five parts and contains 63 chapters and 3 appendices.

- Part A Introduction
- Part B Land Use Based Planning Controls
- Part C Specific Land use Controls
- Part D Locality Based DCPs/ Precinct Plans
- Part E General (City Wide) Controls.

The DCP is structured to move from land use based controls (Part B) to specific locality based controls (Part D), to city wide controls.

The scope of development requiring compliance with Wollongong DCP is limited by other statutory requirements (Table 1).

The State Environmental Planning Policy (Exempt and Complying Development Standards 2008) enables exempt and complying development to occur through application of State-wide development controls. Wollongong LEP and DCP do not apply where an applicant chooses to develop in accordance with this SEPP.

Analysis of data relating to development applications determined and complying development certificates in the Wollongong local government area for 2014/2015 (1 July 2014 to 30 June 2015) indicates 25.1% of applications were complying development, 97% of which were assessed by a private certifier and not Council.

The NSW Government is looking to expand SEPP (Exempt and Complying Development Standards) 2008. A discussion paper was released in November 2015 which explored expansion of the SEPP to include dual occupancies, manor homes, and certain townhouses and terraces. This review is outlined further later in this paper.

Table 1: Legislation affecting application of development control plans

Legislation	Applicability	How does the legislation relate to Council and Wollongong DCP?
State Environmental Planning Policy (Exempt and Complying Development Codes) 2008	<p>This SEPP provides a streamlined assessment process for development that complies with specified development standards. This SEPP applies to development types such as dwellings, additions and alterations, swimming pools.</p> <p>Exempt development codes identify the type of development that are of minimal environmental impact that may be carried out without need for development consent (exempt).</p> <p>Complying development codes identify the types of development that may be carried</p>	<p>Council (or a private certifier) completes complying development approval process.</p> <p>Certifiers do not have to assess complying development applications against the Wollongong DCP.</p>

Legislation	Applicability	How does the legislation relate to Council and Wollongong DCP?
	out with a complying development certificate.	
State Environmental Planning Policy No 65 - Design Quality for Residential Apartment Buildings	<p>SEPP 65 applies to residential flat building, shop top housing or mixed use development with a residential accommodation component, (if the development is a new building or substantial re-development, is at least 3 or more storeys, and contains at least 4 or more dwellings).</p> <p>This does not apply to boarding houses or serviced apartments, or class 1a or 1b buildings within the meaning of the <i>Building Code of Australia</i> (i.e. dwelling houses, boarding houses, guest houses, townhouses and villas).</p>	<p>For development effected by this SEPP, advice from the design review panel, design quality principles, and Apartment Design Guide must all be taken into consideration.</p> <p>Clause 6A indicates Wollongong DCP provisions have no effect in relation to visual privacy, solar and daylight access, common circulation and spaces, apartment size and layout, ceiling heights, private open space and balconies, natural ventilation, storage.</p> <p>BASIX applies to development required to comply with SEPP 65.</p> <p>A report to Council 14 March 2016 proposes to increase the application of Wollongong's Design Review Panel and application of SEPP 65 developments. All buildings 3 storeys or more containing at least 4 dwellings will be designed in accordance with SEPP 65 and Apartment Design Guidelines.</p>
State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004	<p>SEPP applies to all residential development types in NSW e.g. dwelling houses, dual occupancies, multi-dwelling housing, residential flat buildings, the residential component of mix use buildings. This includes complying development.</p> <p>This does not include a hotel or motel.</p>	<p>In accordance with s9 of the SEPP, any provisions contained in Wollongong DCP which relate to the following have no effect</p> <ul style="list-style-type: none"> the reduction of mains supplied potable water, or reduce emissions or greenhouse gases in BASIX effected buildings, or an improved thermal performance of a building.
<p>A multitude of other legislation operates to regulate the development industry and directly and indirectly affects development outcomes in the Wollongong area. For example:</p> <ul style="list-style-type: none"> SEPP (Infrastructure) 2007 SEPP (Affordable Rental Housing) 2009 SEPP (Housing for Seniors or People with a Disability) 2004 		

2. Sustainability and Wollongong DCP

Wollongong DCP 2009 contains a multitude of existing and integrated provisions which directly or indirectly contribute to sustainable development outcomes. The overarching objectives contained upfront in Wollongong DCP include a number of provisions which introduce and highlight the importance of sustainability for the Wollongong area. These overarching objectives are supported by specific objectives and development controls embedded throughout the various land use, site specific and general DCP chapters in Wollongong DCP 2009.

There are many existing provisions of Wollongong DCP which directly and indirectly enhance the sustainability of development outcomes for the Wollongong area, which are summarised in Table 2.

Table 2: Existing provisions of Wollongong DCP promoting enhanced sustainability outcomes.

Chapter	Wollongong DCP Objective / Control
A1: Introduction	<p>Overarching aims and objectives include:</p> <ul style="list-style-type: none"> c) ensuring that development contributes to the quality of the natural and built environments. f) encouraging the provision of development that is accessible and adaptable to meet the existing and future needs of all residents, including people with a disability. g) ensuring development is of a high design standard and energy efficient. i) ensuring the threat of bushfire is assessed. k) ensuring new development contributes to the safe and liveable environments.
B1: Residential Development	<p>The overall aims for general residential development in Wollongong DCP include:</p> <ul style="list-style-type: none"> (d) to manage residential development in order to maximise the retention of significant remnant trees and other natural features in particular localities. (e) to encourage innovative housing design and energy efficient housing which embraces the highest possible architectural, environmental and amenity standards. (f) promoting development which achieves the objectives of ESD. (g) to encourage a mix of housing forms within the city to assist in achieving urban consolidation initiatives particularly in localities close to business centres and railway stations and to assist in providing housing affordability. <p><i>Landscaping</i></p> <p>The objectives for landscaped areas for dwelling and dual occupancy residential development aims to preserve and retain existing mature native vegetation, encourage the planting of additional significant vegetation, encourage the linkage of habitat corridors along the rear of sites, allow for increasing water infiltration and minimising urban run-off.</p> <p>The objectives for landscaping for attached dwellings and multi dwelling housing and residential flat buildings are similar to those for general residential development, focusing on reducing impervious areas, the appearance of housing through integrated landscape design and increasing the volume of vegetation in urban areas. A minimum landscaped area is required for all residential development.</p> <p><i>Deep soil zones</i></p> <p>Attached dwellings, multi dwelling housing and residential flat buildings are also required to include a minimum deep soil zone on the site. Deep soil zone objectives compliment those for required landscaped areas and aim to protect existing mature trees on site, encourage the planting of significant vegetation, encourage linkage with adjacent deep soil zones to provide habitat, and allow of increased water infiltration.</p> <p><i>Building character and form</i></p> <p>Provisions which aim to ensure residential development respond to both its natural and built surrounds.</p> <p><i>Adaptable Housing</i></p> <p>Requirement for the application of adaptable housing standard (Australian Standard) generally where there are 6 or more dwellings proposed for a multi dwelling housing and residential flat building.</p> <p><i>SEPP 65 and the NSW Department of Planning and Environment's Apartment Design Guide (July 2015)</i></p>

Chapter	Wollongong DCP Objective / Control
	<p>Applicable to residential flat buildings and includes objectives and design guidance for such development, including provision relating to solar access and design, natural ventilation, landscape design, adaptive reuse, universal design, green roofs and walls, planting on structures, energy efficiency and water management and waste management.</p>
<p>B2: Residential Subdivision</p>	<p>Overall aims include: ensuring subdivisions are designed to take into account the principles of ecological sustainable development; including focus on lot orientation for future solar efficiency; and ensuring the majority of allotments are within 400m walking distance to a bus stop.</p> <p><i>Subdivision design</i></p> <p>Subdivision design objectives and controls aim to ensure the design of a proposed subdivision takes into account inherent site constraints and natural landform features, and to ensure significant trees, other vegetation and endangered ecological communities and threatened species are taken into account.</p> <p><i>Lot layout and orientation</i></p> <p>Includes provision for: consideration of energy efficiency opportunities for future dwellings; maximising private open space; ensuring adequate pedestrian and cycleway linkages are provided; ensuring road networks cater for the safety of pedestrians, cyclists and motorists; and ensuring that footpaths meet required standards.</p> <p><i>Street tree planting</i></p> <p>The residential subdivision chapter includes specification for one street tree per 12m of residential frontage as being generally required.</p> <p><i>Stormwater Drainage (including water sensitive urban design infrastructure)</i></p> <p>Provisions aim to minimise stormwater drainage runoff impacts and limit post development discharge to that of pre-development levels. It aims to provide a sustainable stormwater drainage and water quality environment for both the natural and man-made environment. It aims to encourage the use of water sensitive design initiatives for larger residential subdivisions.</p>
<p>B3 Mixed Use Development</p>	<p>There are various objectives for mixed use development for Wollongong including minimising adverse impacts on neighbouring land uses and ensuring the development has regard for any trees or vegetation which requires preservation. There is no specific objective which promotes development which aims to achieve the principles of ecologically sustainable development.</p> <p><i>Landscaping</i></p> <p>Provision for podium planting and street trees is included. Green roofs and walls are currently not encouraged/ required in Wollongong DCP.</p> <p><i>Adaptable Housing</i></p> <p>Adaptable housing is required where there is a residential component to the development for multi dwelling and attached dwelling housing.</p> <p><i>Adaptive Reuse</i></p> <p>An additional strength of this DCP chapter includes objectives and controls relating to adaptive reuse. These provisions aim to ensure flexible living / working relations within the dwelling design, encourage the conversation of underutilised commercial (office and retail) space to residential. It aims to ensure adaptive reuse opportunities are considered when designing such developments.</p>
<p>B4 Development in Business Zones</p>	<p>DCP Chapter currently under separate review.</p>
<p>B5 Industrial Development</p>	<p>Wollongong's industrial lands DCP chapter includes objectives for the incorporation of ecologically sustainable development and encouraging the use of water sensitive urban design measures.</p> <p>Development objectives relating to the building design / façade treatment include the promotion of</p>

Chapter	Wollongong DCP Objective / Control
	<p>functional, safe and environmentally friendly industrial development. The provision of natural lighting is required for large-scale factory or warehouse distribution buildings.</p> <p>Landscaping controls include a minimum number of trees for car park areas (1 tree per 10 car spaces selected to provide a 4-6m canopy spread at maturity).</p>
<p>B6 Development in the Illawarra Escarpment</p>	<p>Objectives of this DCP chapter include provision to:</p> <p>(e) ensure development is consistent with the principles of ecologically sustainable development, especially intergenerational equity, bearing in mind the unique environmental characteristics of each specific locality within the escarpment.</p> <p>(f) ensure that development is restricted to the existing cleared sites within the escarpment slope and foothills areas only and any such development is well designed to minimise potential bush fire, land instability, flooding and or draining hazard risks.</p> <p>(g) ensure that any new development makes provision for adequate water supplies and an environmentally acceptable waste water treatment system and stormwater drainage.</p> <p>Development in the Illawarra Escarpment requires a visual impact assessment. This is additional to the general development controls for the subject development.</p> <p>Siting and orientation objectives and controls ensure dwellings and outbuildings are not prominent on a ridgeline or hilltop, are sympathetic with the landscape character and surrounding environment, and ensure the external building materials and finishes reinforce the landscape character of the Illawarra Escarpment.</p> <p>This DCP Chapter also includes an outline of BASIX and compliance requirements for residential development.</p>
<p>D13 Wollongong City Centre</p>	<p>This DCP chapter includes requirement to meet minimum energy efficiency and water conservation development controls for certain development, including minimum 4 star rating in accordance with NABERS for commercial office development with a construction cost of \$5 million or more.</p> <p>Development controls relating to reflectivity, wind mitigation, landscape design and planting on structures are also included.</p>
<p>D16 West Dapto Urban Release Area</p>	<p>Chapter D16 West Dapto Release Area acknowledges the intrinsic environment and biodiversity present in the area and sets outlines, in general terms, how this area will be subdivided.</p> <p>Council has also resolved to apply biodiversity certification for West Dapto. This process is underway.</p>
<p>E6 Landscaping</p>	<p>DCP Chapter defines the landscaping provisions necessary for different types of development applications. It aims to ensure landscaping is appropriate to characteristics of its locality, preserves and contributes to its natural, culture, heritage and visual character, and minimise the impacts from development on natural site features and existing trees.</p> <p>DCP chapter includes provisions relating to street trees.</p>
<p>E7 Waste Management</p>	<p>DCP Chapter aiming to minimise the volume of waste generated during the demolition and construction phases of development, minimise waste and encourage recycling during the post development operational phase. This includes the specification for a site waste minimisation management plan specifying the types and volumes of waste expected to be generated, as well as the reuse, recycling and/ or final disposal sites.</p>
<p>E17 Preservation and Management of Trees and Vegetation</p>	<p>DCP chapter outlining Council's requirements for the preservation and management of trees and other vegetation. The controls outlined in this chapter apply for tree/ vegetation removal requested via a development application of via a tree management permit.</p> <p>This DCP chapter aims to protect trees in our LGA, protect and enhance native vegetation and habitat, conserve significant stands of remnant vegetation and ensure any new development considers and maximises the protection of existing vegetation through the site planning, design, development, construction and operation of the development.</p>

Chapter	Wollongong DCP Objective / Control
	This chapter operates alongside chapter E18 (Threatened Species).
E18 Threatened Species	This DCP Chapter applies where there is potential for a development to affect threatened species, populations, endangered ecological communities or their habitat. This DCP chapter is primarily focused on legislation (TSC Act 1995 or FMA 1994) and outlines legislative requirements to assess such impacts. This chapter includes Council's requirements for flora and fauna assessments.
E23 Riparian Lands Management	There are many objectives of this DCP chapter including the aim to protect urban creeks and riparian corridors, conserve, enhance and protect existing native riparian vegetation and habitat and protecting water quality.

