SECTION 3 NON-RESIDENTIAL DEVELOPMENT IN RESIDENTIAL ZONES

3.1 INTRODUCTION

Non-residential development in residential zones generally comprises, but is not limited to, the following types of uses:

- Child care centres;
- Educational establishments;
- Information and education facilities;
- Health care facilities (including health consulting rooms, medical centres and hospitals);
- Places of worship;
- Community facilities;
- Neighbourhood shops; and
- Entertainment facilities.

There are also some instances, where non-residential development occurs within residential zones that operate pursuant to existing use rights (refer to Division 4.11 of the *EP&A Act*) or are a permissible use pursuant to cl.2.5 and Schedule 1 – *Additional Permitted Uses* to NSLEP 2013.

The majority of these uses are primarily operated from large scale buildings which are often inconsistent with the scale of residential development occurring within the residential zones. They can also lead to additional impacts on residential amenity in terms of traffic impacts and noise.

The purpose of this Section of the DCP is to provide guidance to applicants for the development of non-residential development in residential zones such that the impacts on residential amenity is minimised.

3.1.1 General Objectives

The general objectives of this Section of the DCP are to ensure that non-residential development in residential zones:

O1 is consistent with the principles contained within the *Integrated Land Use and Transport Policy;*

O2 does not have adverse impacts on residential amenity or environmental quality;

O3 is in context with surrounding development;

O4 contributes to the garden setting and lower scale character of North Sydney's residential neighbourhoods;

O5 is consistent with the character that is described in the relevant area character statements; and

O6 incorporates innovative sustainable design to reduce energy and water consumption, and meets or exceeds sustainability requirements.

3.1.2 When does this section of the DCP apply?

This Section of the DCP applies to:

(a) all development within the *R2 Low Density Residential*, *R3 Medium Density Residential*, *R4 High Density Residential* and *C4 Environmental Living* zones other than for the following:

(i) Attached dwellings,

(ii) Boarding houses,

(iii) Dual occupancies,

(iv) Dwelling houses,

(v) Group homes,

(vi) Multi dwelling housing,

(vii) Residential flat buildings,

(viii) Secondary dwellings,

(ix) Semi-detached dwellings,

(x) Seniors housing, or

(xi) Shop top housing.

(b) development for any purpose on land zoned *SP2 Infrastructure*, and where any adjacent or adjoining land is zoned:

(i) *R2 Low Density Residential*,

(ii) *R3 Medium Density Residential*,

(iii) *R4 High Density Residential*, or

(iv) *C4 Environmental Living*.

If land zoned *SP2 Infrastructure* is located adjacent to one or more than the following zones:

(a) *R2 Low Density Residential*,

(b) *R3 Medium Density Residential*,

(c) *R4 High Density Residential*, or

(d) *C4 Environmental Living*.

then the controls of the most restrictive zone will apply to the subject site. For example, if the subject site is located adjacent to land zoned *R2 Low Density Residential* and *R4 High Density Residential*, then the provisions of the *R2 Low Density Residential* would apply.

3.1.3 Relationships to other sections

Where relevant, this section of the DCP should be read in conjunction with the following Sections of the DCP:

(a) Part A: Section 3 – Submitting an Application;

(b) Part B: Section 5 – Child Care Facilities;

(c) Part B: Section 9 – Advertising and Signage;

(d) Part B: Section 10 – Car Parking and Transport;

(e) Part B: Section 12 – Access;

(f) Part B: Section 13 – Heritage and Conservation;

(g) Part B: Section 15 – Bushland;

(h) Part B: Section 16 – Tree and Vegetation Management;

(i) Part B: Section 17 – Erosion and Sediment Control;

(j) Part B: Section 18 – Stormwater Drainage;

(k) Part B: Section 19 – Waste Minimisation and Management; and

(l) Part B: Section 20 – Public Infrastructure.

3.1.4 Relationships to other documents and planning policies

Where relevant, this section of the DCP should be read in conjunction with the following:

(a) Chapter 2 – Infrastructure to *SEPP (Transport and Infrastructure) 2021*;

(b) The DoP's *Development Near Rail Corridors and Busy Roads – Interim Guideline* (19 December 2008);

(c) Chapter 3 – Educational Establishments and Child Care Facilities to *SEPP (Transport and Infrastructure) 2021*;

(d) Chapter 6 – Water Catchments to *SEPP (Biodiversity and Conservation) 2021*;

(e) The DoP's *Sydney Harbour Foreshores and Waterways Area DCP (2005)*; and

(f) The Rural Fire Services *Planning for Bush Fire Protection* guidelines.

3.2 ENVIRONMENTAL CRITERIA

The quality and amenity of the residential environment is important to the community. It contributes to the comfort and wellbeing of current residents and to the sustainability of residential areas and the environment for future users. The quality and amenity of non-residential development can be maintained and improved by minimising the impacts of development by utilising some or all of the following approaches.

3.2.1 Topography

Objective

O1 To ensure that the natural topography and landform are maintained.

O2 To retain existing vegetation and allow for new substantial vegetation and trees.

O3 To minimise the adverse effects of excavation on the amenity of neighbouring properties.

O4 To minimise excavation and site disturbance so as to retain natural landforms, natural rock faces, sandstone retaining walls and the like and to retain natural water runoff patterns and underground water table and flow patterns.

O5 To ensure the structural integrity of adjoining properties.

O6 To minimise adverse effects of adjoining transport infrastructure.

Provisions

P1 Development that includes excavation must not be carried out unless:

(a) the development is in accordance with and promotes the objectives to this subsection; and

(b) land stability of the site and adjoining land is preserved; and

(c) the natural drainage patterns of the land and catchment will not be disrupted; and

(d) adverse effects on other properties are avoided or minimised.

P2 New development should not result in the removal or covering of rock outcrops, overhangs, boulders, sandstone platforms or sandstone retaining walls.

P3 Development should not result in the ground level (finished) being greater than 500mm above or below ground level (existing).

P4 Excavation should not occur within 1m of any property boundary.

P5 The depth of soil around buildings must be sufficient to sustain trees as well as shrubs and smaller scale gardens.

P6 Consent must not be granted where the excavation for any associated garages, car parking, plant rooms or ancillary storage and access thereto exceeds 70% of the site area.

P7 Where practical:

(a) a minimum of 50% of the un-excavated area should be located at the rear of the site. Sites with dual or rear lane frontages, this area may be relocated to allow buildings to address the secondary frontage.

(b) a minimum of 30% of the unexcavated area should be located within the front setback.

(c) a minimum 1.5m wide strip of landscaped area should be located along at least one side boundary. A minimum 1.5m wide strip should be provided along both boundaries where the site width permits.

P8 Basement car parks, where permitted, must not extend to the full width of a site.

3.2.2 Properties in proximity to bushland

Objectives

O1 To ensure that development located within proximity of land zoned *C2 Environmental Conservation* is compatible with long term conservation and management of Council's Bushland reserve system in accordance with Council's Bushland Plan of Management and other relevant legislation and policies.

Provisions

P1 Development on properties in proximity to bushland must be consistent with the requirements of Part B: Section 15 - *Bushland* of the DCP.

Note: *Refer to the Bushland Buffer Map in Appendix 4 to this DCP to determine if the subject property is located in proximity to bushland.*

P2 Maintain existing ground levels on land adjoining land zoned *C2 Environmental Conservation*.

3.2.3 Properties on Bush Fire Prone Land

Objectives

O1 To minimise the risk of harm to persons and property in the event of a bush fire.

Provisions

P1 Where relevant, new development on Bush Fire Prone Land must comply with the relevant requirements of the NSW Rural Fire Service's *Planning for Bush Fire Protection* (as amended).

P2 Bushfire mitigation controls must be integrated wholly within the boundaries of the land being developed. Asset Protection Zones or other mitigation controls must not be placed on Council.

3.2.4 Properties with a foreshore frontage

Objectives

O1 To promote a scale and form of development that enhances the scenic, environmental and cultural qualities of the foreshore.

O2 To ensure that development considers coastal processes, such as sea level rise.

O3 To ensure development is consistent with Council's *Foreshore Access Strategy*.

Provisions

P1 Development on land adjacent to the foreshore must be designed with regard to sea level rise.

Note: Further information about sea level rise can be obtained from the Department of Planning (www.planning.nsw.gov.au).

P2 Development must be on land adjacent to the foreshore must be designed with regard to the provisions of Chapter 6 – Water Catchments to *SEPP (Biodiversity and Conservation) 2021* and *Sydney Harbour Foreshores and Waterways Area DCP* (2005).

P3 Development must not alienate public access to foreshores by the location of foreshore structures.

P4 Mature trees or significant landscaping should not be removed in order to locate foreshore structures.

P5 Sea walls, rock outcrops or sandstone platforms should not be removed or covered in order to locate foreshore structures.

P6 Minimise disturbance of existing surface and underground drainage to minimise run-off into the water.

P7 In accordance with Part B: Section 15 – *Bushland* and Part B: Section 16 – *Tree and Vegetation Management* of the DCP, preserve existing trees and vegetation where-ever feasible and replace any tree or vegetation removed or damaged as part of development.

P8 Natural materials and colours should be used that blend with the water, foreshore sandstone and vegetation, for any foreshore structure.

P9 Avoid the use of large areas of blank, hard or reflective surfaces.

P10 Buildings or structures must respect the topographical features of the site.

Note: *For example, buildings are not cantilevered, but follow the topography.*

P11 Retaining walls must not exceed 500mm in height individually or where more than one retaining wall is proposed, a cumulative height of 500mm.

