PART B

ENVIRONMENT CONSIDERATIONS

PREFACE

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

Part B of this DCP contains objectives and development control provisions for the various environmental impact considerations that are applicable to different types of development.

The degree of relevance of each of the provisions in Part B varies between different types of development and different locations which needs to be taken into consideration.

Part B of the DCP comprises the following sections:

Section 1:	Topography
Section 2:	Visual Impact and Views
Section 3:	Biodiversity
Section 4:	Water
Section 5:	Solar Access
Section 6:	Visual Privacy
Section 7:	Operational Noise
Section 8:	Light Spill and Reflectivity
Section 9:	Wind and Air Quality
Section 10:	Environmental Sustainability
Section 11:	Contamination and Hazardous Materials

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SECTION 1 TOPOGRAPHY

1.1 EARTHWORKS

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 Habitable rooms (excluding bathrooms, laundries and storerooms) should not be located more than 1m below ground level (existing) for more than 50% of the room's floor area.

P5 Excavation should not occur within 1m of any property boundary. Where excavation is required within 500mm of a property boundary, Council must not grant development consent unless it is satisfied that the proposed excavation will not result in adversely impacting upon the structural integrity of adjoining properties.

Note: *In order to satisfy Council that the level of excavation is acceptable, it is recommended that applicants submit appropriate details from a structural engineer.*

P6 The depth of soil around buildings must be sufficient to sustain trees as well as shrubs and smaller scale gardens.

P7 Consent must not be granted to a development for the purposes of attached dwellings, dual occupancies, dwelling houses or semi-detached dwellings where any associated garage or car parking is located in a basement.

P8 Notwithstanding P7, Council may grant consent to a dwelling house, dual occupancy, attached dwelling or semi-detached dwelling incorporating a basement garage or car parking, but only where it can be demonstrated:

(a) that the development satisfies the objectives of this subsection; and

(b) that the entire basement is located entirely within the footprint of the building above; and

(c) there is no alternative location on the site to accommodate the required level of car parking.

P9 Consent must not be granted to a development for the purposes of multi dwelling housing or residential flat buildings in any residential zone, where the excavation for any associated garages, car parking, plant rooms or ancillary storage and access thereto exceeds 70% of the site area.

P10 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.

P11 Basement car parks, where permitted, must not extend to the full width of a site.

1.2 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 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 3 – *Biodiversity* 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.*

SECTION 2 VISUAL IMPACT & VIEWS

2.1 VISUAL IMPACT - ACCESS

Objectives

O1 To minimise adverse visual effects as viewed from the harbour.

Provisions

P1 Landscaping should be used to soften the appearance of structures such as inclinators.

P2 Structures such as inclinators should be recessed below the ground level (existing).

P3 The use of pathways and graded ramps is preferable to the use of inclinators for access. Where inclinators are to be used, they must be minimised in length.

2.2 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.

The ability to share views becomes increasingly more difficult in locations of existing or anticipated areas of high density (e.g. North Sydney Centre, St Leonards and Milsons Point). Whilst no-one is entitled to a view, attempts should be made to consider the potential impact on existing views and share those where reasonably possible.

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 existing views and vistas from streets and other public spaces.

O2 To provide additional views and vistas from streets and other public spaces where opportunities arise.

O3 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 Development should be designed such that views from streets and other public places, as identified in the relevant Planning Area Character Statement and Locality Area provisions (refer to Part F of the DCP), are not unreasonably obstructed.

P2 Use setbacks, design and articulation of buildings to maintain and where practical enhance street views, views from public areas and those identified in the relevant Planning Area Character Statement and Locality Area provisions (refer to Part F of the DCP).

P3 Development should be designed to promote the sharing of views from surrounding residential properties and public places.

P4 Where appropriate, the opening up of views should be sought to improve the legibility of the area.

P5 Ensure that existing and proposed dwellings will have an outlook onto trees and sky.

P6 In commercial premises, provide public or semi-public access to top floors where possible (e.g. restaurants, roof top gardens and facilities).

P7 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.html*).

SECTION 3 BIODIVERSITY

3.1 TREE & VEGETATION MANAGEMENT

3.1.1 Introduction

Vegetation, particularly mature trees, can contribute significantly to an area's character. In particular, they have exceptional value visually, culturally, economically and intrinsically. North Sydney has a leafy character, established through the interconnection of many canopy trees distributed across road reserves, parks, bushland areas and private property.

The quality of the vegetation has an enormous impact on the quality of life of all those who live or work in North Sydney. The obvious aspects of aesthetics, oxygen production and pollution reduction are supported by many other more subtle functions, such as traffic calming, privacy, reduced energy consumption, recreation, habitat and shade.

New development provides opportunities to reinforce this leafy character and embellish North Sydney's strong "sense of place" by planting appropriate trees as part of a development. It is the responsibility of the developer to provide appropriate landscaping to achieve these objectives.

Section 3.1 to Part B of the DCP also identifies those instances where a permit is required to remove or prune trees and vegetation. Council also enforces a long established policy regarding the unlawful damage to or removal of existing trees and vegetation within the LGA, regardless of whether they are located on public or private land.

3.1.1.1 General objectives

The objectives of Section 3.1 to Part B of the DCP are to:

O1 Declare trees and vegetation for the purposes of Part 2.3 of *SEPP (Biodiversity and Conservation) 2021*.

O2 Maintain the visual, social and environmental amenity of the area through the management of trees and other vegetation.

O3 Maintain and increase the totality of trees and vegetation across the North Sydney area by embracing the principles of Urban Forest Management, green (habitat) corridors and Continuous Cover Arboriculture.