In order to analyse the specific provisions of Wollongong DCP and benchmark Wollongong DCP against other NSW Councils DCP provisions, the remainder of this discussion paper has been broken into key sustainability themes, namely:

- Biodiversity
- Energy and water
- Waste
- Transportation
- Building design and materials

2.1 Biodiversity

The effect of development on biodiversity is regulated in the first instance by federal and state legislation, and subsequently via Wollongong LEP 2009 and Wollongong DCP. Legislation and state environmental planning policies regulating biodiversity impacts include:

- *Environmental Protection and Biodiversity Conservation Act 1999*
- *Environmental Planning and Assessment Act 1979*
- *Threatened Species Conservation Act 1995*
- *Fisheries Management Act 1994*
- *Native Vegetation Act 2003*
- *State Environmental Planning Policy 26 – Littoral Rainforests*
- *State Environmental Planning Policy 44 – Koala Habitat Protection*

Wollongong LEP 2009 contains provisions relating to biodiversity, namely clause 7.2 Natural Resources Sensitivity-Biodiversity and clauses 5.9 and 5.9AA Preservation of trees and vegetation.

Clause 7.2 Natural Resources Sensitivity- Biodiversity aims to protect, maintain or improve the diversity and condition of the native vegetation and habitat, including protecting biological diversity of native flora and fauna, protecting ecological processes, and encouraging the recovery of threatened species, communities, populations and their habitats. This clause applies to areas identified on the natural resource sensitivity – biodiversity map, contained in Wollongong LEP 2009.

Clause 5.9 aims to preserve the amenity of the area including biodiversity values, through the preservation of trees and other vegetation. This clause contains provisions relating to the assessment of trees and other vegetation for removal, and references requirements of Wollongong DCP.

The following chapters of Wollongong DCP directly address biodiversity issues by supporting statutory requirements for biodiversity assessment, and outlining Council's process for the removal of trees and other vegetation.

E17 – Preservation of trees and other vegetation

E18 – Threatened Species Impact Assessment

E23 – Riparian Land Management

There are various DCP provisions which indirectly affect biodiversity and the potential for biodiversity at the neighbourhood planning and subdivision scale, as well as at the individual allotment scale. These have been examined further below.

2.1.1 Neighbourhood planning and subdivision

Chapter B2 Residential Subdivision and D16 West Dapto Release Area of Wollongong DCP provide comprehensive development objectives and controls for subdivisions in the Wollongong local government area. The overall objectives contained in Chapter B2 Residential subdivision include provisions for the subdivision being responsive to inherent site conditions and constraints, and ensure subdivisions are designed to take into account the principles of ESD.

For the West Dapto Urban Release area, Council has resolved to support the application of the biodiversity certification assessment methodology (27 May 2013 and 23 June 2014). The biodiversity certification process identifies and protects areas of high conservation value at the landscape scale, whilst also identifying areas suitable for development. Impacts on areas of lower biodiversity value are permanently offset leading to an overall 'improve or maintain' outcome. This approach is considered to be the most sustainable approach to managing the competing priorities of environmental protection and biodiversity, and delivery of housing in the West Dapto urban release area.

Chapter D16 West Dapto Release Area acknowledges the intrinsic environment and biodiversity present in the area and sets outlines, in general terms, how this area will be subdivided. s6.3.1 Flora and Fauna development controls specify areas of environmental sensitivity to be zoned environmental conservation accordingly with minimal development permitted. Areas of lesser significance will still require sensitive design and siting and be included in the Environmental Living zone. Additionally, areas of significant remnant vegetation will be conserved and incorporated into the open space network as areas of passive recreation.

Water Management and Riparian Management objectives and controls in Chapter D16 West Dapto Release Area aim to conserve and rehabilitate riparian corridors and vegetation, restore remnant native vegetation along creeklines, escarpment and provide linkages for wildlife movement, and to introduce wildlife corridors providing a functioning habitat for birds, fish and diverse native flora.

2.1.2 Individual allotments

Although the scope to achieve biodiversity outcomes at an individual allotment scale is limited, there are a number direct and indirect development controls which enhance and effect biodiversity outcomes.

The land use based DCP chapters in Wollongong DCP (Chapters B1 – B7) specify development objectives and controls which guide the footprint, siting and built form of development on a site. Development controls relating to setbacks, landscaping, private open space, and deep soil zones, and Wollongong LEP 2009 floor space ratio, collectively affect the potential for biodiversity both in a present and future capacity.

For dwellings and ancillary development assessed as complying development in accordance with SEPP (Exempt and complying), development standards applied differ from those specified in Wollongong DCP. Table 3 summarises Wollongong's general residential development controls and those required in accordance with SEPP Exempt and Complying Development Standards.

Table 3: Wollongong's general residential development controls compared with those required as per SEPP (Exempt and Complying)

	WCC DCP Controls General residential (Chapter B1)	SEPP (Exempt and Complying Development Codes) 2008*
Front setback	6m for infill development (unless the prevailing street character is less). 4m for greenfield sites (except garages and carports – 5.5 m).	Based on lot area. For example 4.5m - for a lot >300m ² but not more than 900m ² .
Side setback	For single storey development, walls must be setback 900mm and eaves/ gutters must be setback 450mm.	Based on lot widths however this is generally 900mm.

	WCC DCP Controls General residential (Chapter B1)	SEPP (Exempt and Complying Development Codes) 2008*
Rear setback	For single storey development, walls must be setback 900mm and eaves/gutters must be setback 450mm. 3m - for double storey development,	Based on lot area. For example 3m – for any building with a height of up to 4.5 m and lot area of between 200m ² and 900m ² . 8m – for any building with a height greater than 4.5 m and lot area of between 300m ² and 900m ² .
Landscape area	20% of the site, of which 50% must be behind the primary building line. Minimum landscaped width – 1.5m.	Based on lot area. 20% - lot area is >450m ² - <600m ² 30% - lot area is >600m ² - <900m ² . 40% - lot area is >900m ² - <1500m ² . At least 50% of the landscaped area must be behind the building line to the primary road. Minimum landscaped width – 1.5m.
Private open space	Minimum area of 24m ² . Minimum width for one side 4m and no steeper than 1:50.	Based on lot width. For example: 24m ² minimum POS for lots with width >10m. Minimum width for one side 3m, no steeper than 1:50.
Site coverage	Nil	s3.9 outlines site coverage requirements for complying development subject based on the lot area. i.e. 55% of the area of the lot, if the lot has an area of at least 300m ² but less than 450m ² 50 % if the lot has an area of at least 450m ² but less than 900m ² 40% if the lot has an area of at least 900m ² but less than 1500m ² .
Floor area	Floor space ratio as defined by Wollongong LEP and shown on the FSR map. FSR is defined in s2.1.3. Generally FSR is as follows: R2 zone (low density residential) 0.5:1 R3 zone (medium density zone) 0.75:1	Maximum floor area used and defined differently to the FSR As per Wollongong LEP. Maximum floor areas is the total floor area for a dwelling housing, detached studio, basement and any secondary dwelling: 270m ² if the lot has an area of 300m ² but not more than 450m ² . 330m ² if the lot has an area of 450m ² but not more than 600m ² . 380m ² if the lot has an area of 600m ² but not more than 900m ² . 430m ² if the lot has an area of more than 900m ² . Floor area, for a dwelling house referred to in Part 3, 3A or 4 of SEPP (exempt and complying), means the sum of the areas of each storey of the dwelling house and any carport, garage, balcony, deck, patio, pergola, terrace or verandah, measured at a height of 1.4m above each floor level, that is within the outer face of: (a) the external walls of the dwelling house, and (b) the walls of the carport, garage, balcony, deck, patio, pergola, terrace or verandah, but does not include any of the following:

	WCC DCP Controls General residential (Chapter B1)	SEPP (Exempt and Complying Development Codes) 2008*
		(c) any part of an awning, blind or canopy that is outside the outer wall of a building, (d) the eaves, (e) a lift shaft, (f) a stairway, (g) a void above a lower storey.

Differences between Wollongong DCP and the complying development general housing code relate to rear setbacks, FSR, site coverage and maximum floor area. Complying development also requires a higher landscaped area than that required in Wollongong DCP, in cases where the lot size is greater than 600m².

Landscaping objectives defined in Wollongong DCP for residential development aim to retain and encourage the enhancement of existing native biodiversity and concentrate corridors along the rear of sites. The additional sustainability benefits beyond biodiversity relate to water cycle management and facilitation of private open space areas for current and future generations. Complementary to landscape areas, deep soil planting zones are an additional requirement for many forms of development, excluding dwellings. Deep soil zones have multiple aims including the protection of existing mature vegetation, encouragement of planting significant vegetation, contribution to the biodiversity, and increasing water infiltration capacity. Linkages of deep soil zones across the back of allotments have historically been recommended, aiming to provide habitat linkages for plants and birdlife.

Table 4: Wollongong DCP's landscaping and deep soil zone requirements for residential land uses.

	Landscaping controls (summary)	Deep soil planting controls (summary)
Dwellings, dual occupancies	20% (minimum) of the allotment or site area. - 50% must be behind the front building line. - minimum 1.5m width for landscaping.	Nil
Attached dwellings and multi-dwelling housing	30% (minimum) of the allotment or site area. - minimum 1.5m width for landscaping.	15% minimum (or half the landscaped area) is required to be deep soil zone where this is not located at the rear of the site. Alternatively, a minimum 6m wide strip may be provided at the rear of the site. (note the minimum site width for these types of development is 18m). Deep planting zone must be densely planted with trees and shrubs.
Residential Flat Buildings	30% (minimum) of the site area. - minimum 1.5m width landscaping.	A minimum of half the landscaped area (or 15% of the site) is required to be provided as deep soil zone where this is not located at the rear of the site. May be located anywhere except front of the building line, and have a minimum dimension of 6m. Otherwise, the deep soil zone may extend the full length of the rear of the site – 6m minimum.

	Landscaping controls (summary)	Deep soil planting controls (summary)
		Note a minimum site width of 24m is required for residential flat buildings.

2.1.3 Floor space ratio and site coverage

In accordance with Wollongong Local Environment Plan 2009, *floor space ratio* of buildings on a site is the ratio of the gross floor area of all buildings within the site to the site area.