3.2.5 Noise

Objectives

O1 To ensure reasonable levels of acoustic amenity to nearby residents.

Provisions

P1 Noise emission associated with the operation of non-residential premises must not exceed the maximum 1 hour noise levels (LAeq 1 Hour) specified in Table B-3.1.

TABLE B-3.1: Noise Emission Limits

Time Period			Max 1 hour noise levels (LAeq 1 Hour)	
Day	**Week**	**Time**	**Urban Area***	**Suburban Area#**
Weekday	Day	7am – 6pm	60 dBA	55 dBA
	Evening	6pm – 10pm	50 dBA	45 dBA
	Night	10pm – 7am	45 dBA	40 dBA

TABLE B-3.1: Noise Emission Limits				
Time Period			**Max 1 hour noise levels (LAeq 1 Hour)**	
Day	**Week**	**Time**	**Urban Area***	**Suburban Area#**
Weekend	Day	8am – 7pm	60 dBA	55 dBA
	Evening	7pm – 10pm	50 dBA	45 dBA
	Night	10pm – 8am	45 dBA	40 dBA

Notes: *Laeq (1hour) readings are to be measured during the noisiest 1 hour period between Day – 7/8am to 6/7pm, Evening – 6/7pm – 10pm and Night – 10pm to 7/8am.*
** Urban Area – applies to any allotment of land zoned SP1 Special Activities or SP2 Infrastructure that is located adjacent to land zoned E1 Local Centre, E2 Commercial Centre or MU1 Mixed Use.*
 # Suburban Area – Applies to any allotment of land not classified as an urban area.

P2 In terms of determining the maximum noise levels as required by P1 above, the measurement is to be taken at the property boundary of the nearest residential premises.

P3 Despite P1 above, the noise emission associated with the operation of non-residential premises must not exceed 5 dBA above the background maximum 1 hour noise level (LAeq 1 Hour) during the day and evening and not exceeding the background level at night when measured at the boundary of the property.

P4 Council may require the submission of an Acoustic Report to ensure compliance with P1 above.

P5 Plant and machinery should incorporate noise reduction measures to minimise their impacts.

P6 Developments should be designed and / or incorporate features that reduce noise transmission.

P7 Where practical, development should incorporate adequate measures for tonal, low frequency, impulsive, or intermittent noise.

P8 Developments must comply with *EPA Noise Policy for Industry 2017,* in particular the modification required for acceptable noise level (ANL).

3.2.6 Reflectivity

Objectives

O1 To minimise the impacts by reflected light and solar reflectivity from buildings on pedestrians and motorists.

Provisions

P1 Buildings should provide a greater proportion of solid to void on all facades and use non-reflective materials.

P2 Buildings should use non-reflective glass and / or recess glass behind balconies.

P3 Sun shields, such as awnings, canopies and pergolas should be provided to glazed areas.

P4 Council may require the submission of a Reflectivity Study prepared by a suitably qualified consultant.

3.2.7 Artificial illumination

Objectives

O1 To minimise the impact of artificial illumination on the amenity of residents and pedestrians.

O2 To provide a safe urban environment without adverse effects on surrounding development or the public domain.

O3 To minimise the impact of artificial illumination in contributing to sky glow.

Provisions

P1 External facades of buildings should not be floodlit.

P2 Where external artificial illumination is proposed:

(a) it should be designed and sited to minimise glare; and

(b) it must comply with the standards set out in Australian Standard *AS 4282 – Control of the Obtrusive Effects of Outdoor Lighting*.

P3 Illumination of roof top and/or podium level facilities is not to exceed 10pm on any day.

P4 Entrances must be well lit and do not produce shadows or adverse glare.

P5 Staff entrances which are separated from the main building entrance must be well lit and opportunities for casual surveillance is maximised.

P6 Timers and sensors should be used to minimise sky glow.

P7 Council may require the submission of a Lighting Report for a development prepared by an appropriately qualified person.

3.2.8 Views

Due to North Sydney's sloping topography and proximity to Sydney Harbour, views and vistas comprise special elements that contribute to its unique character and to the amenity of both private dwellings and the public domain.

New development has the potential to adversely affect existing views. Accordingly, there is a need to strike a balance between facilitating new development while preserving, as far as practicable, access to views from surrounding properties.

When considering impacts on views, Council will generally not refuse a development application on the grounds that the proposed development results in the loss of views, where that development strictly complies with the building envelope controls applying to the subject site.

Objectives

O1 To protect and enhance opportunities for vistas and views from streets and other public places.

O2 To protect and enhance existing views and vistas from streets and other public spaces.

O3 To provide additional views and vistas from streets and other public spaces where opportunities arise.

O4 To encourage view sharing as a means of ensuring equitable access to views from dwellings, whilst recognising development may take place in accordance with the other provisions of this DCP and the LEP.

Provisions

P1 Where appropriate, the opening up of views should be sought to improve the legibility of the area.

P2 Use setbacks, design and articulation of buildings to maintain street views and views from public areas.

P3 Maintain and protect views identified in the relevant area character statement (refer to Part C of the DCP) from future development.

P4 Where a proposal is likely to adversely affect views from either public or private land, Council will give consideration to the Land and Environment Court's Planning Principles for view sharing established in Rose Bay Marina Pty Ltd v Woollahra Municipal Council and anor [2013] NSWLEC 1046 and Tenacity Consulting v Warringah Council [2004] NSWLEC 140. The Planning Principles are available to view on the Land and Environment Court's *website* (*https://www.lec.nsw.gov.au/practice-and-procedure/principles/planning-principals.html*).

3.2.9 Solar access

Objectives

O1 To ensure that dwellings on adjoining and neighbouring sites have reasonable access to sunlight and daylight.

Provisions

P1 Developments should be designed and sited such that solar access at the winter solstice (21st June) provides a minimum of 3 hours between the hours of 9.00am and 3.00pm to:

(a) any solar panels;

(b) the windows of main internal living areas;

(c) principal private open space areas; and

(d) any communal open space areas.

located on any adjoining residential properties.

Note: *Main internal living areas excludes bedrooms, studies, laundries, storage areas.*

P2 Despite P1 above, living rooms and private open spaces for at least 70% of any adjacent dwellings within a residential flat building or shoptop housing should receive a minimum of 2 hours of solar access between the hours of 9.00am and 3.00pm at the winter solstice (21st June).

P3 The use, location and placement of photovoltaic solar panels take into account the potential permissible building form on adjoining properties.

3.2.10 Acoustic privacy

Objective

O1 To ensure all residents are provided with a reasonable level of acoustic privacy.

Control

P1 Materials with low noise penetration properties should be used where practical.

P2 Mechanical equipment, such as pumps, lifts or air conditioners should not be located adjacent to bedrooms or living rooms of dwellings on adjoining properties.

P3 Where buildings are located on busy roads incorporate the following into the design of the development to reduce traffic noise within the building:

(a) cavity brick walls;

(b) double glazing;

(c) solid core doors;

(d) concrete floors; and

(e) recessed balconies.

P4 Development comprising places of public worship, hospitals, educational facilities or child care centres on land which is on or is within 100m of a railway corridor, a road corridor for a freeway, a tollway, a transit way or any other road with an annual average daily traffic volume of more than 40,000 vehicles (based on the traffic volume data published on the website of the Transport for NSW) must consider the requirements of the DoP's *Development Near Rail Corridors and Busy Roads – Interim Guideline* (19 December 2008) in accordance with cl.s 2.100(2) and 2.120(2) of *SEPP (Transport and Infrastructure) 2021*. An acoustic report may be required to be prepared to demonstrate compliance with this Guideline and the acoustic requirements within cl.s 2.100(3) and 2.120(3) of the *SEPP (Transport and Infrastructure) 2021*.

3.2.11 Vibration

Objectives

O1 To ensure that workers are not unreasonably impacted upon by vibrations caused by the operation of railways and roadways.

Provisions

P1 Development on land which is on or is within 60m of a railway corridor, or is adjacent to a road corridor for a freeway, a tollway, a transit way or any other road with an annual average daily traffic volume of more than 40,000 vehicles (based on the traffic volume data published on the website of the Transport for NSW) must consider the requirements of the DoP's *Development Near Rail Corridors and Busy Roads – Interim Guideline* (19 December 2008) in accordance with cl.s 2.100(2) and 2.120(2) of *SEPP (Transport and Infrastructure) 2021*. In particular, consideration should be given to the vibration criteria contained within the NSW Environment and Protection Authority's *Assessing Vibration: a technical guideline*. A vibration assessment report may be required to be prepared to demonstrate compliance with these Guidelines.

3.2.12 Visual privacy

Objectives

O1 To ensure that adjoining residents are provided with a reasonable level of visual privacy.

Provisions

P1 Locate windows to avoid direct or close views into the windows, balconies or private open space of adjoining dwellings.

P2 Where windows are located with a direct outlook to windows of an adjacent dwelling, the windows must be provided with a minimum sill height of 1.5m, or use fixed obscure glazing or other privacy devices.

P3 Provide suitable screening structures or planting to minimise overlooking to the windows, balconies or private open space of dwellings on adjacent land.

P4 Signage should not be illuminated.

P5 Open entertaining spaces such as terraces, patio, gardens and the like on roof tops are generally not supported.

