APPENDIX 1

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1 List of Amendments to this DCP

Amendment no.	Clause amended	Subject
Amd No.1. Adopted by Council 30 May 2007, effective 7 June 2007	5.4.1	 Child Care Centre Provisions: Required frontage increased from 13m to: 18m (where 2 separate one way ingress/egress vehicular access points proposed) and; 20m where a single vehicular access point is proposed centres not permitted on land with a boundary to a state road (previously a "main road")
	5.4.5	 amendment to not permit centres on land with a boundary on a state road remove industrial areas from list of undesirable features & include statement that centres are permitted within industrial areas subject to merits assessment expand list of undesirable features to include hazardous & offensive development, bushfire and flood prone land, injecting rooms and drug clinics remove requirement for demographic analysis and supply/demand analysis
	5.4.6	insert new section regarding cumulative impacts
	5.4.7	 insert new section requiring consideration of child care centres within large developments
	5.4.8	insert new section regarding size of centres & child age groups
	5.4.9	Building form and appearance -amend objectives, height, setback and building colour controls
		 Access & Parking -reduced parent parking rate & illustrative diagrams for preferred vehicular access arrangement of 2 separate one way ingress & egress points -require open stand car spaces setback behind 1m front landscape strip, physical separation between cars and pedestrians, neighbourhood parking policy, motor vehicle and pedestrian risk assessment report to be submitted, require all DA's to be referred to traffic committee
	5.4.11	Landscaping - require 1m wide front landscape strip and screen landscaping alongside boundaries, non-residential zones merits based
	5.4.12	 shading of outdoor play area requirements amended, play areas not to be located in front of building
	5.4.13	 staff room requirement & number of cots required amended Hours of operation extended for new centres and old centres with 18m frontage and separate ingress/egress
	5.4.14	Acoustic report requirements amended, colour bond fencing now considered
	5.4.15	Occupant of dwelling to be associated with centre
Amd No.2.	1.12	Savings and Transitional Provision
Adopted by Council on 24	2.2	Neighbour Notification and Advertising of Development Applications
February 2010, effective from 22	3.1	Car parking
March 2010	Various	Development in Bushfire Sensitive Land
	Section 4	Sunlight and Solar Access
	4.1 (new)	Single Dwelling House Controls
	4.2	Dual Occupancy Solar Design, Water and Energy Efficiency
	4.3	Irregular Shaped Lots (new controls)

	1.0	Out the definition of				
	4.6	Outbuildings				
	6.10 (new)	Development in the Foreshore Council Policies				
	Арр. 3					
	Various	Update legislation, cross-referencing and State policy references				
	Various	DCP Formatting and Layout				
Amd No. 3. Adopted by Council on 12 June	Various clauses throughout	The primary purpose of Amendment No. 3 is to make DCP No.1 consistent with the land use zones, definitions, development standards and other clauses in the Hurstville Local Environmental Plan (LEP) 2012, which commenced on 7 December 2012.				
2013, effective from 24 June 2013	the DCP	The amendments to DCP No.1 are contained throughout the DCP and include, but are no limited to:				
		Update Savings and Transitional Provisions (Section 1)				
		 Changes to requirements for neighbour notification and advertising of 				
		development applications (Section 2.2);				
		• New section for 'Preservation of trees and vegetation' (Section 3.11);				
		• New section for 'Height of buildings and indicative storeys' (Section 3.12);				
		 Changes to certain controls for residential development (single dwellings, dual occupancy, multiple dwellings, residential flat buildings and small lot housing) including setbacks, landscaping, private open space, stormwater drainage and other controls (Section 4); 				
		 New controls for 'detached dual occupancy' (Section 4.2); 				
		 New section for 'secondary dwellings' (Section 4.5); 				
		 Deletion of certain DCP sections including but not limited to: Home Activities; 				
		Housing for Seniors or People with a Disability; Food Premises; Hair Dressing,				
		Beautician and Skin Penetration Premises; Controls for certain Specific Sites;				
		Contaminated Land; Development in bushfire sensitive land; Amusement				
		Centres; Definitions, and Development Application checklists;				
		Update all Hurstville LEP 1994 references to the Hurstville LEP 2012 land use				
		zones, definitions, development standards and other LEP clauses;				
		 Update references to legislation and state planning policies; 				
		 Minor and administrative amendments: 				
		• DCP formatting, cross-referencing and layout.				
Amd No. 4.	1.4	 Minor administrative amendment to insert reference to the current amendment. 				
Adopted by Council on 4 June		being Amendment No.4.				
2014, effective from 12 June 2014	1.6	 Update Savings and Transitional Provision to only apply to Development Applications lodged on or after 2 April 2014. 				
	4.3.2.1	 Insertion of Residential Densities control for Multiple Dwellings, requiring a minimum site area of 315m² per dwelling for land zoned R2 Low Density Residential under Hurstville LEP 2012. 				
	4.3.2.10	 Minor amendment to clarify the application of the landscaped area control for Residential Flat Buildings. 				
	4.3	Comparison Table - minor amendment to clarify that building envelope controls				

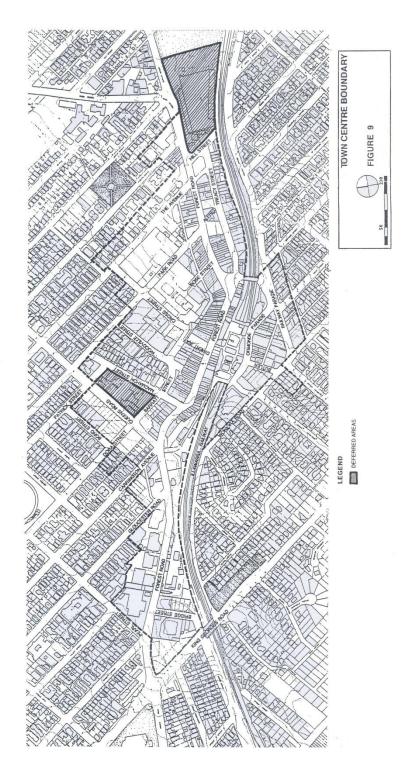


Amd No. 5. Adopted by Council on 4 July	Various clauses throughout	The primary purpose of Amendment No. 5 is to amend anomalies between DCP No. 1 and the Hurstville Local Environmental Plan (LEP) 2012 to ensure that they are in order, concise and user-friendly.
2016, effective from 13 July 2016	the DCP	The amendments to DCP No.1 are contained throughout the DCP and include, but are not limited to:
		Reinforcing its guidance role;
		Reducing its size and complexity;
		Updating residential controls, in particular to reflect the recently adopted NSW
		Government's Apartment Design Guide (ADG) (Section 4);
		• Consolidating and updating landscaping (Section 3.5) and stormwater provisions (section 3.7);
		 Introducing new public domain provisions (Section 3.6);
		 Amendments to car parking rates for business and industrial zoned land (Section 3.1);
		Minor and administrative amendments;

DCP formatting, cross-referencing and layout.

2 Land to Which DCP 2 Hurstville City Centre Applies

DCP 2 Hurstville City Centre applies to all land zoned B4 Mixed Use and B3 Commercial Core under the Hurstville LEP 2012. This land is shown and marked by the dotted and fro block lines on the map below. (Hurstville DCP 1 applies to all remaining land where the Hurstville LEP 2012 applies).



Appendix 1

3 Map of Foreshore Scenic Protection Area

Please refer to the Hurstville LEP 2012 for the Foreshore Scenic Protection Area Map. http://www.legislation.nsw.gov.au/mapindex?type=epi&year=2012&no=613

4 The Kemp's Estate

The Kemp's Estate

Station, Universal, Broughton, Crump and Kemp's Street, Mortdale (including parts of Morts and Boundary Roads)

Background – from Hatton, D.J., "Mortdale in the Early Years", Hurstville Historical Society Monograph, No 8, 1981.

There were two main farms in the district between Mortdale and Penshurst. The Kemp's Farm, which had an orange orchard, encompassed the site of the present Mortdale township. The Parkes' Farm was further towards Penshurst near Victoria Avenue.

The development of Mortdale township followed the establishment of the Hurstville Steam Brick Company in 1844. The brickworks were built on Kemp's land on the eastern (Kogarah Council) side of the railway line.

The railway, constructed in 1884, cut across the farms. There was no provision for the train to stop between Penshurst and Oatley. The brickworks siding opened in 1886 and Mortdale Station was not opened until 1897.

The brickworks brought families to live in the area, and they originally settled on the eastern (Kogarah) side of the railway line.

The present business side of Mortdale, on the western side of the railway, was known as Newman's Paddock in the 1880s. Mr Newman was the only resident on that side of the railway line. His estate was subdivided and sold in 1893-94 as the Morts Township Estate, and in 1895 as Kemp's Estate.

Mort's Township Estate was bound by Morts Road, the railway line, Boundary Road and Station Street. It also included Oxford Street, Martin Place, Macquarie Street, Pitt Street, George Street and the Strand.

Kemp's Estate, to the west of Mort's Township Estate, was sold by the Universal Land and Deposit Bank Ltd., whose directors were Messrs. Crump and Broughton. Hence, the naming of Universal, Broughton, Crump and Kemp's Streets.

The Kemp's Estate Subdivision

A copy of the original subdivision is attached. The residential lots were available under Torrens Title. The majority of the sites had a 20 feet frontage with a depth of 120 feet. Each block was cut in half by a laneway, now called The Strand.

Typical of the subdivisions of the time, the layout of the Kemp's Estate bore no relationship to the terrain or to existing dwellings or structures, or for the provision of services.

Remaining pre subdivision structures and possibly the first houses constructed on the subdivision include: 41 Crump Street, 52 and 54 Broughton Street, 13 Broughton Street, and the brick building on The Strand between Station and Universal Street. 35 Kemp's Street is typical of a number of weatherboard cottages of this early period which remain in good condition.

Some substantial brick houses were constructed in the 1910-20s; a good example is 30 Kemp's Street.