Gross floor area is defined as *the sum of the floor area of each floor of a building measured from the internal face of external walls, or from the internal face of walls separating the building from any other building, measured at a height of 1.4 metres above the floor, and includes:*

- a) *the area of a mezzanine, and*
- b) *habitable rooms in a basement or an attic, and*
- c) *any shop, auditorium, cinema, and the like, in a basement or attic,*

but excludes:

- d) *any area for common vertical circulation, such as lifts and stairs, and*
- e) *any basement:*
 - i. *storage, and*
 - ii. *vehicular access, loading areas, garbage and services, and*
- f) *plant rooms, lift towers and other areas used exclusively for mechanical services or ducting, and car parking to meet any requirements of the*
 - a) *consent authority (including access to that car parking), and*
 - b) *any space used for the loading or unloading of goods (including access to it), and*
 - c) *terraces and balconies with outer walls less than 1.4 metres high, and*
 - d) *voids above a floor at the level of a storey or storey above.*

The definition of FSR constrains development on a site. The term FSR however may be considered misleading when the definition is not carefully interpreted.

Site coverage is concerned with the overall footprint of the site (Figure 1). Defined by Wollongong LEP 2009 site coverage is the *proportion of a site area covered by buildings. The following are not included for the purpose of calculating site coverage:*

- (a) *any basement,*
- (b) *any part of an awning that is outside the outer walls of a building and that adjoins the street frontage or other site boundary,*
- (c) *any eaves,*
- (d) *unenclosed balconies, decks, pergolas and the like.*

2.1.4 Benchmarking across other Councils

Landscaping

Analysis of the landscaping provisions from benchmarked Councils indicates minimum landscaping area requirements vary across local government areas. Some Councils adopt a similar approach to the *SEPP (Exempt and Complying Development Codes) 2008* and link minimum landscaped areas to lot size for dwellings and residential development. Example: Penrith DCP 2014, Newcastle DCP 2012. Others Councils adopt a similar approach to Wollongong and have a minimum area based on land use. Example: North Sydney.

Sutherland Shire and Hunters Hill Councils have gone a one step further and included minimum landscaped areas in their local environment plan. Sutherland (draft) DCP 2015 contains provisions relating to the location of landscaping, and also specifies a minimum number of trees for low density residential development. Hunters Hill Council DCP 2015, supported by the LEP landscaping provisions, specifies a minimum number of canopy trees for dwellings and

secondary dwellings. Both Sutherland Shire Council and Hunters Hill Council local environment plans contain minimum landscaping requirements. There are no minimum landscape requirements contained in Wollongong LEP 2009.

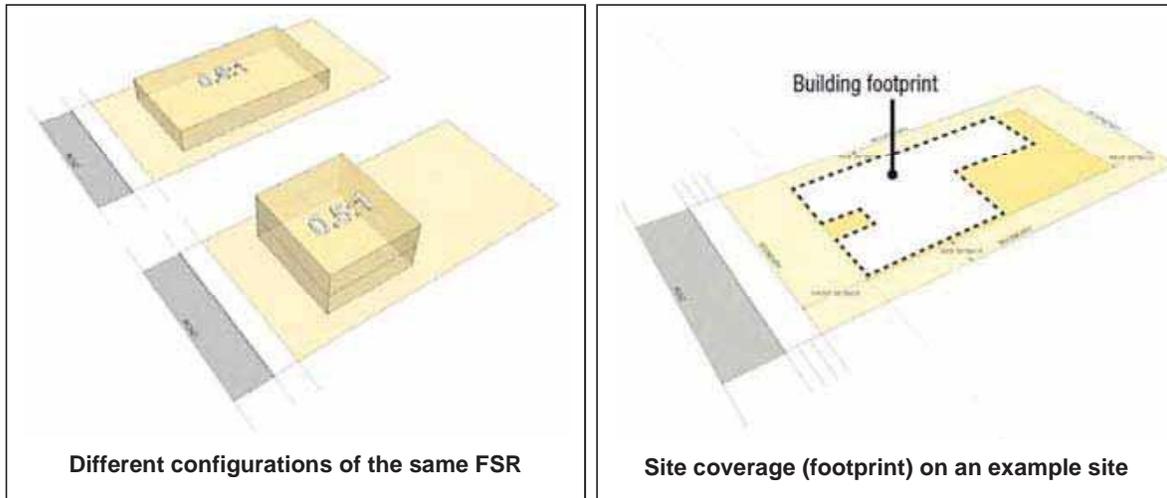


Figure 1 Example of the application of FSR and site coverage (Source: Tweed Shire Council, May 2012)

Site coverage

Site coverage is an additional DCP provision adopted by some benchmarked Councils and included as a requirement under SEPP Exempt and Complying Development. Site coverage DCP objectives and controls often aim to:

- control the density of development on a site and / or ensure development is in keeping with an optimum capacity of the site,
- ensure adequate provision is made for landscaping, landscaped areas and private open space.

Of those Councils benchmarked, four did not include any requirements for site coverage, one specified site coverage requirements for secondary dwellings (only), and four contained more comprehensive site coverage (or similar) requirements for specified types of residential development.

Kiama Municipal Council DCP 2012 specifies 60% site coverage for dwellings. Medium density development is required to comply with a building footprint requirement which specifies 25% of the site to be deep soil zones and designed in accordance with their landscaping requirements.

North Sydney Council DCP 2013 contains site coverage requirements dependant on lot size. For example 50% for lots 230-499m², 40% for lots 500-749m². 45% site coverage for dual occupancies. Note: North Sydney does not use FSR, only height controls in their LEP and site coverage in the DCP.

Gosford Council DCP 2013 does not specify site coverage in their general development controls. They adopt a similar approach using site occupancy termed Open Space Areas. An Open Space Area is 'that part of a site not occupied by any building and which is predominantly landscaped by way of planting of gardens, lawns, shrubs or trees and is available for use and enjoyment by the occupants of the building erected on that site, but does not include so much of the site area as is used for driveways and parking areas'. For dwelling houses, ancillary structures, and secondary dwellings – collectively the Open Space Area for the site, must not be less than 40%.

Site coverage is specified in Gosford DCP in their major centres with specific development controls e.g. 100% for commercial and mixed use development in the commercial core, 75% for commercial and mixed use development in all other zones.

Willoughby Council DCP 2006 includes site coverage objectives and controls for attached dwellings, multi dwelling housing and residential flat buildings. The maximum site coverage is based on the number of storeys of the development as below.

<i>Storey</i>	<i>Max site coverage</i>
1	50%
2	35%
3	30%
4	28%

Roof gardens and podium planting vs green roofs and walls

Podium planting and roof top gardens have long provided an avenue to integrate landscaping outcomes into residential flat buildings, mixed use and commercial developments. Wollongong DCP 2009 promotes the use of rooftop gardens as one avenue of achieving private open space requirements for attached dwellings and residential apartment buildings. Additional provisions are included in Chapter E6 Landscaping of Wollongong 2009 in relation to planting on concrete slabs and podiums, and landscape plans.

Green roofs and walls have become a focus of sustainable development in recent years and aim to minimise the impacts of a building on the environment, as well as increasing biodiversity outcomes. Green walls have the potential to significantly contribute to the streetscape and building façade when aesthetically designed and operating correctly. They also present risk if the functionally fails and/ or during changes of ownership. A failing or failed green wall is likely to detract from the overall streetscape.

North Sydney Council DCP defines green roofs and requires the provision of a green roof/s for new buildings or alterations and additions which involve the creation of new roof space which are generally flat. North Sydney Council DCP also contains a provision which encourage the incorporation of green walls into developments where appropriate. The City of Sydney DCP and Newcastle Council DCP both contain provisions relating to green roofs and walls encouraging their use. Wollongong DCP does not provide commentary in relation to green roofs and walls.

North Sydney Council and the City of Sydney have both produced manuals relating to green roofs and or walls which provide technical guidance on their design, construction and maintenance.

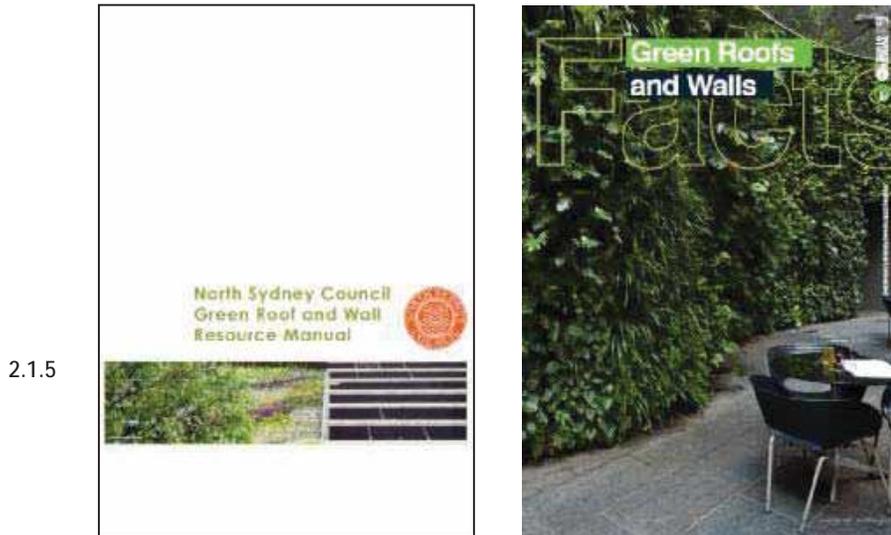


Figure 1 Green roof and wall guides have been produced by (left) North Sydney Council and (right) City of Sydney.

Recommended amendment to Wollongong DCP 2009

Wollongong DCP may look to enhance biodiversity outcomes throughout Wollongong through the introduction of site coverage controls and increasing minimum landscaped areas. The introduction of deep soil zones for dual occupancies would allow for increased water infiltration and enable an increase in vegetation onsite. The requirement for a minimum number of trees for different developments and encouragement of the use of green roofs and walls would also contribute to biodiversity surrounding such developments.

DCP Chapter	General recommendation	Draft recommended amendment
B1 Residential Development	Introduce site coverage development objectives and controls for dwellings.	For dwellings & dual occupancies – adapted from SEPP (Exempt and complying). i.e. 55% of the area of the lot, if the lot has an area less than 450m ² . 50% of the area of the lot, if the lot has an area of at least 450m ² but less than 900m ² . 40% of the area of the lot, if the lot has an area of at least 900m ² .
B1 Residential Development	Increase the minimum landscaped areas required for residential development dwellings and dual occupancies.	Current minimum landscape area for dwellings and dual occupancies – 20%. <i>Amend this control as below</i> 20% - lot area up to 600m ² 30% - lot area is >600m ² - <900m ² . 40% - lot area is >900m ² .
B1 Residential Development	Introduce minimum deep soil zone requirements for dual occupancies.	<i>New objectives and controls for dual occupancies</i> Objectives a) To protect existing mature trees on a site and encourage the planting of additional significant vegetation. b) To encourage the linkage of adjacent deep soil zones on development sites, to provide habitat for native indigenous plants and birdlife. c) To allow for increased water infiltration. d) To contribute to biodiversity. Controls 1. A minimum of half of the landscaped area must be provided as a deep soil zone. The deep soil zone may be located in any position on the site, other than forward of the building line, subject to this area having a minimum dimension of 3m. The deep soil zone must not be included in any area allocated as private open space. 2. The siting of the deep soil zone shall be determined following a Site and Context Analysis to investigate whether this area should be located: (a) At the rear of the site to allow for separation from adjacent dwellings and to provide a corridor of vegetation of native fauna; or (b) Elsewhere within a site to allow for retention of significant trees and attain maximum access to sunlight. 3. No structures, basement carparks, driveways, hard paving, decks, balconies or drying areas are permitted within the deep soil zone. 3. The deep soil zone shall be densely planted with trees and shrubs. Where the development is to be strata titled, the deep soil zone may be retained within the common property or allocated to an individual unit entitlement, where such dwelling is directly adjacent.
B1 Residential Development	Increase the minimum number of trees per lot for dual occupancies, and introduce a minimum number of tree/s per lot for dwellings, attached	<i>New clause in landscaping section for dwellings (s4.4)</i> A minimum of one semi mature small to medium tree (minimum pot size 45L) is to be provided per lot in the landscaped area or private open space. This tree must be planted at least 3m from a dwelling,