P6 Despite P5 above, open spaces on roofs may be considered, but only if:

(a) the space is designed such that there is no potential for existing or future overlooking of the space and subsequent noise and privacy issues;

(b) the space is setback at least 1m from the extent of the external enclosing walls to the floor level below; and

(c) the space does not exceed 50% of the floor area of the storey immediately below or 18m^2, whichever is the lesser; and

(d) there is no other appropriate ground level space for outdoor recreation.

3.3 QUALITY BUILT FORM

In response to their local context, buildings need to be designed to respect the existing topography and relate to the rhythm and pattern of characteristic buildings in the prevailing streetscape. A comfortable and memorable street will be one where no one building or feature dominates.

Kerb and guttering, footpaths, fences, front gardens and the street frontage of buildings all contribute to the appearance of a street and influence how people feel in them and about them. Streets where people feel comfortable will exhibit consistency in these elements and relationships between the scale of these elements.

3.3.1 Context

Objectives

O1 To ensure that the site layout and building design responds to the existing characteristics, opportunities and constraints of the site and within its wider context (adjoining land and the locality).

Provisions

P1 A Site Analysis is undertaken in accordance with Part A: Section 5 – *Site Analysis* of this DCP.

P2 Proposed developments must be designed to respond to the issues identified in the site analysis and in the relevant area character statement (refer to Part C of the DCP).

3.3.2 Streetscape

Objectives

O1 To ensure that footpaths, kerb and guttering and street trees contribute to a consistent streetscape.

Provisions

P1 All works within the road reserve must be undertaken in accordance with the *North Sydney Council Performance Guide* (refer to Part B: Section 20 – *Public Infrastructure* of the DCP).

P2 All existing sandstone kerb and guttering must be retained and maintained.

P3 Existing street trees are to be retained and protected by avoiding excavation or building within the drip line of the tree (refer to Part B: Section 16 - *Tree and Vegetation Management* of the DCP).

P4 Plant new trees of the same species that are present in the street, or in accordance with guidelines or strategies adopted by Council.

P5 Maintain a nature strip on-street if one exists.

3.3.3 Laneways

Objectives

O1 To ensure that laneways are functional, attractive, safe and comfortable places for use by residents as part of their public space and pedestrian network.

Provisions

P1 The height of buildings facing laneways should respect the width of the lane (i.e. a one storey building generally provides the most appropriate scale).

P2 Where car parking is only capable of being located at the boundary to the laneway, only open car spaces or carports will be permitted (i.e. roller doors are not permitted).

P3 No more than 50% of the width of a laneway frontage may be allocated for car accommodation of any kind, or car park entrances.

P4 Laneway fences are to be softened by planting trees and shrubs that hang over or through fences.

P5 Existing trees on land that abut the laneway should be retained.

P6 All new and rebuilt fences and structures (including car parking spaces) must be setback at least 1.2m from the laneway frontage. This setback is to be landscaped with appropriate low maintenance plants.

3.3.4 Subdivision pattern

Objectives

O1 To ensure that the characteristic subdivision pattern remains apparent, even if lots are subdivided or amalgamated.

Provisions

P1 Maintain lot sizes, shape and orientation identified in the relevant area character statement (refer to Part C of the DCP), or if not identified in the relevant area character statement, that are characteristic of the area.

P2 Design and locate buildings to reinforce the characteristic subdivision pattern in the neighbourhood.

P3 Break down the bulk of larger buildings, where lots have been amalgamated, with bays or indents on the original building line.

3.3.5 Siting

Objectives

O1 To maintain the characteristic building orientation and siting.

Provisions

P1 Buildings are to be sited in accordance with that described in the relevant area character statement (refer to Part C of the DCP), or if not identified in the relevant area character statement, sited to relate to neighbouring buildings.

P2 Site buildings within a single building form, addressing the street.

P3 Orient each external wall parallel to the corresponding boundary of the site, unless another orientation is characteristic.

3.3.6 Setbacks

Objectives

O1 To reinforce the characteristic pattern of setbacks and building orientation within the street.

O2 To control the bulk and scale of buildings.

O3 To provide separation between buildings.

O4 To preserve the amenity of existing dwellings and provide amenity to new dwellings in terms of shadowing, privacy, views, ventilation and solar access.

Provisions

Front

P1 The front setback must match the alignment of the primary facades of buildings on adjoining properties. Where different setbacks occur, the average of the setbacks of those primary facades is to be used.

P2 An increased setback may be required where there is a need to reduce the visual dominance of a large scale premises through the incorporation of landscaping or other screening and design treatments.

Side

P3 Building setbacks are to comply with the requirements set out in Table B-3.4.

TABLE B-3.2: Side Setback Requirements

Zone	Minimum Setback Requirement		
R2 Low Density Residential **R3 Medium Density Residential** **C4 Environmental Living**	1st storey (up to 4m)	900mm	
	2nd storey (up to 7m)	1.5m	
	3rd storey or higher (more than 7m)	2.5m	
R4 High Density Residential	On land with a height limit of 12m or less	3m; and The building must not exceed a building height plane commencing at 3.5m above ground level (existing) from side boundaries and projected internally to the site at 45 degrees (refer to Figure B-1.3).	
	On land with a height limit greater than 12m	1st to 3rd storey (up to 10m)	4.5m
		Above 3rd storey (more than 10m)	6.0m

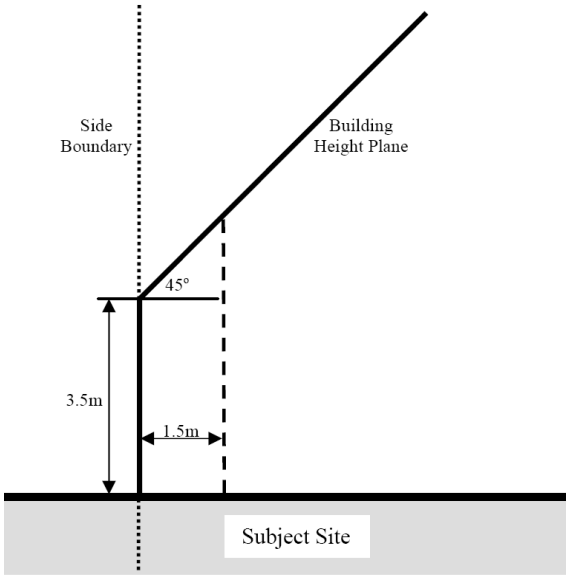

Figure B-3.1:
Setback and building height plane controls for the *R4 High Density Residentia*l zone, where the height limit is equal to 12m or less.

P4 Where possible, side setbacks should match those on adjoining properties, or, if adjoining properties are not characteristic, with setbacks identified in the relevant area character statement (refer to Part C of the DCP).

P5 Despite P3 above, the building must be set back a minimum of 3m from the property boundary, where the adjoining site has balconies or windows to main living areas of dwellings or serviced apartments located at the same level.

Rear

P6 Provide rear building setbacks that match those on adjoining properties, or, if adjoining properties are not characteristic, with setbacks identified in the relevant area character statement (refer to Part C of the DCP).

P7 Buildings within the *R4 High Density Residential* zone:

(a) and where the land is restricted by a height limit of 12m or less, must not exceed a building height plane commencing at 3.5m above ground level (existing) from the rear boundary and projected at an angle of 45 degrees internally to the site (refer to Figure B-3.1); or

(b) and where the land is restricted by a height limit in excess of 12m must be setback at least 4.5m from the rear boundary for the 1st to 3rd storeys of the building (no more than 7m above existing ground level) and 6m for any part of the building above the 3rd storey.

Laneways

P8 Despite P1 and P5 above, all buildings and structures must be setback at least 1.2m from a laneway. This provision does not apply to side setbacks.

3.3.7 Form, massing & scale

Objectives

O1 The size of new buildings is consistent with surrounding, characteristic buildings and is not significantly larger than characteristic buildings.

O2 The design of new buildings reflects and reinforces, or is complementary to, the existing character of the locality.

O3 That buildings clearly define streets, street corners and public spaces.

Provisions

P1 The height of buildings is not to exceed that stipulated within cl.4.3 to NSLEP 2013.

P2 The number of storeys should be consistent with that identified in the relevant area character statement (refer to Part C of the DCP).

P3 The finished floor height of the ground floor level should be no higher than 1m, measured vertically at any point, above ground level (existing).

P4 Finished floor to ceiling heights are a minimum of 3.3m at the ground floor and 2.7m for each floor above the ground floor. Council may consider a variation to the minimum requirements, but only if the applicant can demonstrate that the non-residential floor space is capable of receiving satisfactory natural daylight and ventilation (e.g. shallow commercial spaces with large amounts of window area).

P5 Where alterations and additions are proposed to a development relying on existing use rights, they must not result in the:

(a) material loss of views from other properties or public places, or

(b) material overshadowing of other properties or public places, or

(c) material loss of privacy to other properties, or

(d) increasing of the overall building height, or

(e) landscaped area of the development being below the requirements set out in the DCP, or further decrease the landscaped area where the landscaped area is already below the requirements of the DCP, or

(f) site coverage of the development exceeding the requirements set out in this DCP, or further increase the site coverage where the landscaped area is already above the requirements of this DCP.

P6 Balconies must be incorporated within the building envelope.

P7 Ancillary buildings (e.g. garages, carports, sheds etc) should be a much smaller scale than the principle building.

P8 Where a building is to be located amongst buildings having a consistent form and scale the size, location and proportions of window, door openings and other distinctive features such as roof form should be carried over to the new development.

P9 Provide smaller door and window openings within masonry walls, so that glass does not dominate the façade.

P10 Where practical, each tenancy to a building should be provided with an individual entrance from a public street or public place.