The rate notices of 1926 indicate that although the subdivision had been sold, very few houses had been constructed. Landowners had bought two, three, or four adjoining lots and consolidated them for building sites. Many of the consolidated lots were listed as "vacant". Some owners were possibly purely investors, listed as living, for example, in Maitland and Gunnedah. The rate notices indicate that the consolidation of the lots were not accompanied by newly deposited plans, thereby retaining the original subdivision layout.

The 20' lots that were isolated under single ownership were listed as "vacant". The rate building on a 20' lot was listed as "humpy".

An aerial photograph of 1932 shows Kemp's Estate to be partially developed. It is believed that the Estate was not fully developed until after World War II.

The small dwellings that are now located on the 20' lots are possibly of post World War II construction. Fibro, although available from 1913 onwards, was not used as a major building material until the building boom following the building shortage of the late 1940's. The consolidated lots were then developed as individual lots and sold, possibly to veterans. Rate notices of 1926 show that 12A – 18 Crump Street were two larger lots that were broken up to regain the original narrow 20' lots that are now in existence.



Kemp's Estate Today

An examination of Council's orthographic maps No's 33, 34, 43, 44 and 54 show that the original lots of the Kemp's Estate subdivision are largely intact, except for Station Street, which has been re-developed as residential flats under Strata Title.

Site investigation reveals that the small lots are popular with small families. Kemp's Estate has many retired occupants and young couples that do not require large sites or large dwellings.

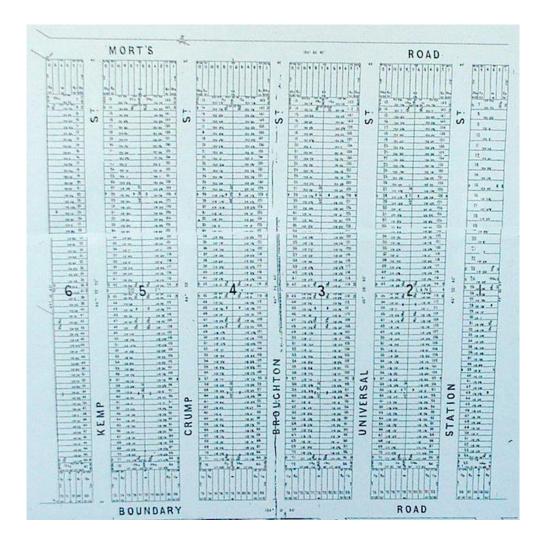
Significance

Kemp's Estate can be considered significant as it:

Illustrates the history of residential settlement in the area;

- Has rare 6 metre residential lots under torrens title;
- Has good examples of pre WWII dwellings
- Has good examples of post WWII dwellings, and;
- Encapsulates the character of Mortdale.

There are currently 21 dwellings that are built on single narrow lots. Some of these are in original condition. There are a number of additional dwellings that were built for individual narrow lots that were later re-consolidated into double lots. These dwellings, although altered, retain the character of the Estate and the streetscape. All these buildings are worthy of further examination to determine that significance, and to use as a basis for planning controls. A photograph based on the original Deposited Plan from 1895 is attached highlighting the subdivision pattern.



Appendix 1

5 Recommended Species for Landscaping

<u>Note</u>: The guide to the size of the trees and shrubs indicated below are approximate only. The size guide has been approximated based on growing conditions in Hurstville. The growth of vegetation can be affected by many factors including restricted area for canopy and trunk spread, restricted area for root systems, soil type, exposure to light etc. Council recommends and encourages the use of indigenous species over others.

Botanic Name	Common Name	Height (Appox)	Preferred Soil Type	Comments
Indigenous Trees - (all wards)				
Acmena smithii	Lilly Pilly	7m	sheltered, sandstone	Rainforest tree
Angophora bakeri	Narrow-leaved Apple	2-10m	varied	
Angophora costata	Sydney Red Gum	15-20m	sandstone	
Angophora floribunda	Rough-barked Apple	12-20m	sandstone	
Backhousia myrtifolia	Grey Myrtle	3-4m	sheltered, fertile	
Banksia serrata	Old Man Banksia	4-8m	sandstone	Used as street tree
Callicoma serratifolia	Black Wattle	4-8m	sandstone/ varied	
Callitris rhomboidea	Port Jackson Pine	6m	sandstone, sheltered	Native conifer
Casuarina glauca	Swamp Oak	to 20m	estuarine	
Ceratopetalum apetalum	Coachwood	to 25m	sheltered	Rainforest tree
Ceratopetalum gummiferum	NSW Christmas Bush	5m	sandstone	
Corymbia gummifera	Red Bloodwood	12m	sandstone	
Elaeocarpus reticulatus	Blueberry Ash	4-8m	fertile, well drained	Used as street tree
Eucalyptus capitellata	Brown Stringybark	10m	sandstone	
Eucalyptus globoidea	White Stringybark	15-30m	varied	
Eucalyptus haemastoma/ Eucalyptus haemarac	Scribbly Gum	8m	sandstone	
Eucalyptus longifolia	Woollybutt	to 25m	clay/shale	Rare species
Eucalyptus maculata	Spotted Gum	30m	varied	
Eucalyptus moluccana	Grey Box	to 30m	clay	
Eucalyptus paniculata	Grey Ironbark	30m	clay/shale	
Eucalyptus parramattensis	Drooping red Gum	8m	clay/shale	
Eucalyptus pilularis	Blackbutt	to 30m	sandstone	
Eucalyptus piperita	Sydney Peppermint	15m	sandstone	
Eucalyptus punctata	Grey Gum	16m	varied	
Eucalyptus resinifera	Red Mahogany	20m	sandstone	
Eucalyptus tereticornis	Forest Red Gum	30m	clay	
Glochidion ferdinandi	Cheese Tree	4-8m	sandstone/ rainforest	
Leptospermum attenuatum	Tea Tree	4m	moist	
Leptospermum polygalifolium	Tea Tree	to 5m	sandstone	
Melaleuca armillaris	Bracelet Honey Myrtle	5-8m	varied	
Melaleuca linariifolia	Snow in Summer	5-8m	varied	
Melaleuca styphelioides	Prickly Paperbark	6-15m	varied	Used as street tree
Myoporum acuminatum	Mangrove Boobialla	4-6m	sheltered	

Botanic Name	Common Name	Height (Appox)	Preferred Soil Type	Comments
Rapanea howittiana	Brush Muttonwood	to 10m	fertile, sheltered	Rainforest tree
Syncarpia glomulifera	Turpentine	to 25m	clay/shale	Used as street tree
Xylomelum pyriforme	Woody Pear	4m	sandstone	
Native Trees - (all wards)				
Agonis flexuosa	Willow Myrtle	8m	varied	Used as street tree
Alectryon tomentosus	Red Jacket	8-15m	sheltered, fertile	Rainforest tree
Archontophoenix cunninghamiana	Bangalow Palm	15m	moist, sheltered	
Backhousia citriodora	Lemon Scented Myrtle	6-8m	fertile, sheltered	Rainforest tree
Banksia integrifolia	Coast Banksia	5-8m	sandstone	
Brachychiton acerifolius	Illawarra Flame Tree	12-15m	fertile, well drained	Deciduous
Buckinghamia celsissima	Ivory Curl Tree	6-10m	fertile, sheltered	
Callistemon salignus	Willow Bottlebrush	8-10m	alluvial, varied	
Cupaniopsis anacardioides	Tuckeroo	4-8m	coastal, sandy	
Eucalyptus ficifolia	Red Flowering Gum	8m	sandstone	
Eucalyptus maculata	Spotted Gum	15-30m	varied	
Eucalyptus scoparia	Willow Gum	10-20m	well drained	Used as street tree
Eucalyptus sideroxylon	Mugga Ironbark	12m	shale	Used as street tree
Hymenosporum flavum	Native Frangipani	10m	fertile, well drained	Perfumed flowers
Leptospermum laevigatum	Coast Tea Tree	3-5m	sandy	
Livistona australis	Cabbage Tree Palm	to 25m	moist, fertile	
Lophostemon confertus	Brush Box	10m	varied	Used as street tree
Macadamia integrifolia	Macadamia	5-8m	sandstone	Used as street tree
Podocarpus elatus	Plum Pine	12-25m	moist, fertile	Edible fruit
Stenocarpus sinuatus	Firewheel Tree	8-10m	fertile, sandy	Rainforest tree
Syzygium spp.	Lilly Pilly	3m⁺	sheltered/ sandstone	Rainforest tree
Tristaniopsis laurina	Water Gum	4-7m	varied	Used as street tree
Exotic Trees - (Hurstville and	d Penshurst Wards only)			1
Acer species	Maple	4m ⁺	moist, fertile	Deciduous
Arbutus unedo	Strawberry Tree	6-8m	well drained	Edible fruit
Betula species	Birch	12-20m	sandy loam	Deciduous
Calodendrum capense	Cape Chestnut	8-15m	fertile	Semi-deciduous
Fraxinus griffithii	Himalayan Ash	5m	varied	Used as street tree
Gingko biloba	Maidenhair Tree	12-25m	fertile, alluvial	Ancient species
Gordonia axillaris	Crepe Camellia	3-5m	fertile, moist	Used as street tree
Lagerstroemia indica	Crepe Myrtle	6-8m	well drained, fertile	Deciduous
Liriodendron tulipifera	Tulip Tree	15-30m	fertile, sheltered	Deciduous
Jacaranda mimosifolia	Jacaranda	12-15m	fertile, well drained	Deciduous
Magnolia grandiflora	Bull-bay Magnolia	15m	well drained, fertile	
Metrosideros excelsa	New Zealand Christmas Tree	10-12m	sandy	
Michelia figo	Port Wine Magnolia	3m	well drained, fertile	

Botanic Name	Common Name	Height	Preferred Soil Type	Comments
		(Appox)		
Pistacia chinensis	Chinese Pistachio	8-15m	well drained	Deciduous
Quercus species	Oak (various)	10-30m	fertile, moist	Deciduous
Robinia 'Mop Top'	Mop Top Robinia	6m	varied	Semi deciduous
Schinus areira	Peppercorn Tree	6-15m	sandy, moist	Deciduous
Ulmus species	Elm (various)	12m⁺	fertile	Used as street tree, semi-deciduous