DCP Chapter	General recommendation	Draft recommended amendment								
	<p>dwellings and multi dwelling housing.</p>	<p>building or structure on the lot.</p> <p><i>New additional clause for Dual Occupancies (additional to 4.4.2.5)</i></p> <p>A second semi mature small to medium tree (minimum pot size 45L) is to be provided onsite, planted at least 3m from any dwelling, building or structure on the lot.</p> <p><i>New additional clause for attached dwellings and multi dwelling housing</i></p> <p>Two semi mature medium – large trees (minimum pot size 45L) are to be provided for attached dwellings and multi dwelling housing in the deep soil planting zone or landscaped area and at least 3m from any dwelling, building or structure on the lot.</p> <p><i>New additional clause for residential flat buildings</i></p> <p>The minimum number of trees to be planted onsite as specified in the table below [or a minimum of 1 medium tree (minimum pot size 45L), whichever is greater]. Trees are to be planted in the deep soil zone or landscaped area on the site and at least 3m from any dwelling, building or structure.</p> <table border="1"> <thead> <tr> <th>Site area</th> <th>Recommended tree planting</th> </tr> </thead> <tbody> <tr> <td>Up to 850m²</td> <td>1 medium tree per 50m² of deep soil zone</td> </tr> <tr> <td>Between 850 - 1,500m²</td> <td>1 large tree or 2 medium trees per 90m² of deep soil zone</td> </tr> <tr> <td>Greater than 1,500m²</td> <td>1 large tree or 2 medium trees per 80m² of deep soil zone</td> </tr> </tbody> </table> <p>Source - Apartment Design Guide 2015</p>	Site area	Recommended tree planting	Up to 850m ²	1 medium tree per 50m ² of deep soil zone	Between 850 - 1,500m ²	1 large tree or 2 medium trees per 90m ² of deep soil zone	Greater than 1,500m ²	1 large tree or 2 medium trees per 80m ² of deep soil zone
Site area	Recommended tree planting									
Up to 850m ²	1 medium tree per 50m ² of deep soil zone									
Between 850 - 1,500m ²	1 large tree or 2 medium trees per 90m ² of deep soil zone									
Greater than 1,500m ²	1 large tree or 2 medium trees per 80m ² of deep soil zone									
<p>B1 Residential Development,</p> <p>B3 Mixed Use Development</p> <p>D13 Wollongong City Centre</p> <p>E6 Landscaping</p>	<p>Encourage the use of green roofs and walls for residential flat buildings, mixed use developments, commercial and industrial developments through new development objectives and controls throughout Wollongong DCP.</p>									

2.2 Energy and Water

Energy and water conservation and an increased efficiency of a development provide benefit to both the owner of the property, and the overall reduction in greenhouse gas emissions benefits broader environment. Regulation of energy and water efficiency and conservation occurs in the first instance, via:

- *SEPP (Building Sustainability Index) 2004*
- *SEPP 65 – Design Quality of Residential Apartment Development*
- *Building Energy Efficiency Disclosure Act 2010*
- *Water Efficiency Labelling and Standards Act 2005*
- *Water Management Act 2000*
- *Greenhouse and Energy Minimum Standards Act 2012*

The following Wollongong DCP 2009 chapters include provisions relating to energy and water conservation and efficiency.

D13 Wollongong City Centre Precinct

E13 Floodplain Management

E14 Stormwater Management

2.2.1 Residential development and BASIX

All residential development in NSW is required to comply with SEPP (Building Sustainability Index) 2004 aka BASIX. BASIX sets out requirements on how to achieve water conservation and energy efficiency targets for residential development and include provision for passive solar design and selection of building materials for thermal insulation. In accordance with SEPP (Building Sustainability Index) 2004, no additional provisions may be required by any Council in relation to these matters.

For residential apartment development, Apartment Design Guide 2015 (NSW Department of Planning and Environment, July 2015) provides design guidance in relation to the incorporation of passive solar design, natural ventilation, ensuring potable water use is minimised, and urban stormwater. Compliance with the requirements of BASIX is the minimum requirement.

Council may encourage applicants to go beyond BASIX and incorporate as many sustainable design principles and building materials as possible (Figures 3 and 4). Wollongong DCP currently specifies compliance with BASIX but does not encourage going beyond BASIX for residential development.

2.2.2 Commercial and Industrial development

Development objectives and controls relating to energy and water efficiency for non-residential development are contained in Chapter D13 Wollongong City Centre. Objectives relating to energy efficiency aim to reduce the need for mechanical heating and cooling, minimise greenhouse gas emissions, and make use natural climatic advantages of the coastal location such as cool summer breezes. Development controls for commercial office development with a construction cost of \$5 million or more have been set. For such developments, an energy efficiency report is to accompany any development application and demonstrate no less than a 4 star rating under the Australian Building Greenhouse Rating Scheme (ABGRS). Note ABGR is now known as National Australian Built Environment Rating System (NABERS).

Objectives and controls relating to water conservation and reducing water runoff and discharge are additionally included for non-residential development in the Wollongong City Centre. Additionally, appliances are to be 3 stars or better for water efficiency, and controls exist in relation to stormwater runoff control and reuse, selection of water efficient plants, and operation details for swimming pools and water features.

There are no minimum requirements relating to energy and water efficiency specified for Industrial development (Chapter B5) or development in business zones (Chapter B4) in Wollongong DCP.



Figure 2 Sustainable housing features encouraged by BASIX (Source - NSW Department of Planning and Environment)

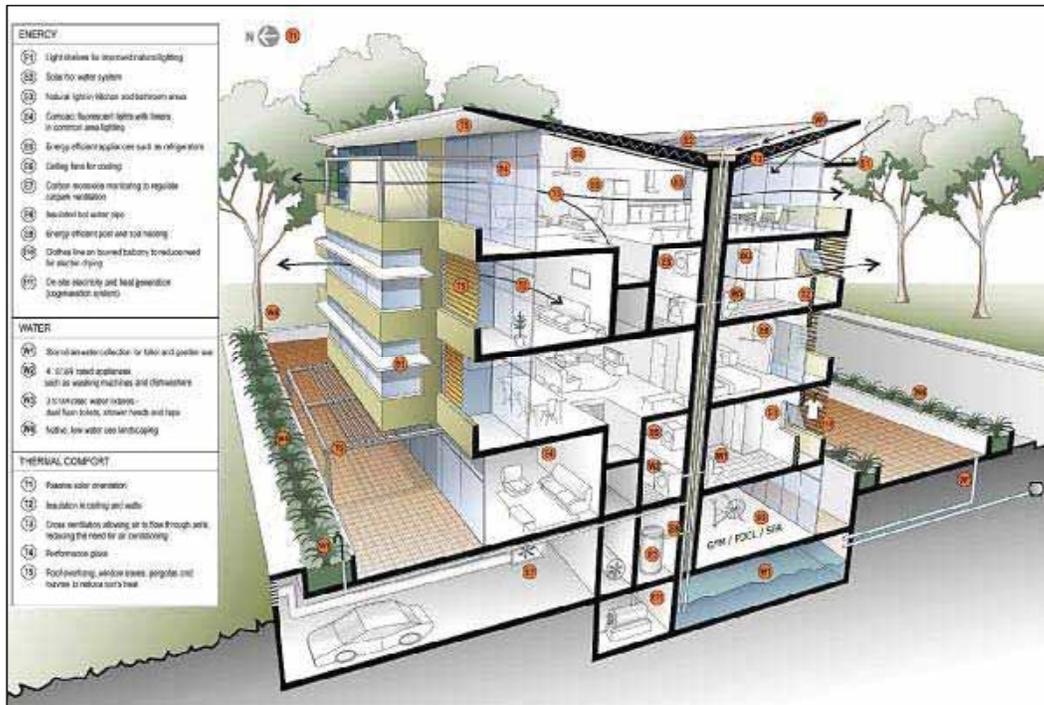


Figure 4 Sustainable multi-unit features encouraged by BASIX (Source - NSW Department of Planning and Environment)

2.2.3 Subdivision

An optimal subdivision design maximising solar orientation for allotments can be designed at the neighbourhood planning and subdivision stage. Wollongong DCP Chapter B2 Residential Development contains provisions in relation to subdivision lot layout, aspect and solar access. A number of existing development objectives specifically relate to solar access orientation and aspect of allotments. These objectives include:

- a) ensuring residential lots are well designed to take into account aspect, orientation, slope issues, and optimal solar access.
- b) residential lots which maximise solar access and energy efficiency opportunities for future dwellings and private open space areas.

A number of controls exist to support these objectives including the preferred north – south allotment orientation, and requirement for east-west allotments to be widened to ensure satisfactory solar access. Chapter D16: West Dapto Release Area of Wollongong DCP contains additional information, objectives and development controls relating to water management and riparian corridors. Development objectives aim to create a network of interconnected multi-functional creek corridors which act as creeks, flood ways, areas of flora and fauna habitat, water quality treatment areas, cyclist areas and pedestrian area, and drainage corridors. Additional objectives relate to protection and restoration of aquatic habitat, conservation and restoration of remnant native vegetation, and protection of Lake Illawarra catchment. Development controls have been set in relation to floodplain storage capacity and aim to ensure there is no net removal of floodplain capacity. Restrictions on development in flood affected areas have also been set.

2.2.4 Floodplain, stormwater and riparian management

Wollongong DCP contains a vast array of objectives and controls relating to floodplain management, stormwater management, waterways and riparian lands applicable to development under certain circumstances.

Chapter E13 Floodplain Management applies to flood liable land and contains a number of key objectives, many of which relate to minimising impact and risk of development to human life, property, and the aesthetics, recreation and ecological value of the waterway corridor.

Chapter E14 Stormwater Management outlines Council's requirements for stormwater drainage design and onsite stormwater detention,

Chapter E15 Water Sensitive Urban Design specifies the incorporation of appropriate water sensitive urban design measures which may be required for certain development types e.g. residential subdivision involving 50 or more allotments, industrial developments (including major alterations and additions to existing industrial buildings) involving a site area of 2 hectares or more.

2.2.5 Building Code of Australia

Section J of the Building Code of Australia (BCA) contains minimum energy efficiency provisions for class 3, 5-9 buildings in NSW including residential buildings other than single dwellings. Class 3, 5-9 buildings include residential part of a school, hotel or motel, boarding house, hostel, offices, shopping centres, restaurant or cafes, laboratory, clinic, day surgeries, theatres, cinemas and schools, aged-care buildings.

The BCA minimum energy efficiency requirements relate to building fabric, glazing, sealing, air conditioning, lighting and power, swimming pools and facilities for energy monitoring. Compliance with the BCA is required for all applicable classes of development.

2.2.6 National Australian Built Environment Rating System

The National Australian Built Environment Rating System (NABERS) is a performance based environmental impact rating system for office space in Australia. NABERS can provide a rating for energy, water, waste and indoor environments. NABERS Energy ratings are already required for in accordance with the following:

- Energy Efficiency in Government Operations Policy (EEGO Policy)
The EEGO Policy sets minimum energy performance standards and targets for Australian Government office buildings. A minimum 4.5 stars NABERS Energy rating is (generally) required for new buildings, major refurbishments and new leases over 2,000m² net lettable area.

- Commercial Building Disclosure Program (CBD Program)
The CBD Program requires most sellers and lessors of office space of 2,000m² or more to obtain a Building Energy Efficiency Certificate (which includes a NABERS Energy rating) before the building goes on the market for sale, lease or sublease.

Although the NABERS Energy ratings for EEGO Policy and CBD Program are not incorporated into Wollongong DCP, they re-inforce the importance of energy efficiency in the built environment and provide another layer of regulation in this sector.

2.2.7 Benchmarking across other Councils

All benchmarked DCP's include provisions relating to energy and water efficiency and conservation. The degree to which these provisions are regulated is however variable, with no minimum standard observed.