P11 The apparent length of buildings should be broken down through the use of articulation, design and detailing, changes in materials and colours.

P12 High quality materials should be used throughout the building design.

P13 Building elements, such as materials, finishes, and window dimensions should relate to neighbouring buildings.

P14 Buildings are to respect the setting and curtilage of heritage items (refer to Part B: Section 13 - *Heritage and Conservation* of the DCP).

3.3.8 Entrances and exits

Objectives

O1 To enable equitable access to all persons regardless of ability.

O2 To ensure that entrances are clearly visible from the street and convey a sense of address.

Provisions

P1 Main entrances and exits located at the front of the site must be directly visible from the street.

P2 At least one main entrance to the building provides a continuous path of travel.

P3 Entrances must not be obscured by landscaping or other obstacles and have clear sight lines.

P4 Entrances are clearly identifiable to reduce confusion and unintentional entry.

P5 If exits to the building are closed after hours, this must be indicated at the entrance of the building.

P6 Entrance lobbies are well illuminated, with seating provided and a firm and level non-slip floor surface.

P7 Places of safe refuge are incorporated into the overall design of buildings. Lift lobbies or toilets may be used as all or part of a safe refuge.

P8 Access to the building must be designed in accordance with the provisions contained within Part B: Section 12 – *Access* of the DCP.

3.3.9 Colours and materials

Objectives

O1 To ensure new buildings reflect and reinforce the existing and desired character of a locality.

Provisions

P1 Buildings should use materials identified in the relevant area character statement (refer to Part C of the DCP), if provided.

P2 Natural colours and muted and earth tones should be used for major areas of the building, such as walls and roof, with stronger colours restricted to smaller features, such as window frames, doors and architectural detailing.

P3 Avoid the extensive use of reflective glass, reflective metal and plastics on the exterior of buildings.

P4 Buildings should incorporate a high proportion of masonry to glass as follows - if a vertical or horizontal line is drawn in any position on any façade it should not pass over more than 50% of glass, or 75% of clear opening and glass.

P5 Solar panels should be integrated into building design where possible.

3.3.10 Front fences

Objectives

O1 To ensure that front fences contribute to a characteristic pattern of fences.

O2 To enable causal surveillance of the public domain, minimising the potential for criminal activities to occur.

O3 To provide visual and acoustical privacy.

O4 To minimise their dominance on the street and contribute to a garden setting.

Provisions

P1 Fences should be designed similar to those identified in the relevant area character statement (refer to Part C of the DCP), or where no style and type is provided, they should be characteristic with those within the visual catchment of the site, when viewed from directly opposite the site.

P2 The use of tall security fencing should be avoided. Where security fencing is demonstrated to be required, it must be primarily open in design such that it does not obscure the main building and is to be and supplemented with landscaping.

P3 Fences may need to be articulated to minimise their visual impact.

P4 Fences must not reduce the significance of any heritage item or heritage conservation area.

3.4 QUALITY URBAN ENVIRONMENT

The design, site layout and facilities of non-residential development should meet the needs of the future occupants, without having adverse effects on nearby residents or on the wider community and environment.

The design of buildings meets the needs of the widest range of people in the community from childhood to old age. This includes people with any form of disability.

Natural surveillance of areas lowers the likelihood of vandalism and crime. Clear sight lines assist in creating a safer environment. High walls and barriers obscure sight lines and can increase the likelihood of crime.

3.4.1 Accessibility

Objectives

O1 To ensure that buildings are made accessible to all persons regardless of their mobility.

Provisions

P1 Buildings are to be designed in accordance with the provisions contained within Part B: Section 12 - *Access* of the DCP.

3.4.2 Safety and security

Objectives

O1 To ensure that a high level of personal safety and security is provided within the development and public domain.

Provisions

P1 Design routes between building entrances to maximise personal safety. Routes from parking areas to lift lobbies are particularly important in this regard. Clear lines of sight and well lit routes are required.

P2 Adequate lighting must be provided to open spaces, entrances and pedestrian areas to avoid the creation of shadowed areas.

P3 Rear service areas and access lanes should either be well secured or easily visible.

P4 Robust and durable design features should be used where relevant to discourage vandalism.

P5 The use of security grilles at the street frontage is discouraged. If security grilles are necessary then install on the inside of the shopfront and maintain clear visibility into the shop. Use toughened glass.

P6 Solid security rollers to shopfronts, building entries and the like are not permitted.

P7 Fire escapes should not be recessed into the building form. If it is necessary locate them in a recess, then the recess must be shallow to provide for personal security of pedestrians.

P8 Buildings should be designed to allow for the overlooking and natural surveillance of rear lanes (e.g. from retail and other uses at all levels of the building).

P9 Rear lanes should be provided with safe and secure lighting.

P10 Clear sight lines should be maintained around all vehicle access points.

P11 Street numbering of buildings must be clearly visible from street at all times of the day such that they are easily identifiable.

P12 Maximise views of the street and building entries and communal areas within the development.

P13 Maintain sight lines along pathways (i.e. avoid blind corners or hiding places).

P14 Use design, materials and features (such as street furniture, pavers, fencing and landscaping) to clearly distinguish public, communal and private domains.

3.4.3 Vehicular Access & Car Parking

Objectives

O1 To provide adequate on-site car parking for residents.

O2 To ensure adequate access for all vehicles.

O3 To maintain garden settings.

O4 To minimise adverse visual impacts on the appearance of the street or building.

Provisions

Quantity

P1 Comply with the parking requirements within Part B: Section 10 – *Car Parking and Transport* of the DCP.

Location

P2 All parking should be provided underground (i.e. within a basement) or where provided at grade, must be adequately screened from the public domain. At grade car parking

may only be permitted, where it can be demonstrated that the development can comply with the landscaping and site coverage controls contained within this Section of the DCP.

P3 Where security doors/gates are proposed, an intercom system to facilitate visitor/service access to underground parking areas must be provided.

P4 Design accessways and driveways to:

(a) enable vehicles to enter the parking space or garage in a single turning movement;

(b) enable vehicles to leave the parking space in no more than two turning movements;

(c) enable vehicles to avoid queuing on public roads; and

(d) comply with AS 1428.2 Design for Access and Mobility.

(e) comply with the requirements of vehicular crossings and driveways as set out in Section 20.4 to this Part of the DCP.

P5 Parking areas must be designed to enable cars to enter and leave the site in a forward direction.

P6 Driveway and pedestrian access must be separated.

P7 The use of car spaces within a development is restricted to the occupiers of that development.

P8 Garages, carports or other like parking structures must not be located between the primary street frontage and the primary street façade of the building.

P9 Despite P8 above, car parking spaces (i.e. not within a garage, carport or other structure) may be located between the primary street frontage and the primary street façade of the building, but only if:

(a) no other on-site parking exists or is possible;

(b) no rear laneway exists to provide vehicle access from the laneway rather than from the street;

(c) no demolition or partial demolition of the property is required to cater for the space;

(d) any excavation required is minimal in comparison to the area of the parking space;

(e) on-street parking is constrained by commuter parking and/or clearways;

(f) the parking space is uncovered;

(g) porous materials are used for the parking space's surface;

(h) landscaped area complies with the minimum requirements under s.1.5.5 to this Part of the DCP, or if it is already less than the minimum requirement, it is not further reduced;

(i) adequate space to fit vehicles within property boundary exists to avoid overhang onto the footpath;

(j) it complies with AS 2890.1.

Access

P10 Provide vehicular access, directly from a public road.

P11 Where the site has frontages to both a street and a rear laneway, vehicular access should be provided from the laneway rather than the street.

P12 Do not compromise streetscape, building form and landscaped area, or heritage significance through the provision of vehicle access.

P13 Provide a minimum of 5.5m between gates or doors to parking areas and the boundary of the site to allow a car to be within the property boundary while the gates/doors are opening.

P14 If security gates/doors are to be used provide an intercom to allow access for visitors.

P15 Set back any development, including fences, at least 1.2m from a boundary with a laneway to provide adequate turning space within the lane.

3.4.4 Site Coverage

Objectives

O1 To ensure that development is balanced and in keeping with the optimum capacity of the site with no over development.

O2 To ensure that development promotes the existing or desired future character of the neighbourhood.

O3 To control site density.

O4 To limit the building footprint so as to ensure adequate provision is made for landscaped area.

Provisions

P1 Maximum site coverage must be in accordance with Table B-3.3.

TABLE B-3.3: Maximum Site Coverage Requirements

Zone	Lot Size (m^2)	Site Coverage (max)
C4 Environmental Living **R2 Low Density Residential**	0-229	65%
	230-499	50%
	500-749	40%
	750-999	35%
	1000+	30%
R3 Medium Density Residential	All	50%
R4 High Density Residential	All	45%

P2 For the purposes of P1, the following items are considered to constitute site coverage:

(a) buildings as defined by the *EP&A Act*;

(b) garages and carports;

(c) sheds;

(d) enclosed / covered decks, pergolas and the like;

(e) swimming pools, spa pools and the like:

(f) other structures including:

(i) permanent BBQ structures;

(ii) cabanas;

(iii) external staircases;

(iv) gazebos;

(v) greenhouse/glasshouse;

(vi) plant rooms;

(vii) rainwater tanks;

(viii) ramps;

(ix) garbage storage facilities.

However, site coverage excludes:

(g) any basement;

(h) unenclosed balconies[1], decks, pergolas and the like;

(i) paving and patios (porous and non-porous);

(j) driveways and car stand areas (porous and non-porous);

(k) water features; or

(l) anything else defined as landscaped area.