6 State & Regional Roads Classifications

State Roads

Road	Section		2004 AADT Vehicles/day
Croydon Road	Forest Road	Queens Road	25,000
Queens Rd	Croydon Road	Forest Road	23,500
Forest Rd	Queens Road	Henry Lawson Drive	33,500
Henry Lawson Dr.	Forest Road	Salt Pan Creek	25,500
Stoney Creek Road	Kingsgrove Road	Forest Road	29,000
King Georges Road	Bridge Street	Pallamana Parade	54,500

Regional Roads

Road	Section		2004 AADT Vehicles/day
Belmore Road	Henry Lawson Drive.	Josephine Stret	15,000
Bonds Road	Josephine Street	Forest Road	17,000
Boundary Road	Forest Road	Railway Line	15,000
Lily Street	Forest Road	Railway Line	15,000
Forest Road	Lily Street	Croydon Road	8,000
Tooronga Terrace	King Georges Road	Bundara Street	6,500
Bundara Street	Tooronga Terrace	Vanessa Street	6,500
Vanessa Street	Bundara Street	Commercial Road	7,000
Commercial Road	Vanessa Street	Kingsgrove Road	7,000
Kingsgrove Road	Wolli Creek	Stoney Creek Road	25,000
Croydon Road	Stoney Creek Road	Queens Road	18,000
Gloucester Road	Stoney Creek Road	Forest Road	3,600
Broad Arrow Road	Bonds Road	Bryant Street	7,500
Penshurst Street	Bryant Street	Bridge Street	8,500
Bridge Street	Penshurst Street	Forest Road	5,000

7 Waste Management

7.1 General Information

a) Name

For the purpose and objectives of this section "waste" refers to:-

- a) putrescible and other non-hazardous household waste;
- b) dry recyclable materials;
- c) green and organic waste;
- d) materials approved to be collected as part of Councils regular 'Clean Ups';
- e) commercial and industrial waste; and,
- f) construction and demolition waste.
- b) Land to which This Section Applies

This section applies to all land within the City of Hurstville and applies to the following development categories:

- Subdivision;
- Single Dwellings and Dual Occupancies;
- · Alterations and additions to existing residential, commercial and industrial developments;
- Attached Dwellings and Multi Dwelling Housing;
- Residential flat buildings (under 8 storeys in height);
- Residential flat buildings (8 storeys or greater in height);
- Commercial and Industrial Buildings; and,
- Mixed use development that includes a residential component.
- c) Purpose

The purpose of this plan is to:-

- a) assist in the achievement of effective and efficient waste management and minimization practices across all developments; and,
- b) ensure that where practical all land use activities comply with the relative provisions of any applicable acts, regulations, and other statutes in relation to waste management and waste minimisation initiatives.

In entering the new millennium minimising waste has become a priority. All levels of Australian government – federal, state and local are committed to reducing waste.

Sydney has an ever-increasing waste problem and in the year 2000, over six (6) million tonnes of waste were sent to landfill. This practice is not sustainable and the NSW Waste Avoidance and Resource Recovery (WARR) Act 2001 and the WARR Strategy 2003 aimed to address this issue by promoting waste avoidance, reuse and recycling by specifically encouraging the use of renewable and recoverable materials, in preference to those materials which are not recovered or not made from renewable resources.

Local Government, in particular is faced with ever increasing responsibilities in relation to the issues of environmental protection and waste management. As the level of government closest to the community, local Council's need to respond to the challenge of defining how better to manage the sustainability of our resources, and the blending of our economic, social, and environmental goals, into the everyday activities of the community.

All stakeholders need to have a clear understanding of what Councils are trying to achieve through better resource management. Accordingly, waste minimisation strategies need to be directed at all levels and activities of society. This not only includes government and the community, but also in the areas of commercial and industrial wastes management, as well as the construction and demolition sectors.

Hurstville City Council is confident that in adopting this DCP and adhering to its principles and objectives, the outcomes will result in positive and tangible benefits to our community and the environment in which we live, as well as providing a solid foundation on which will be built sustainability for the future.

d) Objectives

The objectives of this section are to:

- a) promote the use of recyclable materials in the design, construction an operation of buildings and land use activities;
- b) maximise waste reduction, material separation and resource recovery in all stages of development (demolition, design, construction) and operations of developments;
- c) encourage building designs and constructions that maximise waste minimisation and management;
- d) provide advice on waste reduction and handling strategies, and minimise the environmental impacts of waste during construction, demolition and end use stages of developments;
- e) encourage the design and construction of waste and recycling storage facilities that are:
 - of an adequate size;
 - appropriately designed for the intended uses;
 - hygienic, safe to access;
 - in compliance with any occupational health and safety requirements; and;
 - visually compatible with their surroundings;
 - minimise noise transfer.
- f) Minimise the environmental impact of poorly designed waste and recycling storage facilities or from the poor management of those facilities;
- g) provide on-going control for waste handling and minimisation in all premises;
- h) Encourage source separation of recyclables and green waste, minimising waste generation and maximising recycling from each dwelling;
- i) Ensure efficient waste management practices from each dwelling;
- j) Ensure the appropriate on-site storage of garbage, recycling and green waste bins for each dwelling whether bins are stored within individual dwellings or within a common storage area;
- k) Ensure that the storage of garbage, recycling and green waste bins for each dwelling does not impact negatively on the visual amenity of the area; and
- I) Ensure that the storage of garbage, recycling and green waste bins for each dwelling does not impact negatively on the neighbouring properties.
- e) Waste Management Planning

The provisions of this section require applicants to consider the design, structure, and location of waste management facilities prior to the submission of a DA. Additionally, a Waste Management Plan (WMP) may be required to be submitted with a DA for the development categories described in Section 1.2 of this Plan.

Applicants will need to contact Council prior to the lodgement of a DA to determine whether or not a WMP will be required in respect of their application.

A Waste Management Plan (WMP) is a plan for the on-site management of all waste that is generated or derived from any, or all of the following activities:-

- a) demolition of buildings or structures;
- b) excavation works and activities;
- c) construction of buildings;
- d) landscaping and site remediation works; and,
- e) occupation, use of, or the conducting of any activities on any land or premises.

A model Waste Management Plan (WMP) follows.

A WMP also defines the volume and type of waste that will be generated, how waste is to be managed, treated and stored on site, how all waste types are to be disposed of, facilities for source separation, the reuse, and recycling of materials, as well as the provision of appropriate Waste Storage Facilities.

When is a Waste Management Plan to be Submitted?

A WMP shall be submitted in accordance with the following Table.

Landuse or Activity	Is a WMP Required?	Additional Information
Subdivision of land	Yes	Only required where the removal of vegetation and excavation activities are carried out.
Demolition of dwelling or outbuilding	No	A WMP will be required for the demolition of dwellings and outbuildings that front a reserve or are larger than 120sqm in area.
Demolition of buildings (other than dwellings and outbuildings)	Yes	
Single dwellings and dual occupancies	No	A WMP will be required for all dwellings and dual occupancies that front a Reserve or are larger than 120sqm in area.
Multiple dwellings (including attached dwellings, multi dwelling housing and residential flat buildings)	Yes	
Commercial buildings (excluding change of use)	Yes	A WMP will not be required for developments that are not subject to any major building activity.
Change of use (where no building works will be carried out)	No	
Industrial buildings (excluding change of use)	Yes	
Mixed use buildings, schools, public and private institutional buildings	Yes	
Special events (festivals, circuses, sporting, cultural or musical events)	Yes	

7.2 Demolition and Construction

Requirement for Submissions

Where applicable, prior to the commencement of any works, the following information must be submitted with the development application:

- a) Section 1 of the model Waste Management Plan (refer to Appendix 1) must be completed
- b) Plans submitted must clearly show:
 - i. the location and size of all Waste Storage Facilities;
 - ii. the location of on-site sorting areas for the reuse and recycling of materials;
 - iii. the location of on-site storage space for the reuse and recycling of materials; and,
 - iv. vehicle access points for the removal of recyclables and waste materials from the site.

Should the developer intend to use a 'Waste Skip Bin' of any size, design or type and application to locate and store the Bin shall be made to Council prior to the commencement of any work. The location of the Bin and method of collecting and transporting the waste contained therein shall be in accordance with Council's 'Waste Skip Bin Policy'.

Development Requirements

Objectives may be achieved where:

• Section 1 of the Waste Management Plan has been satisfactorily completed and submitted with the development application.

- Details of on-site sorting and storage facilities are provided on any plans that are submitted.
- Evidence is provided of where the waste/recycling materials were disposed of to, eg landfill and/or recycling dockets. This is to ensure compliance with the submitted waste management plan.
- All demolition and construction activities comply with any conditions of consent of the development application, relevant environmental planning instruments and development controls, and applicable Australian Standards (eg, AS2601 – The Demolition of Structures); and,
- All activities are carried out in accordance with the relative environmental planning instruments and development controls.

Minimising Waste Generation & Maximising Recycling & Reuse

Replacing virgin materials with recycled or reused product generally creates less pollution and energy use rather than using waste to make energy. The impacts of our consumption and waste generation can also affect our environment and health over time.

There are many opportunities for the minimisation of the volume of waste generated and maximising resource recovery from building sites land use activities. The following principles of the Waste Avoidance Hierarchy should be adopted to achieve these objectives:-

- <u>Avoidance</u> avoid generating excess waste or producing unwanted materials on site. Try to avoid excessive packaging by purchasing materials carefully;
- <u>Reducing</u> attempt to reduce waste generation by using materials that can be delivered in returnable packaging, eg return timber pallets for reuse;
- **<u>Reuse</u>** the reuse of building materials should be encouraged but only in accordance with the relative standards (eg, BCA requirements); and,
- <u>Recycling</u> this may involve separating materials

Council has copies of 'The Construction and Demolition Recycling Directory' that will assist applicants in terms of recycling as it provides a comprehensive list of companies and operators which recycle and reuse waste materials generated through demolition and construction activities.