Residential development

All DCP's recognised the role of BASIX for residential developments. Most DCP's encourage applicants to go beyond the minimum BASIX requirements to design and build a more sustainable home. All benchmarked local government areas required compliance with BASIX only for residential developments, except Willoughby Council. Willoughby requires compliance with BASIX as well as their sustainability scorecard DCP controls. Discussions with a staff member from Willoughby Council indicated these provisions were due for review in the near future and this process may see these provisions removed. These provisions have been hard to enforce for residential development and are seen as surplus to BASIX.

Non-residential development

More than half of those local government areas benchmarked require an energy assessment report and / or environment rating e.g. NABERS or Greenstar, for certain types of development. The type of assessment, threshold at which this is required, and development type requiring assessment varies between Councils. Table 5 summarises the varying energy assessment requirements.

All benchmarked DCP's contained additional general energy efficiency and conservation development provisions e.g. minimum 4 or 4.5 star energy rating for hot water systems, clothes dryers, dishwashers, fixed air conditioning systems. Willoughby Council and North Sydney Councils DCP's contain more comprehensive development objectives and controls for different classes of development.

Wollongong City Council city centre and Gosford City Council city centre energy assessment provisions reflect one another.

Table 5: Energy assessment requirements for benchmarked local government areas

Local Government Area	Commercial Development	Industrial Development
City of Sydney	Council encourages applicants to use an environmental building tool e.g. green star in the absence of a comprehensive government standard and building rating tool.	
Gosford	In the Gosford City Centre and Peninsula Centre - Energy efficiency report required for all commercial development over \$5million demonstrating commitment to achieve minimum 4 stars under NABERS. Additional general provisions required for all development in these centres.	Nil
The Hills	All buildings with an office component greater than 100m ² , a minimum 4 star NABERS rating required.	All buildings to achieve a minimum 4 star NABERS rating required.

Local Government Area	Commercial Development	Industrial Development
Kiama	DCP contains general development objectives relating to energy efficiency. No assessment reports required.	
Newcastle	Applicable to certain types of business development - minimum 4 star green building rating required. New commercial office development over \$5 million should have energy efficiency report detailing minimum 4 star green star rating. Change of use applications over 2000m2 - require development is to meet a minimum 3.5 star NABERS rating.	For specified industrial development, minimum 4 star green star rating required.
North Sydney	For commercial development (including the commercial component of mixed use) with gross floor area greater than 2000m2, a 4.5min star rating under NABERS is required. Evidence of commitment entered into with OEH required. For development with gross floor area greater than 5000m2 of office space – 5 star minimum under green building green star office tool.	Nil
Penrith	All non-residential (including mixed use) with a construction cost of \$1 million or greater, must demonstrate commitment to achieving a minimum of 4 stars greenstar rating, or 4.5 stars under NABERS.	
Shellharbour	DCP contains general development objectives relating to energy efficiency. No assessment reports required.	
Sutherland	DCP contains only general development objectives and controls relating to energy efficiency. No assessment reports required. Note – Sutherland LEP 2015 clause 6.15 Energy efficiency and sustainable building techniques for commercial and industrial developments. This clause aims to ensure the development utilises building materials and construction techniques that are energy efficient, ecologically sustainable and that maximise the useful lifecycle of buildings.	
Willoughby	NABERS agreement is required if development is greater than \$250,000. Offices less than \$250,000 require an energy performance statement. Additional requirements e.g. details of metering, water heating system ratings. For other retail development less than \$250,000 but over 200m2, an energy performance statement is required. All require sustainability scorecard.	Energy performance statement required, to be detailed in a sustainability scorecard.

Development controls relating to water efficiency and conservation, similar to those relating to energy efficiency, vary between local government areas. The majority of benchmarked Councils include only general provisions e.g. where plumbing fixtures and water appliances are proposed to be installed, such are to be of the following type

- (a) minimum water efficiency labelling standard (WELS) - 3 star water rating,
- (b) maximum 6L dual flush toilet cisterns where they are not supplied by a roof water tank etc (Newcastle DCP clause 7.07.01.2).

Newcastle City Council includes an additional development control requiring change of use applications over 2000sqm where not complying development, to achieve a minimum 3.5 star water rating with NABERS. No other DCP requires an assessment of minimum rating for water efficiency.

2.2.8 Recommended amendment to Wollongong DCP 2009

Wollongong DCP contains minor provisions relating to energy and water efficiency and conservation for commercial and industrial developments. Amendment is recommended to encourage residential developments to go beyond the minimum BASIX requirements, and to enhance provisions for commercial developments.

DCP Chapter	Recommendation	Draft new clauses/ recommended amendments
A1 Introduction	Addition of new objective to encourage ESD.	New additional objective: To encourage development that achieves the principles of ecologically sustainable development.
New chapter proposed. A2 Ecologically Sustainable Development	New DCP chapter A2 (part of the introduction A chapter) to be developed. Chapter to outline the principles of sustainable development and encouraging application for all types of development. This chapter to include provision encouraging residents to go beyond the minimum BASIX requirements.	
B5 Industrial Development	Introduction of objectives and controls relating to energy and water efficiency.	
D13 Wollongong City Centre	Revise energy and water efficiency development for commercial development to increase the scope and threshold at which efficiency assessments are required.	<i>Replace following paragraph in clause 5.2.2</i> Provide an Energy Efficiency Report from a suitably qualified consultant to accompany any development application for new commercial office development with a construction cost of \$5 million or more that demonstrates a commitment to achieve no less than a 4 star rating under the Australian Building Greenhouse Rating Scheme. <i>Insert new clause</i> All non-residential development with a construction cost of \$1million or greater, must demonstrate commitment to achieving a minimum of 4 stars Green Star rating or 4 stars NABERS rating (energy tool) as a minimum.

2.3 Waste

Waste and resource consumption continues to be a major environmental issue and priority, with the environmental and economic costs of waste generation and disposal continuing to increase. Compliance with legislation ensures waste is reduced and disposal occurs a lawful manner. Legislation encouraging resource recovery and that regulates the waste industry includes:

- *Waste Avoidance and Resources Recovery Act 2001*
- *Protection of the Environment Operations Act 1997*

Chapter E7 of Wollongong DCP includes provisions relating to waste management and development in Wollongong.

2.3.1 Wollongong DCP and waste minimisation during demolition and construction

Existing development controls contained in Chapter E7 Waste Management require all development applications (demolition, construction and the ongoing use of a site/ premises), to be accompanied by a Site Waste Minimisation and Management Plan (SWMMMP). The SWMMMP contains analysis of volume and types of waste, storage and recyclables, disposal of waste and the intended waste management service provider. The intent of the SWMMMP is for all potential types and quantities of waste to be thought through prior to works commencing, maximising reuse and minimising quantities directed to landfill.

Examples of demolition materials and potential reuse-recycling options are included in Wollongong DCP.

For residential apartment development, the Apartment Design Guide 2015 (NSW Department of Planning and Environment, July 2015), provides objectives and design guidance for waste storage facilities and provision for safe and convenient source separation and recycling.

2.3.2 Wollongong DCP and waste collection requirements for different development types

Chapter E7 Waste Management contains provisions relating to waste collection and servicing dependant on the type of development. For example: a development application for a dwelling house or dual occupancy contains provisions relating to:

- ✓ bins for general waste, recyclables, and green waste,
- ✓ storage of waste both inside and outside the dwelling.

2.3.3 Benchmarking across other Councils

The NSW Office of Environment and Heritage (OEH) previously provided funding allocations via the Waste and Sustainability Improvement Payment Program, for NSW Councils to prepare DCPs based on the NSW Office of Environment and Heritage Waste Not model DCP Chapter. Chapter E7 is based on the model DCP chapter and is similar to other benchmarked Council's.

All benchmarked Councils include specification for a SWMMMP for demolition and construction works, and include objectives and controls relating to design and siting of waste facilities (e.g. bins and recycling facilities) for each development. A smaller number of benchmarked Councils (including Wollongong) include additional information in relation to waste management for the applicant. Examples of such provisions:

- background information relating to the waste hierarchy,
- data relating to the amount of waste going to landfill in the local area,
- importance of redirecting materials from landfill,
- examples of how demolition materials (bricks, concrete) may be reused in a subsequent development.

Penrith Council includes additional provisions termed 'lifting the bar' which appear to incentivise the application of further waste reduction for applicants. By demonstrating commitment to such waste reduction provisions, Penrith Council may consider a variation of other development controls (Chapter C5, sC5 F). An example of such a provision includes a reduction the volume of demolition and construction waste going to landfill by 76%.

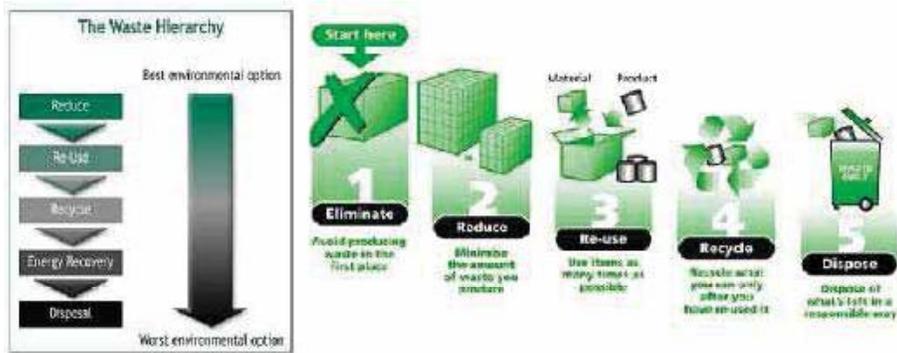


Figure 3 Waste Hierarchy as detailed in Penrith Council DCP Chapter C5.

2.3.4 Recommended amendment to Wollongong DCP 2009

The waste management provisions in the Wollongong DCP 2009 are based on the model Waste Not DCP chapter and other benchmarked Councils in terms of sustainability provisions.

2.4 Transportation

Connecting residents to public transport, ensuring subdivisions are appropriately designed, and promoting sustainable modes of transport has marked health benefits and reduces the overall impact of our transport system on our environment. The Illawarra Regional Transport Plan (March 2014) indicates key transport challenges for the Illawarra including high levels of private car use and an aging population, as two of the three main key challenges.

Wollongong City Council and Roads and Maritime Service (RMS) collectively regulate our transport network including roads and road networks, pathways, car parking, bicycle and /or motorcycle parking. The RMS and Transport for NSW regulates public transport.

The following Wollongong DCP chapters address transportation issues:

- B2 – Residential Subdivision
- D13 – Wollongong City Centre
- D16 – West Dapto Release Area
- E3 – Car Parking, Access, Servicing/ Loading Facilities and Traffic Management

2.4.1 Car and bicycle parking in Wollongong DCP 2009

Wollongong DCP 2009 details car parking, bicycle and /or motorcycle parking in and around the Wollongong local government area, except where overridden by state legislation.

For development requiring compliance with SEPP 65 and the Apartment Design Guide (NSW Department of Planning, July 2015), car parking requirements are regulated in accordance with either Wollongong DCP or the *RTA Guide to Traffic Generating Development* or Wollongong DCP 2009, whichever provides the lessor requirement. The *RTA Guide to Traffic Generating Development* currently requires less car parking spaces than Wollongong DCP 2009 for residential flat buildings. Wollongong DCP 2009 bicycle parking requirements do apply for SEPP 65 development and requires 1 bicycle space per 3 dwellings and 1 space per 12 dwelling for visitors.

Car parking requirements are generally less for development in the Wollongong City Centre across both residential and non-residential land uses (Table 6).

Table 6: Car parking and bicycle rates for development City Wide and in the Wollongong City Centre.