P3 For the purposes of P1, the area of any access handle, access way or right of carriageway is to be excluded from the calculation of site area and site coverage.

3.4.5 Landscape Area

Objectives

O1 The specific objectives of the landscaped area controls are to:

(a) promote the character of the neighbourhood;

(b) provide useable open space for the enjoyment of workers;

(c) provide a landscaped buffer between adjoining properties;

(d) maximise retention and absorption of surface drainage water on site;

(e) minimise obstruction to the underground flow of water;

(f) promote substantial landscaping, that includes the planting of trees that when mature will have significant canopy cover;

(g) control site density;

(h) minimise site disturbance;

(i) contributes to streetscape and amenity;

(j) allows light to penetrate between buildings;

(k) encourage the provision of space for biodiversity conservation and ecological processes; and

(l) provide a buffer between bushland areas and development.

Provisions

P1 Provide a minimum landscaped area and maximum un-built upon area in accordance with Table B-3.4.

[1] *Balconies which are open on more than 1 side and are not located under the roof line of the building or a balcony directly above.*

TABLE B-3.4: Minimum Landscaped Area and Un-built upon Area Requirements			
Zone	**Lot Size (m^2)**	**Landscaped Area (min)**	**Un-built upon area (max)**
C4 Environmental Living **R2 Low Density Residential** **R3 Medium Density Residential**	0-229	15%	20%
	230-499	30%	20%
	500-749	40%	20%
	750-999	45%	20%
	1000+	50%	20%
	All	30%	20%
R4 High Density Residential	All	40%	15%

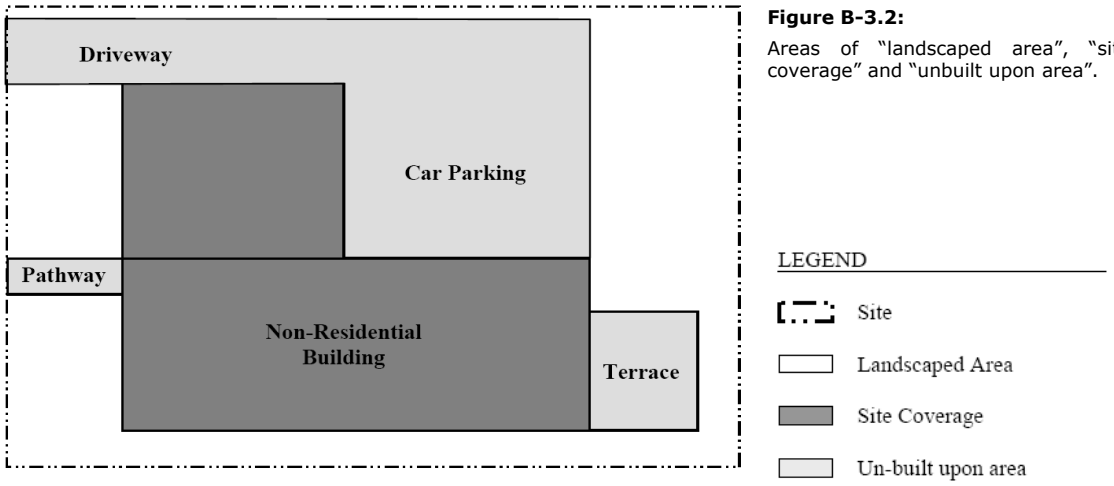

Figure B-3.2:
Areas of "landscaped area", "site coverage" and "unbuilt upon area".

P2 For the purposes of P1:

(a) landscaped area is considered to comprise all parts of a site used for growing plants, grasses and trees, but does not include any building, structure or hard paved area[2];

(b) The area of any access handle, access way or right of carriageway is to be excluded from the calculation of site area, landscaped area and un-built upon area; and

(c) the following items are considered to constitute un-built upon area:

(i) any part of a basement which does not comprise site coverage;

(ii) unenclosed balconies[3], decks, pergolas and the like;

(iii) paving and patios (porous and non-porous);

(iv) driveways and car stand areas (porous and non-porous);

(v) water features; or

[2] *Landscaping located above a basement or on the roof of a building does not constitute "landscaped area".*

[3] *Balconies which are open on more than 1 side and are not located under the roof line of the building or a balcony directly above.*

however, un-built upon area excludes:

(vi) anything else comprising site coverage; or

(vii) anything else comprising landscaped area.

P3 Avoid creating landscaped areas that are broken into a series of small fragmented unusable areas.

P4 Establish a significant landscaped setting for pathways and paved areas.

P5 Use planting to create a buffer against cold winter winds (generally westerly), or to direct cooling breezes in summer (generally north easterly).

P6 Locate driveways and pathways at least 500mm from common boundaries.

P7 Provide screen planting, including trees, within the 1.5m setback from the common boundary.

P8 Retain existing mature vegetation and trees and show what measures are to be implemented to protect this vegetation during construction (refer to Part B: Section 16 – *Trees and Vegetation Management* of the DCP).

P9 Vegetation and landscape elements should be selected and designed to avoid overshadowing existing solar panels or roof spaces which are capable of accommodating solar panels.

P10 Use pervious materials or stepping stones where pathways are incorporated within side setbacks.

3.4.6 Landscaping

Objectives

O1 Landscaping and planting satisfies minimum performance standards and is sustainable and appropriate to the site.

O2 Landscaping should not adversely impact upon the amenity and usability of adjoining properties.

O3 To encourage biodiversity conservation and ecological processes.

O4 To provide a buffer between bushland and development.

Provisions

P1 Development on properties in proximity to bushland must be consistent with the requirements of Part B: Section 15 - *Bushland* of the DCP.

Note: *Refer to the Bushland Buffer Map in Appendix 4 to this DCP to determine if the subject property is located in proximity to bushland.*

P2 Retain existing trees wherever practical.

P3 Avoid works which are to occur within the drip line of any tree that has a height greater than 6m, or a girth greater than 1m, measured 1m above the base of the tree.

P4 Where a development proposes to incorporate plant containers, they should have a minimum diameter of 110mm and a minimum depth of 135mm.

P5 Developments should incorporate locally occurring native species and reduce water and fertilizer requirements.

P6 Achievement of maximum density, pursuant to Council's controls, will be subject to retention of significant trees (as identified by Council) and other important topographic features.

P7 Minimise disturbance of natural ground levels, native vegetation and topography in the vicinity of identified significant trees.

P8 New hedges must not result in the unreasonable reduction of access to sunlight or views. A condition may be imposed on a development consent which may restrict the maximum height of a hedge.

P9 Trees should provide at least 50% canopy cover over landscaped areas at maturity.

P10 Plant the largest growing and longest lived tree species appropriate to the site conditions.

P11 Council encourages the incorporation of green walls into developments where appropriate.

Notes: *Refer to the North Sydney Council Green Roof and Wall Resource Manual for technical guidance on the design, construction and maintenance of green walls.*

3.4.7 Front gardens

Objectives

O1 To maximise water infiltration on a site.

O2 To soften the built form.

Provisions

P1 The entire front setback must not be paved or concreted.

P2 Where car parking and driveways are located in the front yard, use the minimum amount of paving as practicable.

P3 Front gardens should merge with those on adjoining properties and support the landscape character of the area.

P4 Plant trees and shrubs that will hang over or through fences.

P5 Complement the existing landscape character of the street, including street planting undertaken through Council's Street Tree Strategy (refer to Part B: Section 16 – *Tree and Vegetation Management* of the DCP).

P6 Design front gardens that will soften and complement the view of buildings from the street and surrounding properties.

P7 Do not provide medium height, dense planting around building entries.

3.4.8 Garbage Storage

Objectives

O1 To ensure sufficient space is provided on site for waste storage.

O2 To ensure garbage storage areas are screened from the public domain.

O3 To ensure convenient access for collection.

O4 To ensure developments are designed to maximise resource recovery through waste avoidance, source separation and recycling.

Provisions

P1 On-site garbage storage areas must be provided which are capable of accommodating the number of garbage and recycling bins as indicated in Table B-3.5. However, industry standards for waste generation rates may be used where these differ from the Council rates or if no Council rate is given.