The first issue developers and applicants must consider is whether it is possible to re-use existing materials for the proposed use. The potential to incorporate existing trees and shrubs into landscape planning should be given a high priority. Design that reduces excessive excavation should be encouraged. With careful on-site sorting and storage, it is possible to reuse many materials, either on or off site.

It is not acceptable to dispose of all material to landfill. An ordered program of retrieval is to be specified in the WMP and used to reduce the need for waste disposal.

The Department of Environment and Climate Change has published a 'Waste Planning Guide for Development Applications' copies of which are available from Council.

Recycling Potential of Materials

To assist in the preparation of your WMP, some examples of avoidance and recycling potential of resources and materials are provided in the following Table.

Materials on Site	Waste Avoidance	Reuse & Recyling
Significant trees and shrubs	Design into new development	Reallocated on-site or sold for use off- site
Overburden	Avoid excessive excavation	Power screen for topsoil
Vegetation and Excavation	Incorporate into new development landscaping, etc	Mulching, composting, for use as fertilizer and landscaping
Concrete	Retain existing driveways, paths, footings, slabs, etc	Filling, leveling materials, road base, absorption – stormwater pits and trenches
Bricks	Retain and incorporate into development where appropriate	Cleaned and rendered over for reuse on or off-site, crushed for roadbase, stormwater trenches
Roof tiles	Retain and incorporate into development where appropriate	Crushed as landscaping, and driveways, on or off-site

Appendix 1

Materials on Site	Waste Avoidance	Reuse & Recyling
Hardwood beams	Retain and incorporate into development where appropriate	Fencing, furniture for reuse on or off-site
Timber	Retain and incorporate into development where appropriate	Formwork, bridging, blocking and propping
Doors, windows, fittings	Design as an architectural feature of the new development	Second hand building materials
Glass	Design as an architectural feature of the new development	Sandblasting, aggregate for concrete production
Steel		Metal recyclers

Site contractors should also ensure that separate receptacles are provided and arranged for collection for foods scraps, beverage containers, and other waste generated by site workers.

It is also important to note that waste diversion may offer cost savings on the usual costs of disposing of mixed waste at landfills, and that cost savings may also be achieved at the construction stage by purchasing reusable and recycled content materials or reusing materials salvaged from the demolition stage.

7.3 Waste Management Facilities

For all development categories, the on-going management of waste must be considered. This is not only a waste reduction initiative, but also a design measure ensuring that the management and collection of waste and recyclables is user friendly for all stakeholders (ie, building occupants, neighbours, waste contractors, and other service providers).

The provision of these Waste Management Facilities aims to facilitate and enhance the quality of the development as well as addressing every activity and function associated with on-site waste management.

Please refer to Councils Website <u>www.georgesriver.nsw.gov.au</u>, specifically the Waste and Recycling Section for waste bin requirements.

Single Dwellings & Dual Occupancies

1. Applicability

Section 3.9.3.1 of this DCP applies to:

- Development applications for new single dwellings.
- Development applications for new dual occupancies.
- Development applications for alterations or additions to existing single dwellings and, or dual occupancies where waste management practices may be impacted upon or waste may be generated; and,
- Where applicable, existing dwellings and dual occupancies.
- 2. Requirements for Submissions

Plans submitted with the development application must clearly show:

- a) The location of on-site waste and recycling storage areas for each dwelling and must provide sufficient space for the storage of Council's garbage, recycling and green waste bins (refer to Appendix 1 for bin dimensions).
- b) The location of any indoor garbage, recycling or food garbage collection cupboards or rooms for each dwelling, if applicable; and
- c) The location of the proposed garbage, recycling and green waste bin collection point, this is usually the front kerb of the property.

3. Development Requirements

For single dwellings and dual occupancy buildings:

- Each dwelling must be provided with sufficient on-site space to store Council's garbage, recycling and green waste bins (refer to Appendix 1 for bin dimensions). All single dwellings and dual occupancies are provided with the following bins:
 - i. 120 litre Mobile Garbage Bin (MGB) red-lid garbage bin, collected weekly.
 - ii. 240 litre MGB yellow-lid recycling bin, collected fortnightly.
 - iii. 240 litre MGB green-lid green waste bin, collected fortnightly.
- b) The location of the on-site bin storage areas should be located so as not to impact negatively on the visual amenity of the area and should preferably be located in the rear yard of the premises. The area should also be designed to minimise the impact upon neighbouring properties, for example impacts from odour or vermin.
- c) Each dwelling is required to have a clearly identified collection point, usually the kerb adjacent to the site, for the collection and emptying of Council's garbage, recycling and green waste bins.
- d) Residents are responsible for ensuring that their bins are presented to the kerb each week for collection by Council's contractor on the evening prior to collection day. All dwellings will be provided with a collection calendar from Council upon request. Bins are to be removed from the kerb as soon as possible on the day of collection.
- 4. End Use Requirements

All bins (MGB's) shall be placed out for collection by the residents of each individual dwelling or dual occupancy unit, on the night prior to collection. Each bin shall be placed at the kerbside, to allow easy access for it to be emptied.

When placing bins out for collection, residents are requested not to place bins in a manner that will impede pedestrian or vehicular access; such as on the road, in driveways, in the vicinity of street trees or near any parked cars.

Bins are required to be returned to on-site storage areas as soon as practicable, after they have been emptied.

Attached Dwellings and Multi Dwelling Housing

1. Applicability

Section 3.9.3.2 of this DCP applies to:

- Development applications for new attached dwellings or multi dwelling housing developments,
- Development applications for alterations or additions to existing attached dwellings or multi dwelling housing where waste management practices may be impacted upon or waste may be generated.

It is Council's aim to provide the residents of these developments with a waste collection service sufficient to their needs, taking into consideration the following criteria:

- a) The size, shape, and design of the overall development.
- b) The size, shape, and design of the private open space of each dwelling.
- c) The availability, size and design of existing on-site waste storage facilities; and,
- d) The specific needs of the occupiers of each individual sole occupancy unit.

Where the size, shape and, or design of the overall development is such that it may be impractical or unfeasible to adequately store the required number of bins on the premises, alternative measures will need to be provided. In some cases a reduced number of bins may be the only alternative, and as such residents may be required to share bins.

Council is prepared to negotiate with residents as to the type and number of bins that will be provided. It should be noted, however that Council has an obligation to achieve specific waste minimisation targets, and these requirements will be strictly observed where possible.

2. Requirements for Submissions

Prior to the commencement of any works, the following information must be submitted with the development application:

- a) Section 2 of the model Waste Management Plan (refer to Appendix 1) must be completed
- b) Plans submitted with the development application must clearly show:
 - The location of on-site waste and recycling storage areas for each dwelling and must provide sufficient space for the storage of Council's garbage, recycling and green waste bins (refer to Appendix 1 for bin dimensions). Bins may be stored within individual dwellings or in a common bin storage area.
 - The location of any indoor garbage/recycling or food garbage collection cupboards or rooms for each dwelling, if applicable.
 - The location of the proposed garbage, recycling and green waste bin collection point, this is usually the front kerb of the property.
 - The path of travel from a common bin storage area, if applicable, to the designated collection point.
- 3. Development Requirements

For attached dwelling or multi dwelling housing developments:

- a) Each dwelling must be provided with sufficient on-site space to store Council's garbage, recycling and green waste bins (refer to Appendix 1 for bin dimensions). All dwellings within attached dwellings and multi dwelling housing developments are provided with the following bins:
 - i. 120L red-lid garbage bin, collected weekly.
 - ii. 240L yellow-lid recycling bin, collected fortnightly; and,
 - iii. 240L green-lid green waste bin, collected fortnightly.
- b) In general, residents are required to store their bins within the confines of their own private open space. If common bin storage areas are to be used residents will share 240L bins for garbage. Common bin storage areas must comply with the provisions of the Section on Residential Flat Buildings over page.
- c) On-site bin storage areas should be located so as not to impact negatively on the visual amenity of the area and should preferably be situated in the rear yard of each dwellings private open space. The area should also be designed to minimise the impact upon neighbouring properties, for example impacts from odour or vermin.

4. End Use Requirements

All bins (MGB's) shall be placed out for collection by the residents of each sole occupancy unit or dwelling, on the night prior to collection at a designated collection point for all premises within the development. Each bin shall be placed at the kerbside, to allow easy access for it to be emptied.

When placing bins out for collection, residents are requested not to place bins in a manner that will impede pedestrian or vehicular access; such as on the road, in driveways, in the vicinity of street trees or near any parked cars.

Bins are required to be returned to on-site storage areas as soon as practicable, after they have been emptied.

5. Specific Needs Policy

If for any reason, the occupants of individual sole occupancy units or dwellings, or the Owners Corporation as a whole, do not want or cannot cater for a specific type of bin, or want a reduction in the number of bins, Council will consider each proposal on its merit. When considering specific needs proposals, Council will assess those needs in conjunction with the objectives of Council's waste minimisation initiatives.

Residential Flat Buildings (RFB's)

1. Applicability

This Section of this DCP applies to:

- Development applications for residential flat buildings (RFB's).
- Development applications for alterations or additions to existing RFB's where waste management
 practices may be impacted upon or waste may be generated.

This category refers to RFB's of all heights, also commonly referred to as low-rise and high-rise multi-unit dwellings.

It is Council's aim to provide residents with a waste collection service sufficient to their needs. Where the size, shape and, or design of the overall development is such that it may be impractical or unfeasible to adequately store the required number of bins on the premises, alternative measures will need to be provided.

Council is prepared to consult with residents as to the type and number of bins that will be provided. It should be noted, however that Council has an obligation to achieve specific waste minimisation targets, and these requirements will be strictly observed where possible.

2. Requirements for Submissions

Residential and mixed use developments of 8 storeys in height and above often require the provision of waste management facilities of a unique and specific nature due to the size and design of the development. To assist in the provision of effective and efficient waste management facilities, Council is prepared to adopt a flexible approach and encourage applicants to develop a proposal sufficient to the needs of the building and its occupants. This will require the submission of a comprehensive WMP in all cases.