	Wollongong city wide provisions*	Wollongong city centre provisions*
Attached dwellings and multi-dwelling housing	1 car space per dwelling <70m2, 1.5 car parking spaces per dwelling 70-110m2, 2 car parking spaces per dwelling greater than 110m2, plus 0.2 car parking space per dwelling for visitors. 1 bicycle space is required per 3 dwellings for residents and 1 bicycle space per 12 dwellings for visitors.	0.75 car space per dwelling <70m2, 1 car parking spaces per dwelling 70-110m2, 1.25 car parking spaces per dwelling greater than 110m2, 0.2 car parking space per dwelling for visitors. 1 bicycle space is required per 3 dwellings for residents and 1 bicycle space per 12 dwellings for visitors.
Office premise	1 car space per 40m2 of GFA. 1 bicycle space / 200m2 GFA for staff and 1 bicycle space per 750m2 GFA for visitors.	1 car space per 60m2 of GFA for B3 and B4 zone. 1 bicycle space / 200m2 GFA for staff and 1 bicycle space per 750m2 GFA for visitors.
Business / retail premises	Business - 1 car space per 40m2 of GFA.	1 car space per 60m2 of GFA for B3 and B4 zones.

	Wollongong city wide provisions*	Wollongong city centre provisions*
	Retail - 1 car space per 25m ² of GFA.	
	1 bicycle space / 200m ² GFA for staff and 1 bicycle space per 750m ² -1000m ² GFA (depending on the use) for shoppers.	1 bicycle space / 200m ² GFA for staff and 1 bicycle space per 750m ² -1000m ² GFA (depending on the use) for shoppers.

*summarised from Wollongong DCP Chapter E3 Car Parking, Access, Servicing/ Loading Facilities and Traffic Management.

Wollongong DCP also includes the requirement for storage, shower and change room facilities tenants, workers and bicycle couriers for commercial office, business premises and retail centres.

2.4.2 Car parking incentive for development near transport nodes in Wollongong

Existing provisions in *Chapter E3: Car parking, Access, Servicing, Loading Facilities and Traffic Management* provide provision for a reduction in car parking rates as an incentive for non-residential development located near public transport nodes in the Wollongong Local government area. This is as follows:

- 10% reduction* if bus stop within 400m of site (measured along an existing footpath)
- 20% reduction* if railway station within 800m of site (measured along an existing footpath)
- 10% reduction* if public car park with greater than 50 car spaces within 400m of site (measured along an existing footpath)

*Reductions are cumulative with a maximum final reduction of 30%.

This incentive is not currently applied:

- to residential development (city wide), and
- most land uses in the Wollongong City Centre commercial core and B4 mixed use zone (residential, office premises, retail and business premises uses).

Wollongong DCP 2009 recognises the constrained nature of many sites in Wollongong City Centre and provides exemption for additional car parking to be required for development applications involving a change of use within the commercial core and mixed use zones in the Wollongong City Centre. This exemption is not provided outside of the city centre.

2.4.3 Encouraging active transport through subdivision and road design

Wollongong DCP 2009 aims to ensure residential subdivision provides adequate pedestrian and cycleway linkages to facilities within the surrounding area (chapter B2 Residential Subdivision).

Chapter D16 West Dapto Release Area details the ideal subdivision layout and urban structure for West Dapto being the notion of walkable villages, with a series of town centres, village centres, and local nodes with the provision of bus stops, local shops and amenities, community facilities, schools, and mixed use jobs. Riparian corridors are to be integrated and designed to promote walking and cycling linking key destinations and promoting walkability. Development controls are also contained in the West Dapto Release Chapter to ensure the majority of dwellings are within 400m walking distance to bus stops (s6.3.9 control 3). Additional development objectives and controls contained in Chapter D16 relate to the road network and aim to promote sustainable and active forms of transport, encourage alternative forms of transport, and reduce car dependency.

2.4.4 Benchmarking across other Councils

Wollongong DCP 2009 car parking and bicycle parking rates are generally similar to most local government areas benchmarked. Differences arise in relation to the City of Sydney and North Sydney, assumedly due to their close proximity to rail and bus public transport.

Benchmarked local government areas generally require 1-2 parking spaces for dwellings, dual occupancies, attached dwellings, multi-dwelling housing and residential flat buildings. This is dependent on either the area of

the dwelling or number of bedrooms. No additional specific bicycle parking provisions were identified for dwellings or dual occupancies.

For commercial premises (retail, office and business) areas in the Gosford, Newcastle Shellharbour and Sutherland local government areas, car parking was based on the gross floor area (GFA) or gross leasable floor area (GLFA) of the development. The area of GFA/ GLFA varied depending on the exact location in the local government area, but generally speaking for the city centre component of each local government area, the following was required.

- ✓ Gosford: 1 space per 30- 40m² of GFA
- ✓ Newcastle: 1 space per 40-50m² GLFA
- ✓ Shellharbour: 1 space per 35-40m² GLFA
- ✓ Sutherland: 1 space per 30m² GFA.

Green Travel Plans

A Green Travel Plan (GTP) is a site-specific plan which provides details for residents/ visitors/ workers as to how to access that site by walking, cycling or public transport (North Sydney Council DCP 2013). GTPs encourage employees to make greater use of public transport by cycling, walking, and car sharing. GTPs are a key action in the Metropolitan Plan for Sydney 2036 and are thus included in the City of Sydney and North Sydney Council DCP's.

Willoughby DCP 2009 and Newcastle DCP 2013 contain provisions relating to and encouraging the implementation of GTP for certain development types. Newcastle DCP, for example, encourages GTP for developments of more than 50 dwellings, aged persons' accommodation, entertainment venues). Implementation of a submitted GTP is advised to be included as a condition of consent for the development.

GTPs may be encouraged through Wollongong DCP 2009. The inclusion of specific GTP provisions as a component of Wollongong DCP 2009, for certain development types may be appropriate, with further analysis required in relation to assessment, regulation and implementation of such plans.

Cash contributions in lieu of car parking

In the instance where a developer is not able to meet all car parking space requirements on site, a selection of local government areas provide the option for the applicant to pay a cash contribution (via developer contributions plan), in lieu of car parking onsite. The City of Sydney and Gosford City Council provide such option.

Wollongong DCP (Chapter E3 Car Parking, Access, Servicing/ Loading Facilities and Traffic Management) includes similar provision, however this is to occur via a voluntary planning agreement.

2.2.5 Recommended amendment to Wollongong DCP 2009

Wollongong's car parking rates for development in the city centre are generally less than other benchmarked local government areas. Wollongong DCP may further promote the use of public transport, walking and cycling through the introduction of green travel plan DCP provisions and encouraging their application for developments in the city centre.

DCP Chapter	Recommendation	Draft new clauses/ recommended amendments
E3 Car Parking, Access, Servicing/ Loading Facilities and Traffic Management	Encourage the use of green travel plans to for development in Wollongong City Centre.	<p><i>New section in DCP - Objective</i></p> <p>1. Encourage the use of public transport, walking and cycling as an alternative to private vehicle use.</p> <p><i>Controls</i></p> <p>1. Council encourages the use of green travel plans for development in the Wollongong City Centre, particularly larger residential developments, offices, recreation facilities, hospitals commercial (business and retail) premises. A Green Travel Plan is prepared and submitted to Council in support of applications for major new development. Components/strategies of a Green Travel Plan will likely vary according to the nature of the development, but may include:</p>

DCP Chapter	Recommendation	Draft new clauses/ recommended amendments
		<ul style="list-style-type: none"> a) identification and promotion of public transport options to access the site (for example, web site, business cards), b) encouragement of a car pool system for employees, c) encouragement of cycling and walking to the workplace through provision of bicycle parking, showers and lockers , d) incentive schemes to encourage employees to commute using sustainable transport modes (such as provision of public transport vouchers/subsidised public transport tickets), e) allocation of designated parking spaces for a car sharing scheme, and/or f) prominent display of a large map of cycling routes (for example, in the foyer of a residential complex).

2.5 Building design and materials

Building design and materials chosen influence the impact of a development at the time of construction, as well as its efficiency and long term sustainability. Legislation regulating building design, materials and construction in NSW is vast and includes:

- *Environmental Planning and Assessment Act 1979* (giving effect to the Building Code of Australia as well as various Australian Standards)
- *SEPP (Building Sustainability Index) 2004*
- *SEPP 65 – Design Quality of Residential Apartment Development*

The following Wollongong DCP 2009 chapters address issues relating to building design and materials. These provisions largely relate to built form, energy and water efficiency, adaptability, and adaptive reduce.

- Chapter B1 Residential Development
- Chapter B3 Mixed Use Development
- Chapter B4 Development in Business Zones
- Chapter B5 Industrial Development
- Chapter B6 Development in the Illawarra Escarpment
- Chapter D13 Wollongong City Centre Precinct

2.5.1 Residential development

Building design and materials have a large impact on the long term operation, efficiency and overall sustainability of a development. For residential development (dwellings, dual occupancies, townhouses and apartments), SEPP (BASIX) governs the water and energy efficiency, and passive solar design.

In accordance with SEPP 65 and the Apartment Design Guidelines, subject developments are required to meet the objectives and design guidance detailed in the guide.

Through the application of adaptable housing and universal design principles, the ability of a development to cater to the needs of current and future occupants may be strengthened. Adaptable housing sees development designed to allow for the future adaptation. Universal design sees development designed to enable residents to continue living in the same dwelling as their needs change, without any need to adapt this. To date, focus has primarily been on the provision for adaptable housing in residential development. The incorporation of universal design principles in residential developments is required less, yet contributes to delivering flexible and robust housing stock.

The NSW Apartment Design Guide, released by the NSW Department of Planning and Environment in 2015, provides design guidance relating to adaptable housing and universal design. This is regulated in accordance with SEPP 65. In summary

- Universal design – Developments are to achieve a benchmark of 20% of the total apartment incorporating the Livable Housing Guidelines silver level universal design features.
- Adaptable Housing – shall be provided in accordance with the relevant council policy.

Wollongong DCP includes requirement for adaptable housing for residential flat buildings and multi dwelling housing. For residential flat buildings, at least 10% or one dwelling must be designed as per AS 4299 – 1995. For multi dwelling housing, 10% of dwellings or at least 1 dwelling, where more than 6 dwellings are proposed, must be designed as per AS 4299

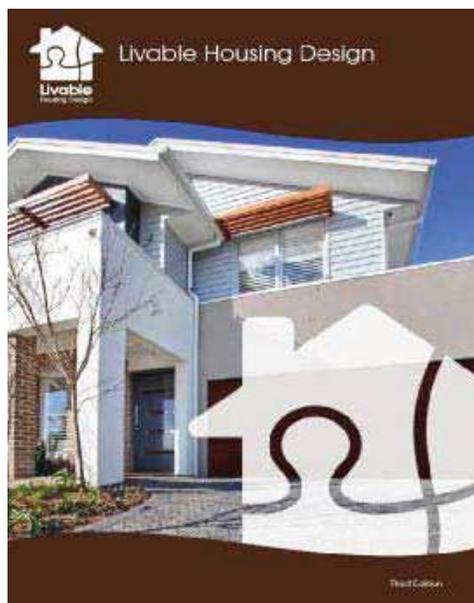


Figure 4 the NSW Apartment Design Guide requires 20% of developments to achieve silver level universal design features as per Livable Housing Design Guideline.

– 1995. Additional provisions exist in relation to car parking and preference for adaptable dwellings to be on the ground floor.

Adaptable housing requirements vary in application across benchmarked local government areas. However, they all focus on the application of the essential requirements in accordance with Australian Standard 4299. Table 7 summarises adaptable housing DCP provisions and their application for benchmarked local government areas. DCP provisions relating to universal housing design have also been included in this table for comparison.

2.5.2 Commercial and industrial development

The building design and materials of commercial and industrial developments affects the sustainability and long term operation of these developments. The objectives of Wollongong DCP Industrial development Chapter (B5) include the aim to ensure that ... employment premises incorporate the principles of Ecologically Sustainable Development, and ... encourage water urban sensitive design measures wherever practicable...

Current development objectives and controls in the industrial lands chapter relate to the external appearance of a building, glare, reflectivity, avoidance of blank walls, main entry points, and natural lighting for large scale factory or warehouse buildings.

Development controls contained in the Wollongong City Centre (Chapter D13) similarly relate to building form, in particular street alignment and setback requirements, building depth and bulk, deep soil zones, landscape design, and sun access for key public spaces. Additional objectives and controls are included in relation to environmental management include many objectives, one of which aims to facilitate development of building design excellence appropriate to a regional city. Development controls in this chapter relate to energy efficiency and conservation (as detailed previously), water conservation (as detailed previously), reflectivity, wind mitigation and waste and recycling.