TABLE B-3.5: Waste bin requirements			
Type of Premises	**Sub type of premises**	**Typical Volume of Waste generated to be stored**	
		Waste	**Recycling**
Child care facilities	All types	20 L / child / week	10 L / child / week
Office buildings	General office use	10 L / 100m^2 GFA / day	10 L / 100m^2 GFA / day
Retail Trading	Shops < 100 m^2	50 L / 100 m^2 GFA / day	25 L / 100 m^2 GFA / day
	Shops > 100 m^2	50 L / 100 m^2 GFA / day	50 L / 100 m^2 GFA / day
	Supermarkets	660 L / 100 m^2 GFA / day	130 L / 100 m^2 GFA / day
	Showrooms	40 L / 100 m^2 GFA / day	10 L / 100 m^2 GFA / day
	Greengrocers	240 L / 100 m^2 GFA / day	410 L / 100 m^2 GFA / day
	Florist / plant shop	900 L / 100 m^2 GFA / day (combined)	
	Butcher / Delicatessen	80 L / 100 m^2 GFA / day	Variable, but average 50 L / 100 m^2 GFA / day
	Bakery	295 L / 100 m^2 GFA / day	165 L / 100 m^2 GFA / day
	Fish	50 L / 100 m^2 GFA / day Waste receptacles shall be refrigerated so as to ensure all wastes are kept at a temperature not exceeding 4^{o}C	Variable
Food and drink premises	Take away food and drink premises	80 L / 100 m^2 GFA / day	240 L / 100 m^2 GFA / day
	Restaurants and cafes	10 L / 1.5 m^2 GFA / day	120 L / 100 m^2 GFA / day
	Registered clubs Pub Small bar	50 L / 100 m^2 bar area / day 80 L / 100 m^2 restaurant GFA / day	50 L / 100 m^2 bar area / day 50 L / 100 m^2 restaurant GFA / day
Assembly rooms	Social recreational or religious premises	50 L / 100 m^2 GFA / day	10 L / 100 m^2 GFA / day
	Entertainment facilities	1 L / 4 seats / screening	0.5L / 4 seats / screening
Tourist and visitor accommodation	Backpacker accommodation	40 L / occupant space / week	20 L / occupant space / week
	Hotel and motel accommodation	5 L / bed space / day 50 L / 100 m^2 bar area / day 10 L / 1.5 m^2 dining area / day	5 L / bed space / day 50 L / 100 m^2 bar area / day 50 L / 1.5 m^2 dining area / day
	Serviced apartments	120 L / apartment / week	60 L / apartment / week
Industrial	-	Dependant upon industry type	Dependant upon industry type

** GFA = gross floor area*

P2 Notwithstanding the rates to P1, Council may permit a reduction in the number of bins required, but only if a garbage compactor is required or proposed to be incorporated within the development.

P3 All developments containing a lift must provide:

(a) a garbage chute leading to a central garbage storage room that has a waste compaction unit attached with a minimum compaction ratio of at least 2:1; and

(b) an interim recycling room with a minimum dimension of 1.5m square on each level of the building with at least one point of access to the garbage chute, with space to accommodate 1 x 240L bin for the separate collection of recyclable materials.

P4 A garbage storage area/s should be located within 2m of the street or laneway boundary.

P5 Notwithstanding P4 above, a garbage storage area may be located anywhere on a site, but only if a garbage collection area, capable of accommodating all of the required bins for the entire development is located within 2m of the street or laneway boundary.

P6 Garbage storage facilities should not be located in conjunction with the main pedestrian entrances to a building.

P7 Garbage bins stored in a collection facility should be located within 3m of the facility's entrance.

P8 Convenient access for on-site movement and collection should be provided.

P9 More than one communal on-site waste storage and recycling area should be provided on large or steep sites, or where there is more than one Council collection point.

P10 Garbage storage areas must be screened from streets and laneways to discourage the illegal dumping of rubbish and unsightly mess visible to pedestrians.

P11 Garbage storage areas must be located and managed to avoid causing a nuisance from smells, insects or animals.

P12 Sufficient space must be provided to accommodate any on-site treatment facilities (e.g. compaction) proposed to be incorporated.

P13 Garbage storage areas should be adequately protected from inclement weather. Where appropriate, the area should be enclosed or undercover.

P14 Storage areas must be well ventilated and drained to a lawfully approved sewerage system.

P15 Where a garbage chute is provided or required the garbage chute room must be adequately ventilated and incorporate fire safety and other services in accordance with the BCA.

P16 Garbage facilities are to be designed and constructed in accordance with Council's Waste Management Guide (refer to Appendix 3).

P17 Garbage facilities must accommodate any privately arranged collection (e.g. daily or weekly, etc. collections).

P18 Source separation must be provided within the garbage storage area to maximise recycling and reduction of waste sent to land fill.

P19 Food and drink premises and any other premises involved in the storing of perishable goods are required to:

(a) provide specialised containment for food scraps;

(b) Arrange regular/daily collection of food scraps; and

(c) Provide refrigerated garbage rooms where large volumes of perishables (such as seafood) and infrequent collection is proposed.

P20 Grease traps may be required in certain circumstances (refer to Sydney Water may have specific trade waste requirements).

P21 Special arrangements are required for the storage and disposal of any special waste material, such as medical or hazardous wastes. Applicants should contact Council and Environment Protection Authority for further information.

P22 Locate and design garbage storage areas to complement the streetscape.

P23 Ensure garbage/recycling bins/green waste bins will not be visible from the street in the garbage storage area.

P24 Where possible integrate garbage storage areas with the building.

P25 Do not place structures for garbage storage areas, that are more than 1m high on the boundary or within the front building line.

3.5 EFFICIENT USE OF RESOURCES

The commercial and retail sectors are significant users of electricity and are major contributors to greenhouse gas emissions in Australia. Improving energy efficiency is one of the most cost effective ways of reducing greenhouse gas emissions. The pursuit of energy efficiency can bring economic, social and environmental benefits. Another reason to encourage energy efficiency is the reduction in maintenance costs and improved leasability and saleability of the building.

Reducing waste has environmental, social and economic benefits. There are many opportunities in the development process to reduce the amount of waste and to maximise the amount of material that is recycled and reused, rather than going to landfill.

The amount of stormwater runoff in an area relates directly to intensity of development in that area. The more impervious to stormwater an urban area is, the larger the runoff quantities are and thereafter the impact on the environment.

Applicants must comply with the submission requirements and performance targets set out in Table B-3.6 in order to demonstrate the proposed development will achieve an efficient use of resources.

TABLE B-3.6: Non-residential thresholds, submission requirements and performance targets

Threshold/size	Submission requirement	Performance target
Alterations affecting less than half the original building or tenancy (measured over the roof and the outer walls)	An *Efficient Use of Resources Commitment Table* (to be completed by the applicant).	Compliance with / consideration of (as relevant) DCP provisions within the Efficient Use of Resources sub-section.
Alterations affecting more than half the original building or tenancy (measured over the roof and the outer walls)	The development must comply with the relevant submission requirements as if it were a new development.	The development must comply with the relevant performance targets as if it were a new development.
Less than 2000m² GFA	An *Efficient Use of Resources Commitment Table* (to be completed by the applicant).	Compliance with / consideration of (as relevant) DCP provisions within Efficient Use of Resources sub-section.

TABLE B-3.6: Non-residential thresholds, submission requirements and performance targets		
Threshold/size	**Submission requirement**	**Performance target**
2000m²-5000m² GFA	An *Efficient Use of Resources Commitment Table* (to be completed by the applicant); AND	Compliance with / consideration of (as relevant) DCP provisions within Efficient Use of Resources sub-section.
	A *NABERS Energy Commitment Agreement* and associated documentation (see s.2.6.1(P21) below); OR If a NABERS Energy rating tool is not available for the particular type of non-residential development proposed, an Energy Efficiency Report from a suitably qualified consultant that sets out proposed energy efficiency measures; AND	The Commitment Agreement must be for a 4.5 star NABERS rating for the base building, whole building, or tenancies as appropriate; OR If an Energy Efficiency Report is required it must demonstrate that a high level of energy efficiency will be achieved.
	A *WSUD report* from a suitably qualified consultant.	Compliance with / consideration of (as relevant) DCP provisions within Efficient Use of Resources sub-section, particularly regarding on-site detention, discharge rates and quality of discharge; and demonstration that WSUD has been incorporated to the maximum extent practicable.
>5000m² GFA	A *NABERS Energy Commitment Agreement* and associated documentation (see s.3.5.1(P17)); OR If a NABERS Energy rating tool is not available for the particular type of non-residential development proposed, an Energy Efficiency Report from a suitably qualified consultant that sets out proposed energy efficiency measures; AND	The Commitment Agreement must be for a 4.5 star NABERS rating for the base building, whole building, or tenancies as appropriate; OR If an *Energy Efficiency Report* is required it must demonstrate that a high level of energy efficiency will be achieved.
	A WSUD report from a suitably qualified consultant; AND	Compliance with / consideration of (as relevant) DCP provisions within Efficient Use of Resources sub-section, particularly regarding on-site detention, discharge rates and quality of discharge; and demonstration that WSUD has been incorporated to the maximum extent practicable.
	Evidence that the building design has been awarded a Green Star rating; OR If evidence of a Green Star rating being awarded is not available at DA stage or if a Green Star rating tool is not available for the particular type of non-residential development proposed, a *Sustainability Report* including an *Efficient Use of Resources Commitment Table* (to be completed by suitably qualified consultants) must be submitted.	The base building, or the whole building where there is to be one tenant to occupy the whole building, must achieve a 5 star Green Star rating; OR If a *Sustainability Report* which includes an *Efficient Use of Resources Commitment Table* is required it must demonstrate compliance with / consideration of (as relevant) DCP provisions within the Efficient Use of Resources sub-section and demonstrate that the development will achieve a very high degree of environmental sustainability.

3.5.1 Energy efficiency

Nearly half of energy consumption in non-residential buildings is due to heating, cooling, ventilation, office equipment and lighting. A typical energy bill is 25% of a building's total operating costs. The way the occupants operate and maintain a building is crucial to its energy efficiency so just having a smart design does not guarantee an efficient building. Controls in this section of the DCP seek to acknowledge these facts by addressing both building design and maintenance.

National Australian Built Environment Rating Scheme (NABERS)

North Sydney Council encourages developers to obtain a NABERS rating for commercial and commercial components of buildings. The rating assesses a building's performance in terms of its Greenhouse gas emissions during its operation.

The Rating Scheme, which is managed by the Department of Environment, Climate Change and Water (DECCW), allows owners and occupiers of commercial and commercial components of buildings to benchmark the greenhouse performance of their premises on scale of one to five. One represents the most polluting and five, the least polluting, with three representing best market practice. New commercial buildings, refurbishments, tenancies and fitouts will have to demonstrate compliance with this DCP by signing DECCW's NABERS – Energy Commitment Agreement and achieving a minimum 4.5 star rating for the base building, whole building for tenancies (as appropriate).