Prior to the commencement of any works, the following information must be submitted with the development application:

- a) Section 2 of the model Waste Management Plan (refer to Appendix 1) must be completed.
- b) Plans submitted with the development application must clearly show:
 - The location of on-site communal waste and recycling storage areas/rooms which provide sufficient space for the storage of Council's garbage and recycling bins (refer to Appendix 1 for bin dimensions). All dwellings will share 240L garbage and recycling bins. Some very large high-rise developments 8 storeys and above may share 1100L bulk bins for garbage.
 - The location of any indoor garbage and, or recycling or food garbage collection cupboards or rooms for each dwelling, if applicable.
 - The path of travel from a common bin storage area/room to the designated collection point, and
 - For RFB's 8 storeys in height and above the following additional information may be required:
 - The location of any garbage chutes.
 - The design and location of any garbage compaction equipment, including details of manufacturing specifications.
- 3. Development Requirements

For all large scale and high home unit developments:

- a) Each dwelling must be provided with sufficient on-site space to store Council's garbage and recycling bins (refer to Appendix 1 for bin dimensions). Each individual unit shall receive the following entitlement:
 - i. 120L garbage space per week.
 - ii. 80L recycling space per week.
 - iii. Each MUD complex is provided with the following bins:
 - ONE 240L red-lid garbage bin shared between FOUR units, collected twice weekly.
 - ONE 240L yellow-lid recycling bin shared between THREE units, collected weekly.

- iv. Some very large high-rise developments 8 storeys in height and above may share 1100L bulk bins for garbage. Some very large high-rise developments may have their garbage bins serviced three (3) times weekly and their recycling bins twice (2) weekly to minimise the number of bins required to be stored and presented for collection.
- b) Generally, all bin storage areas are to be located at or near the front boundary of the property, level with and adjacent to driveways.
- c) Provided bin storage areas are in an accessible location and within fifteen (15) metres of the front boundary, all bins are taken to the kerb by Council's Waste Contractor and are returned to the bin area following collection.
- d) The location of the on-site bin storage areas/rooms should be situated so as not to impact negatively on the visual amenity of the area and should preferably be located in the front yard of the development.
- e) If a bin storage area or room is located in the basement of a building or other inaccessible location or in excess of fifteen (15) metres from the front boundary, it will be the responsibility of the Owners Corporation to present the bins to the kerb for collection.
- f) The bin storage area or room should also be designed to minimise the impact upon neighbouring properties, for example impacts from odour or vermin.
- g) Each dwelling is required to have a clearly identified collection point, usually the kerb adjacent to the site, for the collection and emptying of Council's garbage and recycling bins.
- h) The Owners Corporation is responsible for on-site waste management and are to ensure that bin storage areas/rooms remain clean and tidy at all time (ie no rubbish is to be placed outside of a mobile garbage bin). If Council's waste contractor cannot access the bin storage area/room, the bins will not be collected.
- i) For Residential Flat Buildings 8 storeys and above the provisions of a recycling facility or room on each floor is encouraged.
- j) The owners corporation and/or residents are responsible for on-site waste management and are to ensure that bin storage areas/rooms remain clean and tidy at all times (i.e. no rubbish is to be placed outside of a mobile garbage bin). If Council's waste contractor cannot access the bin storage area/room, the bins will not be collected.

Commercial & Industrial Developments

1. Applicability

This Section of this DCP applies to:

- Development applications for commercial and industrial premises.
- Development applications for alterations or additions to existing commercial and industrial premises.

The provision of waste and recycling services to commercial and industrial buildings is determined by the market-place, unlike the provision of domestic waste services which local Councils are legally bound to provide. As such the proprietors of commercial and industrial premises, may choose to have their wastes and recyclables serviced by any waste service provider licensed to do so.

These requirements have been specifically been designed to cater for the provision of on-site waste storage facilities, and the collection of bins from premises defined as commercial and industrial developments.

It is Council's aim to provide occupants of these categories of development with a waste collection service sufficient to their needs. Where the size, shape and, or design of the overall development is such that it may be impractical or unfeasible to adequately store the required number of bins on the premises, alternative measures will need to be provided.

Council is prepared to consult with applicants and, or occupants as to the type and number of bins that will be provided. It should be noted, however that Council has an obligation to achieve specific waste minimisation targets, and these requirements will be strictly observed where possible.

2. Requirements for Submissions

Developments of this category often require the provision of waste management facilities of a unique and specific nature due to the size and design of the development.

To assist in the provision of effective and efficient waste management facilities, Council is prepared to adopt a flexible approach and encourage applicants to develop a proposal sufficient to the needs of the building and its occupants.

Prior to the commencement of any works, the following information must be submitted with the development application:

- a) Section 2 of the model Waste Management Plan (refer to Appendix 1) must be completed.
- b) Plans submitted with the development application must clearly show:
 - The location of on-site waste and recycling storage areas and, or rooms which provide sufficient space for the storage of Council's garbage and recycling bins (refer to Appendix 1 for bin dimensions). All dwellings will share 240L garbage and recycling bins. Some very large high-rise developments may share 1100L bulk bins for garbage.
 - The location of any indoor garbage and, or recycling or food garbage collection cupboards or rooms for each dwelling, if applicable.
 - The location of any garbage chutes.
 - The design and location of any garbage compaction equipment, including details of manufacturing specifications; and,
 - The path of travel from a common bin storage area/room to the designated collection point.
- 3. Development Requirements

For commercial and industrial developments:

- Each development must be provided with sufficient on-site space to store garbage and recycling bins of a sufficient type, size and number in accordance with the waste generation rates described in Appendix 1 'Waste and Recycling Generation Rates'.
- b) The location of the on-site bin storage areas and, or rooms should be situated so as not to impact negatively on the visual amenity of the area and should preferably be located in the front yard of the development.
- c) The bin storage area or room should also be designed to minimise the impact upon neighbouring properties, for example impacts from odour or vermin.
- d) The Owners Corporation is responsible for on-site waste management and is to ensure that bin storage areas and or rooms remain clean and tidy at all time (ie no rubbish is to be placed outside of a mobile garbage bin). If Council's waste contractor cannot access the bin storage area/room, the bins will not be collected.

Mixed Use Developments - Commercial & Residential

1. Applicability

This Section of this DCP applies to:

- Development applications for developments of a mixed use, such as a combination of residential and commercial uses.
- Development applications for alterations or additions to existing buildings that comprise of a mixed use nature, such as a combination of residential and commercial uses.

The provision of waste and recycling services to mixed use developments may require separate service providers. Councils Waste Contractor will service the residential portion of the development, the provision of waste and recycling services to commercial and industrial buildings is determined by the market-place. As such the proprietors of the commercial and industrial components of these developments may choose to have their wastes and recyclables serviced by any waste service provider licensed to do so.

Notwithstanding, these requirements have been specifically been designed to cater for the provision of on-site waste storage facilities, and the collection of bins from premises defined as commercial and industrial developments.

It is Council's aim to provide occupants of these categories of development with a waste collection service sufficient to their needs. Where the size, shape and, or design of the overall development is such that it may be impractical or unfeasible to adequately store the required number of bins on the premises, alternative measures will need to be provided.

Council is prepared to consult with applicants and, or occupants as to the type and number of bins that will be provided. It should be noted, however that Council has an obligation to achieve specific waste minimization targets, and these requirements will be strictly observed where possible.

2. Requirements for Submissions

Developments of this category often require the provision of waste management facilities of a unique and specific nature due to the size and design of the development, and accordingly Council is prepared to adopt a flexible approach and encourage applicants to develop a proposal sufficient to the needs of the building and its occupants.

Prior to the commencement of any works, the following information must be submitted with the development application:

- a) Section 2 of the model Waste Management Plan (refer to Appendix 1) must be completed.
- b) Plans submitted with the development application must clearly show:
 - The location of on-site waste and recycling storage areas and, or rooms which provide sufficient space for the storage of Council's garbage and recycling bins (refer to Appendix 1 for bin dimensions). All dwellings will share 240L garbage and recycling bins. Some very large high-rise developments may share 1100L bulk bins for garbage.
 - The location of any indoor garbage and, or recycling or food garbage collection cupboards or rooms for each dwelling, if applicable.
 - The location of any garbage chutes.
 - The design and location of any garbage compaction equipment, including details of manufacturing specifications; and,
 - The path of travel from a common bin storage area/room to the designated collection point.
- 3. Development Requirements

For developments of a mixed use category the following requirements apply:

- (1) For the residential component of the development:
 - a) For developments described and categorized as Residential Flat Buildings the provisions of Section 4.3 of this DCP shall apply.

(2) For the commercial component of the development:

- a) Each development must be provided with sufficient on-site space to store garbage and recycling bins of a sufficient type, size and number in accordance with the waste generation rates described in Appendix 1 'Waste and Recycling Generation Rates'. The location of the on-site bin storage areas and, or rooms should be situated so as not to impact negatively on the visual amenity of the area and should preferably be located in the front yard of the development.
- b) The bin storage area or room should also be designed to minimise the impact upon neighbouring properties, for example impacts from odour or vermin.
- c) The bin storage area or room should be designed in accordance with the recommendations outlined in Appendix 1.
- d) The Owners Corporation is responsible for on-site waste management and is to ensure that bin storage areas and or rooms remain clean and tidy at all times (ie no rubbish is to be placed outside of a mobile garbage bin). If Council's waste contractor cannot access the bin storage area/room, the bins will not be collected.

(a) Waste Management Plan

A Waste Management Plan defines the volume and type of waste that will be generated, how waste is to be treated and stored on site and how all waste types are to be disposed of. The following two tables are samples of model waste management plans. The space provided may not be sufficient for your requirements, therefore you will probably be required to develop your own tables including all of the information contained in the tables.

Both sections must be lodged with the development application. Section 1 describes the anticipated type and volume of waste and recyclable materials that will be generated during demolition and construction. It also describes the destination of these materials. Section 2 describes the waste management practices for the ongoing use of the premises.