Benchmarking with other Councils has revealed widespread information on the application of DCP objectives and controls relating to building materials and design. For example, Willoughby Council's DCP contains information and development controls for applicants in relation to environmentally preferred building materials and advises the least environmentally damaging material should be chosen for each application.

City of Sydney DCP also contains development objective and controls relating to building materials and components. These controls are general in nature and relate to the use of paint and floor coverings with low levels of volatile organic components, the use of building materials, fittings and finishes that are or include recycled components, or are made from certified as sustainable or 'environmentally friendly' materials, designing building components for longevity, adaption, disassembly, reuse and recycling, and reducing the quantity of materials used in construction e.g. naturally ventilating buildings.

City of Sydney, through its local environment plan promotes design excellence and aims to deliver the highest standard of architectural, urban and landscape design for subject development. Through the design excellence process many factors are considered including environmental impacts, such as sustainable design, overshadowing and solar access, visual and acoustic privacy, noise, wind and reflectivity, as well as the achievement of the principles of ecologically sustainable development. The design excellence process is mandatory for development (any building) that will have a height greater than 55m on land in Central Sydney, or 25m on other land, and having a capital value of more than \$100,000,000. City of Sydney recognises the additional costs of this competitive design process and may award additional building height or floor space of up to 10% or one floor whichever is greater.

Table 7: Adaptable housing and universal housing design DCP provisions for benchmarked local government areas

Local Government Area	Adaptable Housing	Universal Housing Design
City of Sydney	<p>Design criteria as per the Australian Standard. Adaptable dwellings to be provided for all new development as per the following rates:</p> <ul style="list-style-type: none"> - Between 0 and 7 - nil - Between 8 and 14 - 1 dwelling - Between 15 and 21 - 2 dwellings - Between 22 and 29 - 3 dwellings - 30 or more 15 % of total dwellings <p>Car parking requirements refers to Australian standard.</p>	DCP encourages applicants to use the Universal Housing Guidelines.
Gosford	In developments with more than 3 dwellings, one third should be adaptable meaning must satisfy Class C specifications in AS 4299 including minimum dimensions for habitable rooms, hallways and doorways.	Nil
The Hills	<p>At least 1, or 5 % of units in a development of 20 or more dwellings must be either:</p> <ul style="list-style-type: none"> - an accessible unit to Australian Standard 1428 Part 2, suitable for occupation by a wheelchair user; or - meet class B adaptability under AS 4299 -1995. 	Nil
Kiama	Provision of Adaptable Housing (Australian Standard AS 4299) at a ratio of 1:4 dwellings or part thereof for medium density development	Nil
Newcastle	Nil	
North Sydney	A minimum of 15% of dwellings in multi dwelling housing, residential flat buildings, and the dwelling component of a mixed use development that contain more than 5 dwellings must comprise adaptable housing.	Nil
Penrith	<p>DCP includes general minimum specifications for different types of development e.g. dual occupancies, multi dwelling housing, residential flat buildings.</p> <p>For residential flat buildings, additional requirement for 10% of all dwellings or a minimum of one dwelling (the greater) to be designed as per AS 4299-1995.</p> <p>Car parking as per the relevant Australian Standard.</p>	<p>Nil in commercial and retail goods DCP chapter.</p> <p>Industrial DCP chapter includes requirements for the entry, design and layout of the main office or administration component of the development. These must is to consider the principles of universal design and incorporate if possible.</p>
Shellharbour	Developers of all residential subdivisions including combined subdivision/ dwellings, boarding houses, hostels should consider applying the essential and desirable features identified in AS 4299 to developments involving 4 or more dwellings. I.e. 25% for 4 of dwellings, boarding houses, hostel units or rooms, 20% for more than 4 (to the nearest whole number). An appendix of further information is also provided.	Reference to universal housing made in social impact assessment. Nil objectives and controls.

Local Government Area	Adaptable Housing	Universal Housing Design
Sutherland	Multi dwelling housing and residential flat building development with 6 or more dwellings required - 20% adaptable as per Class C requirements of AS 4299.	Multi dwelling housing and residential flat buildings must provide livable dwellings to the silver standard in the Livable Housing Design Guideline as per the following rates: - for developments with 3 to 5 dwelling - 1 dwelling, - for developments with 6 or more dwellings - 10% of dwellings.
Willoughby	<p>DCP includes development controls relating to universal housing and adaptable housing, applicable to secondary dwellings, attached dwellings, multi dwelling housing, residential flat buildings, and shop top housing. The percentages for dwellings varies commencing from 10% of all units for single storey attached dwellings and multi dwelling housing, to 50% for all multi dwelling housing and residential flat buildings greater than 3 storeys, & shop top housing if lift access is provided, to include 100% of all secondary dwellings. Design criteria as per the Australian Standard 4299 1995.</p> <p>DCP encourages adaptable and universal design for alterations and additions, single dwelling houses, dual occupancy, semi-detached dwellings, boarding houses.</p>	

2.5.3 Recommended amendment to Wollongong DCP 2009

DCP Chapter	Recommendation	Draft new clauses/ recommended amendments
B1 Residential Development B3 Mixed Use Development D13 Wollongong City Centre	Increase the percentage of housing requiring compliance with adaptable housing Australian standard for residential flat buildings (s6) And multi dwelling housing (s5.14)	<p><i>Recommended amendment to s5.14.2.1 for multi dwelling housing</i></p> <p>Within a multi dwelling development incorporating more than six (6) dwellings, 40% 20% of all dwellings (or at least 1 dwelling) must be designed to be capable of adaptation for disabled or elderly residents. Dwellings must be designed in accordance with the Australian Adaptable Housing Standard (AS 4299-1995), which includes “pre-adaptation” design details to ensure visitability is achieved.</p> <p><i>Recommended amendment to s6.15.2.1 for residential flat building</i></p> <p>Within a residential apartment building, 40% 20% of all dwellings (or at least one dwelling) must be designed to be capable of adaptation for disabled or elderly residents. Dwellings must be designed in accordance with the Australian Adaptable Housing Standard (AS 4299-1995), which includes “preadaptation” design details to ensure visitability is achieved.</p>
B1 Residential Development B3 Mixed Use	Introduce minimum requirement for universal housing design through compliance with Livable Housing Design Guideline.	<p><i>For multi dwelling housing residential flat buildings – amend adaptable housing heading s5.14 and s6.15 to include both adaptable housing and universal design.</i></p> <p><i>New Controls</i></p> <p>In addition to adaptable housing development controls, all new</p>

DCP Chapter	Recommendation	Draft new clauses/ recommended amendments
Development D13 Wollongong City Centre		<p>multi dwelling housing development must provide livable dwellings (i.e. dwellings designed to Silver Standard Livable Housing Design Guidelines at the following rates.</p> <ul style="list-style-type: none"> - Developments of 6 or more dwellings – 10% or at least one dwelling. <p>Where proposed, all 'livable' dwellings must be clearly identified on the submitted DA plans.</p>

3 NSW legislation under review

3.1 NSW Government expanding complying development

The NSW government is investigating opportunities to expand SEPP (Exempt and Complying Development Codes) 2008. In late 2015, a background and discussion paper *Options for Low Rise Medium Density Housing* was released for public comment. The discussion paper proposes to introduce complying development standards for the following development types.

- Development resulting in 2 dwellings (dual occupancies) on a single lot with a minimum lot size of 400sqm.
- Development resulting in 3-4 dwellings (manor houses) on a single lot with a minimum lot size of 500sqm.
- Development resulting in 3-10 dwellings on a single lot with a minimum lot size of 600sqm (townhouses/ terraces/ and/or a combination of dwelling types resulting in 3-10 dwellings on a single a lot).

The discussion paper outlines proposed primary, design and amenity development standards. This discussion paper was on exhibition until the end of January 2016. Council made a submission objecting to the proposed expansion of complying development.

3.2 NSW Government BASIX target review

The NSW Government, in early 2014, proposed new BASIX targets to further reduce water and energy consumption in new houses and residential apartments. The proposed BASIX targets vary by region and development type, however in general, the target increase represents:

- 10% increase in the energy and water reduction for detached houses, attached houses and low rise buildings.
- 5% increase in energy reduction for mid-rise buildings and high-rise buildings.
- 5% increase in water reduction for mid-rise buildings.

No change proposed for high-rise building and water efficiency.

This BASIX review was exhibited for public comment from 13 December 2013 – 13 February 2014. The proposed changes are still under consideration by the NSW Department of Planning and Environment.

4 Conclusion and Recommendations

This discussion paper has identified the role of a DCP and the legislative constraints operating to affect its scope and application. This paper recognises Wollongong DCP does not in itself, deliver sustainable development outcomes. It recognises the role of the DCP to guide development, collectively shaping development outcomes in our city.

This discussion paper highlights an abundance of existing and integrated development objectives and controls which enhance the sustainability of development throughout Wollongong. This discussion paper identifies the existing strengths of the DCP, as well as areas for improvement. This paper concludes with a series of recommendations to amend the Wollongong DCP 2009 and further enhance the sustainability of development outcomes across Wollongong.

DCP Chapter	General recommendation	Draft recommended amendment
A1 Introduction	Addition of new objective to encourage ESD.	New additional objective: To encourage development that achieves the principles of ecologically sustainable development.
New chapter proposed. A2 Ecologically Sustainable Development	New DCP chapter A2 (part of the introduction A chapter) to be developed. Chapter to outline the principles of sustainable development and encouraging application for all types of development. This chapter to include provision encouraging residents to go beyond the minimum BASIX requirements.	
B1 Residential Development	Introduce site coverage development objectives and controls for dwellings.	For dwellings & dual occupancies – adapted from SEPP (Exempt and complying). i.e. 55% of the area of the lot, if the lot has an area less than 450m ² . 50% of the area of the lot, if the lot has an area of at least 450m ² but less than 900m ² . 40% of the area of the lot, if the lot has an area of at least 900m ² .
B1 Residential Development	Increase the minimum landscaped areas required for residential development dwellings and dual occupancies.	Current minimum landscape area for dwellings and dual occupancies – 20%. <i>Amend this control as below</i> 20% - lot area up to 600m ² 30% - lot area is >600m ² - <900m ² . 40% - lot area is >900m ² .
B1 Residential Development	Introduce minimum deep soil zone requirements for dual occupancies.	<i>New objectives and controls for dual occupancies</i> Objectives a) To protect existing mature trees on a site and encourage the

DCP Chapter	General recommendation	Draft recommended amendment
		<p>planting of additional significant vegetation.</p> <p>b) To encourage the linkage of adjacent deep soil zones on development sites, to provide habitat for native indigenous plants and birdlife.</p> <p>c) To allow for increased water infiltration.</p> <p>d) To contribute to biodiversity.</p> <p>Controls</p> <p>4. A minimum of half of the landscaped area must be provided as a deep soil zone. The deep soil zone may be located in any position on the site, other than forward of the building line, subject to this area having a minimum dimension of 3m. The deep soil zone must not be included in any area allocated as private open space.</p> <p>5. The siting of the deep soil zone shall be determined following a Site and Context Analysis to investigate whether this area should be located:</p> <p>(a) At the rear of the site to allow for separation from adjacent dwellings and to provide a corridor of vegetation of native fauna; or</p> <p>(b) Elsewhere within a site to allow for retention of significant trees and attain maximum access to sunlight.</p> <p>6. No structures, basement carparks, driveways, hard paving, decks, balconies or drying areas are permitted within the deep soil zone.</p> <p>4. The deep soil zone shall be densely planted with trees and shrubs. Where the development is to be strata titled, the deep soil zone may be retained within the common property or allocated to an individual unit entitlement, where such dwelling is directly adjacent.</p>
B1 Residential Development	Increase the minimum number of trees per lot for dual occupancies, and introduce a minimum number of tree/s per lot for dwellings, attached dwellings and multi dwelling housing.	<p><i>New clause in landscaping section for dwellings (s4.4)</i></p> <p>A minimum of one semi mature small to medium tree (minimum pot size 45L) is to be provided per lot in the landscaped area or private open space. This tree must be planted at least 3m from a dwelling, building or structure on the lot.</p> <p><i>New additional clause for Dual Occupancies (additional to 4.4.2.5)</i></p> <p>A second semi mature small to medium tree (minimum pot size 45L) is to be provided onsite, planted at least 3m from any dwelling, building or structure on the lot.</p> <p><i>New additional clause for attached dwellings and multi dwelling housing</i></p> <p>Two semi mature medium – large trees (minimum pot size 45L) are to be provided for attached dwellings and multi dwelling housing in the deep soil planting zone or landscaped area and at least 3m from any dwelling, building or structure on the lot.</p> <p><i>New additional clause for residential flat buildings</i></p> <p>The minimum number of trees to be planted onsite as specified in the table below [or a minimum of 1 medium tree (minimum pot size 45L), whichever is greater]. Trees are to be planted in</p>