Green Star

North Sydney Council encourages developers to obtain a Green Star rating for developments involving the provision of substantial commercial floor space. The Green Star rating system, which is managed by the Green Building Council of Australia, is a comprehensive, national, voluntary environmental rating system that evaluates the environmental design and construction of buildings. Approximately, 11 per cent of Australia's CBD[4] commercial office buildings are Green Star certified, reinforcing that building "green" is now a business imperative.

The following Green Star Certified Ratings are available:

- **4 Star Green Star Certified Rating** (score 45-59) signifies 'Best Practice' in environmentally sustainable design and/or construction
- **5 Star Green Star Certified Rating** (score 60-74) signifies 'Australian Excellence' in environmentally sustainable design and/or construction
- **6 Star Green Star Certified Rating** (score 75-100) signifies 'World Leadership' in environmentally sustainable design and/or construction

Although Green Star certification requires a formal process, any project can freely download and use the Green Star tools as guides to track and improve their environmental attributes. Refer to *www.gbca.org.au*.

Objectives

O1 To ensure that developments minimise their use of non-renewable energy resources.

O2 To ensure that buildings are designed such that the air conditioning plant meets performance requirements, while minimising energy usage.

O3 To encourage the use of energy efficient lighting.

Provisions

P1 Where alterations affect more than half the total volume of the original building (measured over the roof and the external walls), achieve the targets in this subsection for the whole of the building.

[4] *Figures obtained from the Green Building Council of Australia, circa October 2010.*

P2 Consider the following issues when assessing the energy rating of buildings and whether any of these issues prevent the achievement of the energy ratings:

(a) orientation or shape of the block;

(b) existing overshadowing due to either the surrounding terrain or existing development;

(c) topography, geology or geo-technical constraints preclude energy saving design such as slab-on-ground construction; and

(d) conflict with requirements or guidelines in relation to privacy, area character, building design, bulk and scale or heritage considerations set out in the LEP or the DCP.

P3 Ensure that the development does not reduce the energy efficiency of buildings in the vicinity.

P4 Improve the control of mechanical space heating and cooling by designing heating/cooling systems to target only those spaces which require heating and cooling, not the whole building.

P5 Where the proposed development involves the installation of any of the following:

(a) hotwater systems;

(b) clothes drier;

(c) dishwasher;

(d) fixed air conditioning systems (including reverse cycle systems);

(e) fixed heating systems;

they must have a minimum energy star rating of 4.5 stars.

P6 Improve the efficiency of hot water systems by insulating hot water systems.

P7 Wherever possible solar hot water systems should be provided.

P8 Fixed heating and cooling systems are not encouraged.

P9 Incorporate on-site renewable energy sources to supplement energy needs during daily peak energy use.

P10 In considering proposals for renewable energy, consideration should be given to the economic and environmental benefits to the broader community of renewable energy generation while also considering the need to minimise the effects of a proposal on the local community and environment.

P11 Timers and movement sensors should be used to minimise energy consumption, particularly for lighting and mechanical ventilation in public areas.

P12 Energy efficient lighting and technology should be used to reduce energy consumption. Consider the use of solar powered illumination.

P13 Use solar powered lighting for external areas.

P14 Reduce reliance on artificial lighting by designing lighting systems to target only those spaces which require lighting at any particular 'off-peak' time, not the whole building.

P15 Locate appliances and equipment that generate waste heat, (such as copiers) in areas separated from the spaces requiring cooling.

P16 Buildings, or the commercial components of mixed use buildings, that have a gross floor area greater than 2000m^2 must be capable of achieving a minimum 4.5 star rating under DECCW's NABERS Energy. In this regard, the following information is required to be lodged with the relevant certifying authority (Council or an accredited certifier) prior to the issue of a Construction Certificate:

(a) Evidence that a Commitment Agreement has been entered into with DECCW, to deliver this Star rating for the base building (i.e. services traditionally supplied

as 'common' to tenants, such as air conditioning, lifts and common area lighting) or for the whole building where the applicant is to occupy the entire building.

(b) An independent energy assessment report that follows the guidelines in DECCW's *NABERS Energy and Water for Offices Rules for collecting and using data*. This document can be obtained from www.nabers.gov.au/;

(c) A computer building simulation in accordance with DECCW's *NABERS Energy Guide to Building Energy Estimation*. This document can be obtained from www.nabers.gov.au/. The computer building simulation is required to demonstrate to the satisfaction of Council, or the private certifier if Council is not the certifying authority, that the building can reasonably be expected to achieve the proposed rating under realistic operating conditions.

P17 Developments involving the provision of more than 5,000m^2 of office floor space must demonstrate that the development can achieve a minimum 5 star rating under the Green Building Council of Australia's Green Star – Office rating tool. The rating tool can be obtained from the Green Building Council of Australia's website - www.gbca.org.au.

3.5.2 Passive solar design

Objectives

O1 To ensure that site layout and building orientation allows for maximum solar access and are adapted to local climatic conditions and prevailing site characteristics.

Provisions

P1 Buildings should be oriented within 20° west of north to 30° east of north to maximise solar access.

P2 Adapt site layout and building orientation to local climatic conditions and prevailing site characteristics, such as existing overshadowing, planting and slope.

P3 Orient the long axis or length of the building to the northerly aspect.

P4 East and west facing glazing should be minimised and fully shaded at the summer solstice.

P5 Provide shading devices on north facing walls to completely shade glazing from October to late February. To calculate the extent of shading device, draw a section and extend a line from the base of the window at 70°. The outer edge of the shading device or eaves should reach this line.

P6 Optimise natural light access to reduce the amount of energy used to run artificial lighting (limiting the internal depth of the building allows efficient use of natural light).

P7 If landscaping is proposed as part of the development, a documented landscape design concept shows how the landscaping contributes to energy efficiency by providing substantial shade in summer, especially to west-facing windows and open car park areas, and admitting winter sunlight to outdoor and indoor living and working areas.

P8 Buildings are designed, wherever possible, to include a north facing roof where a solar hot water system or collector can be installed.

3.5.3 Thermal mass and insulation

Thermal mass is the ability of a material to absorb heat energy. Materials like concrete, bricks and tiles are deemed to have a high thermal mass, as they require a lot of heat energy to change their temperature. Lightweight materials such as timber have low thermal mass. More thermal mass results in more even range in inside air temperature. Appropriate use of thermal mass throughout your home can make a big difference to comfort and heating and cooling bills.

Thermal mass is not a substitute for insulation. Thermal mass stores and re-radiates heat whereas insulation stops heat flowing into or out of the building. A high thermal mass material is not generally a good thermal insulator.

Insulation acts as a barrier to heat flow and is essential to keep your home warm in winter and cool in summer. A well insulated and well designed home will provide year-round comfort, cutting cooling and heating bills by up to half. This, in turn, will reduce greenhouse gas emissions.

Objectives

O1 To achieve more even, year-round average temperature, making the building more comfortable for occupants and resulting in less demand for artificial heating or cooling.

Provisions

P1 To maximise natural heating, provide flooring that will absorb heat from the winter sun (i.e. a concrete slab floor on the ground offers the best thermal massing properties, whilst timber floors have minimal performance in terms of thermal mass. Dark coloured tiles laid over a concrete slab is the most desirable covering in terms of maximising the performance of thermal mass in a dwelling).

P2 To maximise natural cooling, protect thermal mass from summer sun with shading and insulation. Allow cool night breezes and air currents to pass over the thermal mass, drawing out all the stored energy.

P3 Incorporate masonry walls and insulated walls and ceilings to contribute to the effectiveness of thermal mass.

P4 Thermal insulation is used in the roof, walls and floor.

P5 Ceiling/roof insulation must have at least an R3.0 rating or equivalent and wall insulation must have at least an R1.5 or equivalent rating. Insulation of cavity brick walls is not required. These ratings are based on AS 2627: Part 1-1993.

P6 Use bulk or reflective insulation, or a combination of both, to achieve the required insulation value.

P7 Heat loss/gain is minimised though the use of awnings, shutters or high performance glazing (e.g. double glazing).

3.5.4 Natural ventilation

Ventilation is essential for good health and prevention of condensation. However, the lack of natural ventilation can cause discomfort for occupants and waste energy if artificial ventilation is installed.

Objectives

O1 To ensure that workers are provided with direct access to fresh air and to assist in promoting thermal comfort for occupants.

O2 To reduce energy consumption by minimising the use of mechanical ventilation, particularly air conditioning.

Provisions

P1 Locate windows and openings in line with each other on opposing walls and with prevailing breezes.

P2 Provide ceiling fans for use in summer (fans produce a cooling air movement that is preferable to letting in the hot daytime air).

3.5.5 Water Conservation

Objectives

O1 To minimise the use of potable water.

O2 To encourage the reuse of greywater, rainwater and stormwater.

Provisions

P1 Where the proposed development involves the installation of new:

(a) shower roses;

(b) taps for use over a basin, ablution trough, kitchen sink or laundry tub;

(c) flow restrictors;

(d) toilets;

(e) white goods, such as clothes washers or dishwashers;

they must have the highest WELS star rating available at the time of the development.

P2 Recycled water (serviced by dual reticulation) should be utilised for permitted non-potable uses such as toilet flushing, laundry, irrigation, car washing, fire fighting, industrial processes and cooling towers.