	Sectio	on 1 – Demolition and 0	Construction	
Site Address:				
Applicant's Name and	Address:			
Structures Currently of	n Site:			
Brief Description of Pro	oposal:			
Material	s on Site		Destination of Ma	aterials
		Recyclin	g and Reuse	Disposal
Type of Material	Estimated Volume	On-site	Off-site	Off-site
	(m ³)	(specify proposed reuse or on-site recycling methods)	(specify contractor and recycling facility)	(specify contractor and landfill site)
Excavation Materials				
Green Waste (organic materials)				
Bricks				
Concrete				
Timber (specify)				
Plasterboard				
Metals (specify)				
Asbestos (specify)				
Other (specify)				

Note: Section 1 of the waste management plan must be submitted with plans that show:

- a. the location of areas that will be used for the sorting of construction recyclables/waste.
- b. the location of areas that will be used for the storage of construction recyclables/waste, including the location of associated containers/skips
- c. the point at which vehicles removing construction recyclables/waste will access the site.

Source of Section 1 of above table: Better Practice Guide for Waste Management in Multi-Unit Dwellings, Resource NSW, February 2002.

Section 2 – Ongoing Use of Premises					
Site Address:					
Brief Description of Proposal:					
Type of Dwellings:					
Number of Dwellings on Site					
Garbage – Residential (Multi-	Unit Dwellings) MUDs				
Number of Council red-lid garba	ge bins	Size of red-lid garbage bins			
Recycling - Residential (Mult	i-Unit Dwellings) MUDs				
Number of Council 240L yellow-	lid garbage bins				
Garbage Generation – Non – Re	esidential				
Type of waste	Volume of waste (m3 or litres) per week	On-site storage facilities	Contractor and destination of materials		
Recycling Generation – Non – R	esidential				
Type of waste	Volume of waste (m3 or litres) per week	On-site storage facilities	Contactor and destination of materials		
Describe arrangements for cleaning bins, bin storage areas and waste management equipment					
Describe arrangements for maintaining bin storage areas and waste management equipment					
Describe access to the bin storage area. If the area is a secure area access keys will need to be provided to Council's Contractor					

(b) Commercial Waste and Recycling Generation Rates

Premises type	Garbage Generation	Recyclable Material Generation
Backpackers' hostel	40L / occupant space / week	20L / occupant space / week
Boarding house,	60L / occupant space / week	20L / occupant space / week
Guest house		
Food premises:		
Butcher	80L / 100sqm floor area / day	Variable
Delicatessen	80L / 100sqm floor area / day	Variable
Fish shop	80L / 100sqm floor area / day	Variable
Greengrocer	240L / 100sqm floor area / day	120L / 100sqm floor area / day
Restaurant, Cafe	10L / 1.5sqm floor area / day	2L / 1.5sqm floor area / day
Supermarket	240L / 100sqm floor area / day	240L / 100sqm floor area / day
Takeaway food shop	80L / 100sqm floor area / day	Variable
Hairdresser, Beauty salon	60L / 100sqm floor area / day	Variable
Hotel, Licensed club, Motel	5L / occupant space / day	1L / occupant space / day
	50L / 100sqm bar area / day	50L / 100sqm bar area / day
	10L / 1.5sqm dining area / day	50L / 100sqm dining area / day
Offices	50L / 100sqm floor area / day	10L / 100sqm floor area / day
Retail (other than food sales):		
Shop less than 100m2 floor area	50L / 100sqm floor area / day	25L / 100sqm floor area / day
Shop greater than 100m2 floor area	50L / 100sqm floor area / day	50L / 100sqm floor area / day
Showroom	40L / 100sqm floor area / day	10L / 100sqm floor area / day

Source: Draft Marrickville Development Control Plan No. 27: Waste Management (Amendment No. 1)

(c) Residential, Commercial & Industrial (MGB) Bin Dimensions

Mobile Garbage Bins (MGB's) are generally categorized and sized according to the volume capacity of each bin. The size of the bins that are used in the provision of waste and recycling services are described in the following Table.

BIN TYPE & CAPACITY	HEIGHT	WIDTH	DEPTH
120 Litre MGB	945mm	505mm	555mm
240 Litre MGB	1100mm	580mm	740mm
1100 Litre MGB	1470mm	1370mm	1245mm

(d) Typical Bin Requirement for Residential Flat Buildings

The following Table provides details for the number of 240 litre bins for typical residential flat buildings.

Each RFB complex is provided with the following bins:-

- ONE 240L red-lid garbage bin shared between FOUR units, collected twice weekly; and,
- ONE 240L yellow-lid recycling bin shared between THREE units, collected weekly

TOTAL NUMBER OF SOLE OCCUPANCY UNITS	NUMBER OF 240 LITRE GARBAGE BINS REQUIRED	NUMBER OF 240 LITRE RECYCLING BINS REQUIRED
	(Red Lid)	(Yellow Lid)
1 – 3 Units	1	1
4 Units	1	2
5 Units	2	2
6 Units	2	2
7 Units	2	3
8 Units	2	3
9 Units	3	3
10 Units	3	4
12 Units	3	4
14 Units	4	5
15 Units	4	5
18 Units	5	6
20 Units	5	7
21 Units	6	7
24 Units	6	8
28 Units	7	10
30 Units	8	10
33 Units	8	11
36 Units	9	12
40 Units	10	14
Over 40 Units	Check with Council for specific details	

8 Energy Efficiency

Introduction

This section applies to all land within Hurstville City Council and applies to all residential alterations and additions (including heritage buildings) that are not the subject of BASIX. Please refer to BASIX website <u>www.basix.nsw.gov.au</u> for information on BASIX requirements.

Aims

The primary aims of this Section are to:

- make our homes more comfortable;
- improve the housing stock of Hurstville;
- save money by using less water and energy; and
- give greater protection to our natural environment by reducing the amount of greenhouse gas emissions through the development process.

Why we have prepared this section?

The Greenhouse Effect is commonly acknowledged as one of the major environmental and policy issues of our time. The effects of global warming through the over use of fossil fuels have been well documented and various policy initiatives by all levels of government have been implemented to try and mitigate against the impacts caused by global warming.

Global warming can create extreme and complicated changes in weather conditions such as severe droughts, floods and higher rainfall, and is contributing to higher sea levels.

The main greenhouse gases generated by human activity are carbon dioxide, methane and nitrous oxide. A major proportion of these gases are produced through the burning of fossil fuels (such as coal and gas) to create electricity. Other sources include motor vehicle exhaust, industrial emissions and methane production through waste land-fills.

By improving the energy efficiency of residential design, and thereby reducing energy consumption, local government is ideally placed to be part of the solution to this global problem through new and innovative development control mechanisms.

This Chapter shows how energy efficiency can be achieved in alterations and additions to existing dwellings. It includes design alternatives – such as passive solar design and solar water heating – that will dramatically reduce the need for non-renewable energy, reducing both costs and air pollution, and increase comfort levels in the average Australian home.

BASIX

BASIX is an initiative of the State Government and is a web-based planning tool designed to assess the potential performance of residential developments against a range of sustainability indices. BASIX has been introduced to ensure that all new residential development satisfies sustainability targets, such as water and energy efficiency, prescribed by the NSW Government.

BASIX currently overrides local government planning controls for all new residential development in relation to energy and water efficiency.

What does 'Energy Smart' mean?

Energy efficient homes are those that, through their design, construction and choice of appliances, maximise use of renewable energy sources (such as sunshine), and use less energy more efficiently. They are 'smart' because they simultaneously help preserve scarce resources, reduce the level of greenhouse gas emissions, and provide significant savings.

Design Guidelines

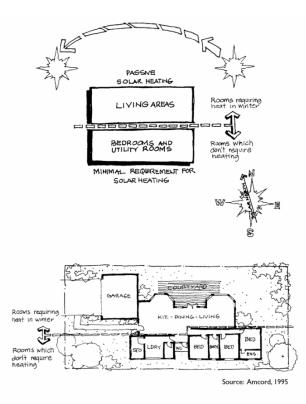
This section provides detailed design guidelines and advice that will ensure your proposal has maximum energy efficiency.

a) Building Siting and Orientation

The suns rays are hottest in summer when it is in the north but almost directly overhead. In winter, the sun sits lower in the sky and therefore strikes the northerly side of a building higher up the wall or window than the summer sun.

If your building allotment permits, it is more solar efficient for the long side or the side with the most living areas to face the north. You will then make the best use of winter sun while being able to shade it in the summer through eaves or other shading devices.

Building siting and orientation of living zones within a dwelling for maximum solar access



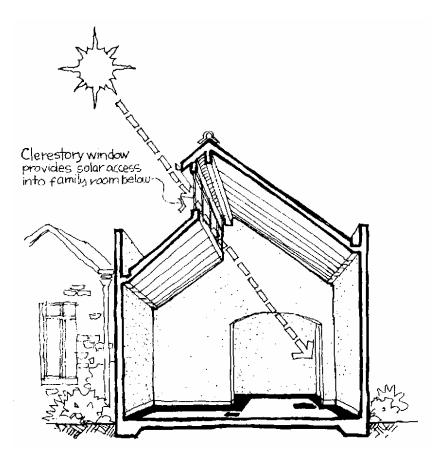
b) Solar Access

Solar access is the term applied to the ability of a solar collector that is part of or situated on a dwelling or lot (including open space and clothes drying area) to capture sunlight and take advantage of that energy.

Design for solar access can begin with the design of a subdivision, but it may also relate to a rooftop solar hot water system panel or might involve preserving sunlight for the northern windows of a dwelling. If dwelling lots (low, medium and high density) are designed to maximise solar access, energy efficiency is much easier to achieve in the design of dwellings.

Shadow diagrams (for June 21 at 9am, 12pm and 3pm) will be required to be submitted for all developments that have the potential to impact on the solar access of an adjoining property. Design should allow at least 3 hours of sunlight to adjoining dwellings principal area of ground level private open space.

Private yards in new developments (including courtyards) must receive sunlight between 9am and 3pm during midwinter (June 21).



c) Water Saving Devices

Saving water is one of the most effective ways to make the best use of existing water resources and to help protect the environment. Water saving devices slow the rate of water coming through the tap while still providing the benefits that water fittings with a higher flow rate provide, such as good water pressure and wide spray coverage. Saving water will save you money on your energy bills because you will use less water for the same benefit as using a less efficient device.