DCP Chapter	General recommendation	Draft recommended amendment										
		<p>the deep soil zone or landscaped area on the site and at least 3m from any dwelling, building or structure.</p> <table border="1"> <thead> <tr> <th>Site area</th> <th>Recommended tree planting</th> </tr> </thead> <tbody> <tr> <td>Up to 850m²</td> <td>1 medium tree per 50m² of deep soil zone</td> </tr> <tr> <td>Between 850 - 1,500m²</td> <td>1 large tree or 2 medium trees per 90m² of deep soil zone</td> </tr> <tr> <td>Greater than 1,500m²</td> <td>1 large tree or 2 medium trees per 80m² of deep soil zone</td> </tr> <tr> <td colspan="2">Source - Apartment Design Guide 2015</td> </tr> </tbody> </table>	Site area	Recommended tree planting	Up to 850m ²	1 medium tree per 50m ² of deep soil zone	Between 850 - 1,500m ²	1 large tree or 2 medium trees per 90m ² of deep soil zone	Greater than 1,500m ²	1 large tree or 2 medium trees per 80m ² of deep soil zone	Source - Apartment Design Guide 2015	
Site area	Recommended tree planting											
Up to 850m ²	1 medium tree per 50m ² of deep soil zone											
Between 850 - 1,500m ²	1 large tree or 2 medium trees per 90m ² of deep soil zone											
Greater than 1,500m ²	1 large tree or 2 medium trees per 80m ² of deep soil zone											
Source - Apartment Design Guide 2015												
B1 Residential Development, B3 Mixed Use Development D13 Wollongong City Centre E6 Landscaping	Encourage the use of green roofs and walls for residential flat buildings, mixed use developments, commercial and industrial developments through new development objectives and controls throughout Wollongong DCP.											
B1 Residential Development, B3 Mixed Use Development D13 Wollongong City Centre	Increase the percentage of housing requiring compliance with adaptable housing Australian standard for residential flat buildings (s6) And multi dwelling housing (s5.14)	<p><i>Recommended amendment to s5.14.2.1 for multi dwelling housing</i></p> <p>Within a multi dwelling development incorporating more than six (6) dwellings, 40% 20% of all dwellings (or at least 1 dwelling) must be designed to be capable of adaptation for disabled or elderly residents. Dwellings must be designed in accordance with the Australian Adaptable Housing Standard (AS 4299-1995), which includes "pre-adaptation" design details to ensure visitability is achieved.</p> <p><i>Recommended amendment to s6.15.2.1 for residential flat building</i></p> <p>Within a residential apartment building, 40% 20% of all dwellings (or at least one dwelling) must be designed to be capable of adaptation for disabled or elderly residents. Dwellings must be designed in accordance with the Australian Adaptable Housing Standard (AS 4299-1995), which includes "preadaptation" design details to ensure visitability is achieved.</p>										
B1 Residential Development, B3 Mixed Use Development D13 Wollongong	Introduce minimum requirement for universal housing design through compliance with Livable Housing Design Guideline.	<p><i>For multi dwelling housing residential flat buildings – amend adaptable housing heading s5.14 and s6.15 to include both adaptable housing and universal design.</i></p> <p><i>New Controls</i></p> <p>In addition to adaptable housing development controls, all new multi dwelling housing development must provide livable dwellings (i.e. dwellings designed to Silver Standard Livable</p>										

DCP Chapter	General recommendation	Draft recommended amendment
City Centre		<p>Housing Design Guidelines at the following rates.</p> <ul style="list-style-type: none"> - Developments of 6 or more dwellings – 10% or at least one dwelling. <p>Where proposed, all 'livable' dwellings must be clearly identified on the submitted DA plans.</p>
B5 Industrial Development	Introduction of objectives and controls relating to energy and water efficiency.	
D13 Wollongong City Centre	Revise energy and water efficiency development for commercial development to increase the scope and threshold at which efficiency assessments are required.	<p><i>Replace following paragraph in clause 5.2.2</i></p> <p>Provide an Energy Efficiency Report from a suitably qualified consultant to accompany any development application for new commercial office development with a construction cost of \$5 million or more that demonstrates a commitment to achieve no less than a 4 star rating under the Australian Building Greenhouse Rating Scheme.</p> <p><i>Insert new clause</i></p> <p>All non-residential development with a construction cost of \$1million or greater, must demonstrate commitment to achieving a minimum of 4 stars Green Star rating or 4 stars NABERS rating (energy tool) as a minimum.</p>
E3 Car Parking, Access, Servicing/ Loading Facilities and Traffic Management	Encourage the use of green travel plans to for development in Wollongong City Centre.	<p><i>New section in DCP - Objective</i></p> <p>1. Encourage the use of public transport, walking and cycling as an alternative to private vehicle use.</p> <p><i>Controls</i></p> <p>1. Council encourages the use of green travel plans for development in the Wollongong City Centre, particularly larger residential developments, offices, recreation facilities, hospitals commercial (business and retail) premises. A Green Travel Plan is prepared and submitted to Council in support of applications for major new development. Components/strategies of a Green Travel Plan will likely vary according to the nature of the development, but may include:</p> <ol style="list-style-type: none"> a) identification and promotion of public transport options to access the site (for example, web site, business cards) b) encouragement of a car pool system for employees. c) encouragement of cycling and walking to the workplace through provision of bicycle parking, showers and lockers d) incentive schemes to encourage employees to commute using sustainable transport modes (such as provision of public transport vouchers/subsidised public transport tickets) e) allocation of designated parking spaces for a car sharing scheme, and/or f) prominent display of a large map of cycling routes (for example, in the foyer of a residential complex).

Additional opportunities to enhance the sustainability of development outcomes in Wollongong have been identified outside the direct scope of this project, however they are important for future consideration. This list is not exhaustive.

- ✓ Amendment of Wollongong LEP to include specific local provisions e.g.
 - Sutherland Shire Council's LEP includes local provisions relating to energy efficiency and sustainable building techniques for commercial and industrial developments.
 - Sutherland Shire Council LEP and Hunter's Hill Council LEP include local provisions specifying minimum landscaped areas, strengthening the application of the landscaping DCP objectives and controls.
- ✓ Supporting residents/ applicants on their sustainable development journey e.g. Lane Cove Council provides a free Sustainable Building Advisory Service for residents. Through this service residents are able to obtain sustainable building advice from a qualified architect or building designer.
- ✓ Educating and connecting residents/ applicants to existing resources and information regarding sustainable building design and construction e.g. Your Home Australia's Guide to Environmentally Sustainable Homes (Federal government publication), North Sydney and City of Sydney green wall and roof resources.
- ✓ Working in collaboration the development industry to identify and reduce barriers and incentivise sustainable housing siting and design.

Appendix A

Points to be considered in / out of scope of Sustainability DCP review	DCP relevance	LEP constraint	Regulation concern	Education opportunity	Comments
Considerations of the urban cooling report considered by Council 27 April 2015.	Y	Y			Encourage the use of existing tools for residential developments. Review of existing provisions has occurred for non-residential development.
Ranking/ rating tool for development and sustainability.	Y			Y	Encourage the use of existing tools for residential developments. Review of existing provisions has occurred for non-residential development.
Requirement for a minimum number of trees per allotment.	Y				Council can recommend a minimum number of trees per allotment. Issues may follow in relation to regulation of such provisions, post development consent.
Encouraging more active transport when designing new subdivisions and larger developments. This may be through ensuring interconnectivity between communities, roads, cycle ways and pedestrian links.	Y				Review of subdivision design process may occur to ensure active transport considerations are included and actively compete with other site constraints.
Requirement aspect and passive solar design requirements, particularly at the subdivision stage, for new residential development and larger developments.	Y				There are existing provisions contained in Wollongong DCP 2009 relating to subdivision and solar access, orientation and lot layouts. These provisions aim to maximise solar access and energy efficiency opportunities for future dwellings and private open space.
Ensuring requirement for stormwater erosions and sediment controls in approval process.	Y				Provisions relating to erosion and sediment control are contained in Wollongong DCP 2009. Conditions are included in development consents. Feedback provided to relevant internal divisions.
Stormwater and erosions sediment controls - regulation of controls during demolition and/ or construction.			Y	Y	Outside the scope of this DCP review. Feedback provided to relevant internal divisions.
Stormwater and sedimentation ponds - requirement for these not to be placed on Council land (or land to be dedicated to Council).	Y				Location included as part of development assessments. Generally located within the development area.
Increase in permeable surfaces.	Y				Informed review of Wollongong DCP 2009.
Decrease in allowable floor space ratio.		Y			LEP requirement outside the scope of this project.
Requirement for more vegetation and less grass.	Y			Y	Informed review of Wollongong DCP 2009.
Increase sustainability features - going beyond BASIX.	Y			Y	Council may only encourage residents to go beyond BASIX requirements.
Lighter roof surfaces and driveways to facilitate cooling and reflect heat.	Y			Y	Council may encourage through the DCP where appropriate noting the implications relating to glare and reflection and existing inclusion in BASIX.

Points to be considered in / out of scope of Sustainability DCP review	DCP relevance	LEP constraint	Regulation concern	Education opportunity	Comments
Deep soil zones – deep soil zones for residential flat buildings should be at the front to reinforce streetscape and continuous corridor of vegetation.	Y				Informed review of the Wollongong DCP 2009.
Bicycle parking facilities even for single homes, duplex and townhouses.	Y				Discussion with staff revealed WCC 6x6m garage requirement is regularly varied and reduced for dwellings & dual occupancies due to the AS being 5.5m x 5.5m. No further increase is recommended. Existing Wollongong DCP 2009 provision for storage for e.g. 3 bedroom dwelling – 10m ² volume & 5m ² area required.
Improvements to the assessment of trees for removal in the DA process.	Y				Informed review of the Wollongong DCP.
Include requirement for source separation of building materials so that less goes to landfill.	Y		Y	Y	Existing provisions in Wollongong DCP 2009 benchmarked against other Councils.
Guidelines for solar passive design when designing dwellings.				Y	Outside the scope of the review.
Allowance for and encouragement of green roofs and walls.	Y				Informed review of the Wollongong DCP 2009.
Guidelines for green roofs and walls.				Y	Informed review of the Wollongong DCP 2009.
Character statements – recommended to be revised to place greater emphasis on protecting streetscapes and reducing social conflict, and encouraging multi-dwelling housing near retail centres, employment and major public transport routes.	Y				Outside the immediate scope of this DCP sustainability review.
Liveable Housing – ensuring housing is capable of being adapted to future circumstances and occupants.	Y				Informed review of Wollongong DCP 2009.
Aims and objectives contained in the DCP – to have greater emphasis on sustainability.	Y				Informed review of Wollongong DCP 2009.
Include sustainability DCP provisions in each respective chapter of the current DCP rather than have a stand-alone sustainability chapter	Y				Informed review of Wollongong DCP 2009.
Parks, waterways and creeks – use of local plant species in parks to support local biodiversity, and ensure creeks contribute to visual amenity.	Y				Applicable for new subdivisions.
Street trees and visual amenity in new subdivisions – improving amenity of new subdivisions and developments through landscaping and use of street trees using local plant species.	Y				Informed review of Wollongong DCP 2009 noting the current Urban Green Strategy being developed by Council.