P3 Harvest and use rainwater for garden irrigation and toilet flushing.

P4 Collect and reuse stormwater runoff for subsurface irrigation.

P5 Use endemic plants (as listed on Council's website) and xeriscape principles in landscaping.

Note: *Xeriscape principles essentially seek to limit the use of water for irrigation, through the design of landscaped areas and careful use of vegetation.*

P6 Install water efficient irrigation systems and controls.

P7 Separate meters are to be installed for the make-up lines to cooling towers, swimming pools, on the water supply to outdoor irrigation, and other significant end uses.

P8 Where cooling towers are used they are:

(a) to employ alternative water sources where practical; or

(b) to include a water meter connected to a building energy and water metering system to monitor water usage; and

(c) to be connected to a recirculating cooling water loop; and

(d) discouraged where they are a single pass cooling systems; and

(e) to be connected to a conductivity meter to ensure optimum circulation before discharge.

P9 Install a pool cover where the proposed development includes an external swimming pool.

P10 Rainwater tanks or other alternative water sources including recycled water systems are to be installed to minimise the use of potable water and maximise the use of alternative water sources.

P11 Rainwater tanks should be plumed to appropriate end uses, including toilet flushing, water features, car washing and garden irrigation.

P12 Separate meters are to be installed on separate units of occupancy in non-residential BCA class 5, 6 and 7 buildings.

P13 A reporting system should be developed to inform/educate occupants about the building's water consumption.

P14 Use waterless urinals.

P15 Install sensor operated taps, or automatic shutoff taps, especially in public areas.

3.5.6 Waste Management & Minimisation

Objectives

O1 To minimise material usage and waste during building, construction and demolition.

O2 To minimise the level of waste during operation reduce new building material usage and minimise volume of demolition materials.

Provisions

P1 A Waste Management Plan for the demolition, construction and operation of the building must be provided in accordance with Part B: Section 19 - *Waste Management* of the DCP.

P2 The building should be designed to encourage waste minimisation (e.g. source separation, reuse and recycling).

P3 Adequate recycling systems must be provided in the design of the garbage room.

P4 Materials with long lives and low maintenance needs are encouraged to be incorporated.

P5 Contractors and sub-contractors employed to undertake proposed construction works and waste removal should be educated about the waste objectives of the development.

P6 The storage of any hazardous waste materials must be adequately secured.

3.5.7 Stormwater management

Objectives

O1 To mimic pre-development or natural drainage systems through the incorporation of WSUD on-site.

O2 To protect watersheds by minimising stormwater discharge and maximising stormwater quality.

O3 To minimise off-site localised flooding or stormwater inundation

Provisions

P1 An Erosion and Sediment Control Plan for the construction of the building is required in accordance with Part B: Section 17 - *Erosion and Sedimentation Control* of the DCP.

P2 A *Stormwater Management Plan* for the operation of the building is required demonstrating compliance with this subsection as well as Part B: Section 18 – *Stormwater Management* of the DCP.

P3 Demonstrate how run-off from the site will be minimised and the quality of water leaving the site will be improved.

P4 Rainwater tanks should be installed for all developments, including major alterations and additions and mixed-use developments. Rainwater tanks should be plumbed to appropriate end uses, including toilet flushing, water features, car washing and garden irrigation, to ensure sufficient use of tank water so that capacity exists to accommodate rainwater from storm events.

P5 As a minimum, post-development stormwater discharge rates should be less than pre-development stormwater discharge rates.

P6 As a minimum, post-development stormwater quality should be improved from pre-development levels.

P7 On-site stormwater detention, including the use of grass swales and detention basins, should be pursued where practicable to minimise and filter stormwater runoff.

P8 Impervious surfaces should be minimised.

P9 Ensure paved areas are at least 50% pervious.

P10 In addition to a Stormwater Drainage Plan, residential developments with a gross floor area greater than 2000m² must also submit a Water Sensitive Urban Design report from a suitably qualified consultant demonstrating that WSUD has been incorporated to the maximum extent practicable and that stormwater discharge will be reduced to the maximum extent practicable.

P11 All developments with a gross floor area greater than 2000m² are to undertake a stormwater quality assessment to demonstrate that the development will achieve the post-development pollutant load standards indicated below:

(a) Litter and vegetation larger than 5mm: 90% reduction on the Baseline Annual Pollutant Load;

(b) Total Suspended Solids: 85% reduction on the Baseline Annual Pollutant Load;

(c) Total Phosphorous: 65% reduction on the Baseline Annual Pollutant Load;

(d) Total Nitrogen: 45% reduction on the Baseline Annual Pollutant Load.

3.5.8 Building Materials

Objectives

O1 To encourage the use of materials which have a low environmental impact during their life cycle.

O2 To encourage the use of toxin free material to minimise the health impact of materials used indoors.

Provisions

P1 Products with the least life cycle impact should be favoured.

P2 The use of the following types of building materials are to be maximised wherever possible:

(a) materials which are sourced from renewable and abundant resources;

(b) materials which are durable;

(c) locally manufactured materials and produced;

(d) materials with a low embodied energy content;

(e) salvaged and/or recycled materials;

(f) timber used be obtained from certified sustainable sources;

(g) materials with a high recycled content (>50%);

(h) low volatile organic compound (VOC) emitting materials;

(i) mechanical fixings instead of adhesives and glues, wherever possible;

(j) when using Medium Density Fibreboard, ensure that it has a low formaldehyde content;

(k) materials which are non-toxic, including toxin-free floor finishes.

P3 Avoid the use of the following:

(a) copper, chrome, cadmium, lead, mercury, cyanide, and formaldehyde;

(b) materials, sealants and adhesives containing PVC;

(c) wood treated with CCA;

(d) solvents.

P4 Use physical termite barriers (made of granite or stainless steel) instead of chemicals where possible.

3.5.9 Adaptive reuse of buildings

Objectives

O1 To encourage the adaption and reuse of buildings.

Provisions

P1 Where feasible, existing buildings are to be reused in preference to demolition.

P2 Buildings should be designed to encourage adaptable office floorspace to accommodate changing occupier requirements.

3.5.10 Hotwater systems

Objectives

O1 To ensure the most efficient water heating methods are used to assist in the reduction of greenhouse gas emissions and use of non-renewable resources.

Provisions

P1 New hotwater systems must not solely rely on electrical mains power to heat the water.

P2 Install solar powered water heaters. Solar powered water heaters may be either gas or electrically boosted, but boosting should be limited to a maximum of 50% of total heating requirement with the remainder of heating requirements achieved through solar gain.

P3 Where it can be demonstrated that insufficient solar access is available for a solar powered system install a heat pump or natural gas system.

P4 Locate solar cells, heat pumps or any associated structures so as to as avoid impact on the aesthetics of a building, the streetscape, or heritage significance of a building or conservation area.

P5 Where it can be demonstrated that the installation of a low greenhouse gas emission water heating system would require additional expenditure which is not cost-effective over a five year period other systems may be considered.

3.5.11 Green roofs

A green roof can comprise a roof system that is designed to promote the growth of various forms of vegetation, renewable energy production and/or water collection technology on the tops of buildings. Although a green roof is only one element of a building, it is extremely important when considering the long term sustainability of buildings and their impacts on the environment.

Green roofs can not only assist in minimising impacts on the environment but can also help to reduce a building's running costs.

Applicants are requested to consult the *North Sydney Council Green Roof and Wall Resource Manual* for technical guidance on the design, construction and maintenance of green roofs.

Objectives

O1 To provide accessible roof space providing increased amenity for the occupants and visitors of the building.

O2 To improve the aesthetics and amenity of the urban environment (this particularly relates to the appearance of the roof when viewed from surrounding buildings).

O3 To provide space to accommodate renewable energy production.

O4 To improve stormwater management by controlling both the quality and flow of stormwater.

O5 To increase biodiversity by the use of plant material, and in particular to promote food production where appropriate.

O6 To protect the building structure by increasing its thermal protection which will also help to reduce internal heating and cooling requirements.

Provisions

P1 Development applications for all new buildings or alterations and additions to an existing building that involves the creation of new roof spaces must submit a roof plan demonstrating how the new available roof space[5] contributes to the achievement of at least three of the above objectives.

P2 In satisfying provision P1 above, the roof plan must illustrate those parts of the available roof space to be used as a green roof immediately after construction of the proposed works and/or areas capable of being retrofitted for a green roof at a later date. Applicants are encouraged to accommodate green roofs immediately after construction.

3.5.12 Wind Turbines

Objectives

O1 To manage the impacts of wind turbines

Provisions

P1 Wind turbines are:

(a) not to involve the removal or pruning of a tree or other vegetation that requires a permit or development consent for removal or pruning, unless that removal or pruning is undertaken in accordance with a permit or development consent;

(b) to be clear from power lines in accordance with the requirements of the relevant electricity authority;

(c) not to affect the structural integrity of the building;

(d) should not detract from the significance of a heritage item or a heritage conservation area;

(e) not to be located along a bat or bird flyway; and

(f) to be installed in accordance with manufacturer's specifications.

P2 Wind turbines are not to cause the following LAeq levels to be exceeded in any nearby residential development (with windows closed):

(a) in any bedroom in the building—35 dB(A) at any time between 10pm and 7am;

(b) anywhere else in the building (other than a garage, kitchen, bathroom or hallway)—40 dB(A) at any time.

[5] *"Available roof space" excludes plant rooms, lift overruns and other equipment such as building maintenance units. Available roof space includes the roof tops of any podiums.*

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