AAA rated water saving devices should be installed in your developments on showerheads, bathroom handbasins and kitchen sinks. These are water saving devices that have been rated to AAA according to Australian Standards and have a maximum flow rate of 9 litres per minute or less.

d) Lighting

Energy efficient lighting can save hundreds of dollars over the course of a year by using less energy to light the same area as a light which is not so energy efficient.

Designing to maximise natural light will minimise the need for artificial light to be used during the day time.

Consideration should be given in the design process as to how your building can maximise the use of natural light during the day. Natural lighting can be achieved through the use of skylights or clerestory windows. Also, consider using energy efficient lighting at night such as compact fluorescence which use much energy than incandescent lights.

e) Insulation

Insulation is a vital component of energy efficient dwelling design, helping to eliminate or drastically reduce the need for mechanical heating and cooling systems, as well as enhancing the efficiency of such systems. Insulation systems are made up of a number of components – floors, walls, roof, ceilings, windows and seals.

f) Floors

Floors in contact with the ground are thermally most efficient. Nonetheless, slabs lose heat around the edges and benefit from slab edge insulation. Suspended floors, particularly of timber or sheet materials will often benefit from underfloor insulation (concrete slab floors on ground only require under slab insulation in cold climates or where the slab is used to centrally heat the building).

g) Walls

Walls represent a significant proportion of the external area of the building envelope and should be insulated. Bulk, yet lightweight insulating materials (eg batts) are the most common choice for framed or veneer external walls.

Vapour barriers are sometimes recommended on the warm side of the insulation layer to keep moisture from condensing within the insulation. In some climatic or air conditioned situations, condensation within the insulation can dramatically reduce the effectiveness of insulation and the life of both insulation and the surrounding structure.

h) Roof

The roof is a major heat path in all weather, and the most appropriate insulation levels and type depends on climate. Where reflective sarking is used, an effective R value of R1.0 can be attributed and the bulk insulation level reduced accordingly.

i) Ceiling

The ceiling is also a major heat path in all weather and should be of primary importance when thinking of insulating a home. Where a metal deck is specified under manufacturer's recommendations, it is often best to specify an insulation blanket below the decking. Unfortunately, when installed under sheeting like this, bulk insulation compresses and loses some of its efficiency.

j) Windows

Windows can be best be insulated internally by providing close fitting, opaque curtains preferably with pelmets.

k) Seals

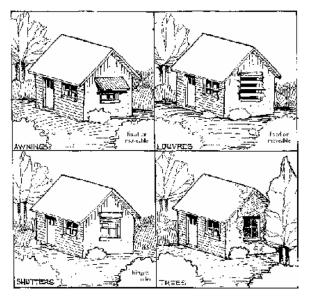
Sealing windows and doors can be an effective way to stop the 'leaking' of heat within a home. Exhaust fans vented to the exterior are used where moisture is present, such as kitchens, bathrooms etc. Fans should have built in shutters to prevent draughts. Fireplaces and chimneys should have covers or dampers for the same reasons.

I) Shading Devices

Inadequate shading, particularly on northern and western windows can lead to overheating of your dwelling in summer. Shade devices can keep you cool in summer while allowing sun to penetrate living areas in winter.

The most simple way of providing adequate shading is through the incorporation of eave overhangs or fixed awnings designed to meet am 70 degree (from the horizontal) line drawn from the bottom of the window to the eave.

Pergolas, verandahs and eaves to the western and eastern aspects should also be designed to maximise summer shade and where possible minimise winter shade through the vegetation on pergolas or operable louvres.



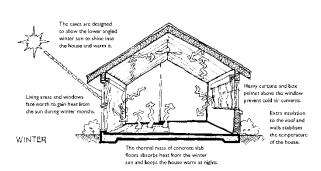
m) Windows and Cross Ventilation

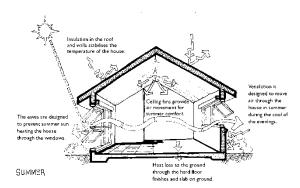
Windows are a primary source of energy loss and gain. If correctly designed and positioned with the most appropriate materials, windows and shade devices can be used effectively to heat and cool a room. North facing windows can quickly warm a building in the winter, while being able to be shaded in the summer and opened to allow the through flow of evening breezes. Natural cross ventilation is induced by wind motion and used most effectively during cool conditions in summer.

Cross ventilation occurs more efficiently through a room with openings in opposite walls than through a room with openings in adjacent walls. To maintain energy efficiency, winds and draughts in both summer and winter need to be minimised by the application of seals around all door and window openings.

It is best to locate windows on the northern face of your building than on the other sides, so that there are more windows gaining heat than there are losing heat in the winter months. However, it is still important to have windows on the other side of the building so they can be opened to allow for cross ventilation. Curtains can be used to maintain heat, particularly on southern windows at night.

Double glazed windows are also beneficial in making your home more energy efficient. They reduce the heat loss of a single pane of glass while still allowing natural light and views. Double glazed windows consist of two panes of glass separated by a sealed air space typically between 6mm and 20mm wide. A minimum air space width of 9mm is recommended for optimum performance





Appendix 1

9 Preservation of Trees and Vegetation

Aims of this Section

The primary aims of this Section are to:

- Ensure vegetation management is consistent with clause 5.9 (Preservation of trees and vegetation) of the Hurstville LEP 2012.
- Encourage the planting and preservation/conservation of suitable trees and other vegetation which will contribute positively to the City's visual amenity, environmental heritage, habitat connectivity and ecological sustainability.
- Establish procedures for the proper management of trees in order to minimise the unnecessary loss of significant vegetation resources.
- Facilitate the removal of undesirable exotics, noxious weeds, dangerous trees and other inappropriate plantings.
- Ensure that site planning, design, development, construction and operation of any new development takes into account and maximises the protection of existing vegetation.

General Information

a) Why Preservation of Trees is Important?

Trees and other vegetation are an integral component of the urban environment and are increasingly recognised as contributing significantly to the community's general health and sense of well being. Plants not only provide habitat, food source, shelter and protection for a wide variety of birdlife and other fauna, but also significantly improve streetscape amenity, reduce stormwater run-off and improve air quality.

Council is committed to protecting and enhancing its environmental biodiversity and arboricultural amenity, special landscape characteristics, unique coastal vegetation and ecological values.

b) Hurstville LEP 2012

This Section of the DCP should be read in conjunction with Clause 5.9 (Preservation of trees and vegetation) and Clause 5.9AA.

Note: Controls marked with * indicate that it is a statutory definition contained in the *Hurstville Local Environmental Plan 2012* and must be complied with.

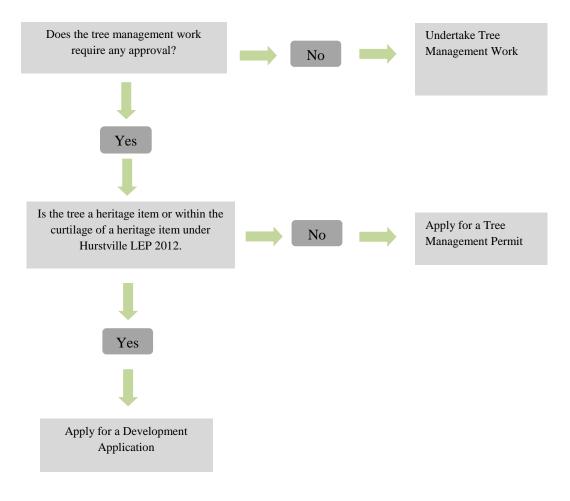
Tree and Vegetation Management Process

Clause 5.9 of the Hurstville LEP 2012 states that

a person must not ringbark, cut down, top, lop, remove, injure or willfully destroy any tree or other vegetation to which any such development control plan applies without the authority conferred by:

- a) development consent, or
- b) a permit granted by the Council.

The process for the removal of trees or vegetation (tree management works) under this Section of the DCP is detailed below in Figure – Tree Management Process and further described in the following subsections.



Tree Management Approval Required

* In accordance with Clause 5.9 of the Hurstville LEP 2012 a Tree Management Permit or a Development Consent is required to allow any removal or pruning of a tree or other vegetation in private or public land that:

a) Is listed below, irrespective of size:

Botanical Name	Common Name	
Acmena smithii	Lilli Pilli	
Angophora costata	Sydney Red Gum	
Angophora floribunda	Rough-Barked Apple	
Angophora bakeri	Narrow-Leaved Apple	
Allocasuarina torulosa	Forest Oak	
Banksia serrata	Old Man Banksia	
Ceratopetalum apetalum	Coachwood	
Ceratopetalum gummiferum	NSW Christmas Bush	
Corymbia gummifera	Red Bloodwood	
Corymbia maculate	Spotted Gum	
Eucalyptus capitellata	Brown Stringybark	
Eucalyptus fibrosa	Broad-leaved Ironbark	
Eucalyptus globoidea	White Stringybark	
Eucalyptus haemastoma	Scribbly Gum	
Eucalyptus longifolia	Woollybutt	

Botanical Name	Common Name
Eucalyptus paniculata	Grey Ironbark
Eucalyptus pilularis	Blackbutt
Eucalyptus piperita	Sydney Peppermint
Eucalyptus resinifera	Red Mahogany
Eucalyptus tereticornis	Forest Red Gum
Glochidion ferdinandi	Cheese Tree
Syncarpia glomulifera	Turpentine

or

b) Is 3 metres or more in height,

or

c) Has a circumference of 300mm or more, measured at a height of 450mm from the ground,

or

d) Has a branch spread of three 3 metres or more.

Exemptions to Tree Management Approval

This section of the DCP does not apply to:

a) The removal, transplanting or pruning of any undesirable species listed below, so long as the work is done in accordance with the relevant Australian Standards:

Botanical Name	Common Name	
Bambusa spp.	Bamboo	
Syagrus romanzoffianum	Cocos Palm	
Erythrina x sykesii	Coral Tree	
Ficus elastic	Rubber Tree	
Grevillea robusta	Silky Oak	
Nerium oleander	Oleander	
Populus nigra 'Italica'	Lombardy Poplar	
Salix babylonica	Common Willow	
Schefflera actinophylla	Umbrella Tree	
Ligustrum spp.	Privet	
Ailanthus altissima	Tree of Heaven	

- b) Any commercial or domestic tree grown for the purpose of fruit or fodder production, or is harbouring fruit fly, except Australian species such as Macadamia (Macadamia integrifolia), *Lilly Pilly (Acmena spp, Syzygium spp.), Blueberry Ash (Elaeocarpus spp.).*
- c) Work undertaken by persons authorised by Council where it can be demonstrated that the tree is dying, dead or has become dangerous to properties or persons and is undertaken in accordance with relevant Australian Standards.
- d) Work undertaken in response to an emergency by the State Emergency Service, Rural Fire Service or another Authority.

Tree Management Works Approval Process

A Tree Management Permit is required from Council for the pruning or removal of any tree, including any dead or dying tree **unless** the following situations apply:

- Any tree and/or other vegetation identified as an item of heritage significance or located on land identified as containing an item of heritage significance, in Schedule 5 Environmental Heritage of Hurstville Local Environmental Plan 2012;
- b) When determined by any other relevant legislation

In the situations listed above, development consent is required for tree management works.

Tree Management Permit

Each Tree Management Permit Application is limited to a maximum of 5 trees per application;

A maximum of 2 Tree Management Permit Applications may be lodged with Council at any one time;

Application for a permit to deal with a tree must be made in writing on the application form available from Council and be accompanied by the administration fee determined from time to time by the Council. The administration fee is to cover the cost of administration, site visit, assessment and determination of the application. It is non-refundable.

In the case where a Tree Management Permit Application and a Development Application for any other development, are lodged concurrently, the Tree Management Permit Application will not be determined until such time as the Development Application for the particular development is determined since the Development Application determination may influence the decision as to whether the existing tree should be retained.

Issues for Consideration in Assessment of Tree Management Works

Before granting a permit or development consent for the removal of trees or vegetation, Council must make an assessment of the importance of the tree or trees concerned in relation to:

- a) Soil stability and prevention of land degradation.
- b) Scenic or environmental amenity.
- c) Vegetation systems and natural wildlife habitats.
- d) Significance due to its height, size, position or age.
- e) Visual screening.
- f) Is part of remnant or riparian vegetation.

Alternative management strategies were considered before requesting removal such as pruning of branches, roots and removal of deadwood or other appropriate remedial treatment as recommended by an arborist.

Documented evidence, such as that by a qualified arborist, shall accompany any application for removal or partial removal of a tree and shall be justified as:

- The tree was dead.
- Causing or potentially causing structural damage and supporting documentation is provided such as structural engineer's report.
- Having sustained severe damage from vehicle impact or natural hazards such as lightning, wind or flood and no other course of action will rectify the problem.
- Being diseased or has structural defects and remedial pruning (see AS 4373/2007) will improve the health of the tree; or
- A potential hazard to the amenity of the development due to tree form or structural integrity, species characteristics or history, the size of any tree part that is likely to fail or other reasons where the tree may be injurious to health.

Where a tree is located on public land and is causing view loss or loss of solar access to the occupier of neighbouring private land, application may be made to Council to prune the tree. Subject tree/s will be assessed accordingly. All work will be completed in accordance with AS 4373-2007 "Pruning of Amenity Trees".

Tree removal will not be permitted to facilitate views (including advertising signs), off-street parking, and installation of solar panels or to reduce the extent of leaf / flower / fruit drop, or to reduce the impact from any bird / bat / other animal waste or noise.

Pruning of branches overhanging from a neighbouring property shall be approved by Council prior to any works being carried out and will be assessed at Council's discretion. This work shall also be discussed with the owner of the tree prior to commencement.

Council discourages the ringbarking, lopping, topping, injuring or destruction of any tree.

Where an existing tree limits the size of an addition or new residential dwelling, Council shall give consideration to its removal or pruning. Council shall give consideration to the level of pruning proposed, suitable tree replacement, retain trees and extent of the development. Development proposals shall endeavour to retain trees on their site and any trees to be removed shall be clearly shown on plans.

Tree Management Permit and Development Consent Conditions

In granting a permit or development consent, the Council may impose conditions including, but not limited to, the following:

- a) Requiring a copy of the permit or development consent to be displayed on the land where the work covered by the permit or development consent is to be carried out for a specified period before and after the carrying out of the work.
- b) Requiring the permit or development consent to be available for inspection by an officer of the Council during the carrying out of the work covered by the permit.
- c) Where the permit or development consent allows for the destruction or removal of a tree or trees, requiring the planting of a replacement tree or trees.
- d) Where replanting is made a condition of the permit or development consent, requiring the protection and care of the new tree or trees for a specific period so that the tree or trees remain in good health and are likely to reach natural size and maturity.
- e) Specify the period during which the permit or development consent will remain in force being not more than one (1) year from the date it is granted; and
- f) Providing that the permit will cease to have effect if a development application is lodged where the proposed development includes work covered by the permit.

Enforcement and Penalties

Any persons who damages or removes trees or vegetation to which this section applies shall be guilty of an offence under the Environmental Planning and Assessment Act 1979 and severe penalties apply.

Other Relevant Legislation

a) State Environmental Planning Policy No. 19 – Bushland in Urban Areas

Applies to 41 local government areas in the Sydney region and Lake Macquarie, as listed in Schedule 1 of the policy. It does not apply to areas administered by the National Parks and Wildlife Service or State Forests of NSW. Within those listed local government areas, the policy specifically applies to those areas of land zoned or reserved for public open space and which satisfy the definition of urban bushland in the policy. All records of these specific areas are kept by individual councils, and where appropriate, shown in local environmental plans. Additionally SEPP 19 requires the listed councils, when preparing draft local environmental plans, to give priority to preserving bushland and to have regard to the general and specific aims of the policy. Such areas would be recorded in councils' local environmental plans.

b) Native Vegetation Act 2003

The lodgement of a Development Application with Council and consent from the relevant Catchment Management Authority for the clearing or removal of native trees and other native vegetation upon land to which the Native Vegetation Act 2003 applies.

c) Fisheries Management Act 1994

The lodgement of an Integrated Development Application under Section 91 of the Environmental Planning and Assessment Act 1979 is necessary if the formal concurrence from the NSW Department of Primary Industries is required pursuant to the section 205 of the Fisheries Management Act 1994 for a permit to cut, remove, damage

or destroy marine vegetation on public water land or an aquaculture lease, or on the foreshore of any such land or lease.

d) National Parks and Wildlife Act 1974

The lodgement of an Integrated Development Application under Section 91 of the Environmental Planning and Assessment Act 1979 may be required for any proposed development in, upon or adjacent to any watercourse, lake or estuary where a development may potentially destroy or deface a site containing Aboriginal artefacts or may adversely affect a site of Aboriginal cultural heritage significance and hence, the formal concurrence from the NSW Department of Environment and Climate Change is required pursuant to Section 90 of the National Parks and Wildlife Act 1974.

e) Threatened Species Conservation Act 1995

Any action such as clearing or removal of trees or other vegetation has the potential to directly or indirectly affect a threatened species, population, ecological community or their habitat. Therefore, an assessment may be required pursuant to Part 5A of the Environmental Planning and Assessment Act 1979 or Part 6 of the Threatened Species Conservation Act 1995. The clearing or removal of any threatened flora species, endangered population, endangered ecological community or critical habitat under the Threatened Species Conservation Act 1995 requires separate approval from the Director – General of the NSW Department of Environment and Climate Change.

f) Environment Protection and Biodiversity Conservation Act 1999

The clearing of removal of remnant trees or other native vegetation which is listed as a "matter of national significance" under the Environment Protection and Biodiversity Conservation Act 1999 requires the separate approval from the Commonwealth Minister for the environment.

g) Tree (Disputes Between Neighbours) Act 2006

The *Trees (Disputes Between Neighbours) Act 2006* provides a mechanism for neighbours to be able to resolve neighbourhood disputes regarding trees.

10 Building Heights and Indicative Storeys

The table below provides an indicative conversion of building height in metres to a maximum number of storeys for Residential, Business and Industrial zones in the Hurstville LEP 2012 and should be read in conjunction with the Clause 4.3, the Height of Buildings Maps and the definition of Building Height and Storey in the Dictionary of the Hurstville LEP 2012.

Hurstville LEP 2012		N	Maximum number of storeys	
(Maximum building height in metres)				
B1 Neighbourhood Centre				
9 metres		2 :	storeys	
B2 Local Centre				
No height in metres	Narwee Local Centre	No	o height control in storeys	
	Mortdale Local Centre			
9 metres		2 :	storeys	
12 metres	Beverly Hills near Egbaston Street	3	storeys	
13 metres	Riverwood fronting railway	4 :	storeys	
15 metres	Beverly Hills Local Centre south of railway	5	storeys	
	Penshurst-Penshurst Street			
	Kingsgrove Mashman			
18 metres	Riverwood Belmore Road	6	storeys	
19 metres	19 metres Penshurst fronting railway		6 storeys	
28 metres	Riverwood Thurlow Street	8	8 storeys	
E1 National Parks and I	Nature Reserves			
No height control in metre	No height control in metres		No height control in storeys	
IN2 Light Industrial				
10 metres		2-	2-3 storeys	
		(D	(Depending on site context)	
			1	
R2 Low Density Reside	ntial			
9 metres		2 :	2 storeys	
R3 Medium Density Res	sidential			
12 metres		3	3 storeys	
RE1 Public Recreation				
No height control in metres		No	No height control in storeys	
RE2 Private Recreation				
No height control in metres		No	o height control in storeys	
SP2 Infrastructure				
No height control in metres		No	No height control in storeys	
W2 Recreational Waterways				
No height control in metres		No	No height control in storeys	

$\ensuremath{\textbf{Note}}\xspace$. Number of storeys based on land use and floor to floor/ceiling height

Land Use	Floor to Floor Height in metres	Floor to Ceiling Height in metres
Residential	3.0m	2.7m
Commercial	3.6m	3.3m
Retail	4.5m	3.6m