O4 Ensure the planting of adequate numbers of appropriate trees in association with new development in the North Sydney area.

O5 Promote the value of and the need for the protection of trees and vegetation to the community, developers and Council staff and encourage the reporting of tree vandalism.

O6 Protect existing trees and vegetation during construction of development.

O7 Minimise the risk of injury to people or damage to property from trees and vegetation.

O8 Recognise the financial value of trees and vegetation.

O9 Ensure that vegetation is not used to unreasonably reduce the amenity of adjoining properties in terms of access to sunlight and views.

3.1.1.2 When does this section of the DCP apply?

Section 3.1 to Part B of the DCP applies when intending to prune, remove or replace trees or vegetation on their own or as part of undertaking a development or action that will impact on trees and vegetation, when Development Consent or a Tree Management Permit is required. These controls apply to trees and vegetation on all land within the LGA whether it is in public or private ownership.

Section 3.1 to Part B of the DCP also provides advice with respect to maintaining of vegetation on adjoining properties where existing vegetation may be impacted upon by development or has unreasonably reduced the amenity of a property through the reduction of access to sunlight or views.

3.1.1.3 Relationship to other documents and planning policies

Where relevant, Section 3.2 to Part B of the DCP should be read in conjunction with the following:

(a) ***SEPP (Biodiversity and Conservation) 2021***

In particular, consideration should be given to *Part 2.2 – Clearing vegetation in non-rural areas* and *Part 2.3- Council permits for clearing of vegetation in non-rural areas*.

(b) ***North Sydney Council Street Tree Strategy***

A management document that provides the framework and guidelines to ensure that all street trees are managed in accordance with industry best practice, such that they maximise their benefits to the North Sydney community.

(c) ***Council's Infrastructure Specification Manual for Roadworks, Drainage & Miscellaneous Works***

This document provides technical specifications regarding the supply, installation and establishment of trees and vegetation in the North Sydney Council area.

(d) ***North Sydney Council Urban Forest Strategy***

A strategic document developed to maintain and increase the level of canopy cover across the North Sydney area to maximise all of the known benefits that trees provide to the wider community.

(e) ***North Sydney Tree Vandalism Policy***

A policy document that sets out the procedures to be followed when an instance of tree vandalism is identified, including such things as investigations, letterbox drops, signage, rehabilitation and prosecutions.

(f) ***North Sydney Natural Area Survey***

A survey undertaken to identify all significant vegetation types located on public and private land throughout the LGA and their quality. The survey data has been subsequently mapped and is available on Council's website (*www.northsydney.nsw.gov.au*). This survey gets updated from time to time.

(g) ***Australian Standard AS4373-2007 - Pruning of amenity trees***

This Standard provides arborists, tree workers, government departments, property owners, and contractors with a guide defining uniform tree pruning procedures and practices in order to minimize the adverse or negative impact of pruning on trees.

(h) ***Australian Standard AS4970-2009 – Protection of trees on development sites***

This Standard provides guidance for arborists, architects, builders, engineers, land managers, landscape architects and contractors, planners, building surveyors, those concerned with the care and protection of trees, and all others interested in integration between trees and construction. It describes the best practices for the planning and protection of trees on development sites. The procedures described are based on plant biology and current best practices as covered in recently published literature.

3.1.1.4 Additional permits

Where an applicant seeks to plant trees on public property, they may also be required to obtain additional permits under s.68 of the *Local Government Act 1993* and/or s.138 of the *Roads Act 1993*. Inquire with Council to ascertain if the permits are required.

Council does not encourage the ad-hoc planting of trees on public land by individuals however a "Streets Alive" community greening program is in place. This program allows

residents to plant and maintain vegetation on public land under the approval and guidance of specialist Council officers. The residents are provided free of charge with horticultural expertise, plants, soils, mulch and any other necessary materials in return for their labour to install and maintain the vegetation. Planting of shrubs and trees in and around public bushland areas is a regular activity under Council's "Bushcare" program, where over 50Ha of remnant bushland and buffering habitat is under active rehabilitation.

3.1.2 Controls for the Management of Trees and Vegetation

North Sydney Council has adopted a tree and vegetation management policy which aims to prevent the unlawful removal, pruning or destruction of trees and vegetation in the North Sydney LGA. This policy is enforced though *Part 2.2 – Clearing vegetation in non-rural areas* and *Part 2.3 - Council permits for clearing of vegetation in non-rural areas* of *SEPP (Biodiversity and Conservation) 2021* and this Section of the DCP.

The policy requires a property owner to first obtain *Development Consent* or a *Tree Management Permit* prior to the removal or pruning of declared trees or vegetation. The requirement to obtain Development Consent will only be required to remove or prune declared trees or vegetation where undertaken in conjunction with other works that also require development consent (e.g. erection of a dwelling house). Trees and vegetation that are not declared may be removed or pruned without the need for Development Consent or a Tree Management Permit (i.e. those works permitted by *SEPP (Biodiversity and Conservation) 2021* and this DCP).

Before removing, pruning or proposing development within 5m of a tree in North Sydney, residents and/or contractors are advised to contact Council to determine whether they need to obtain a Tree Management Permit or Development Consent.

Where a Tree Management Permit is required, an application is to be made to Council using the appropriate form. Once Council has received a completed application form, an on-site tree inspection of the relevant tree(s) or vegetation by one of Council's Tree Management Officers will be undertaken.

If the application is approved, a Tree Management Permit will be sent to the applicant and may include specific conditions that must be complied with.

If the application is refused, Council will advise the applicant in writing and may include information as to how the matter may be reviewed, including the potential to submit an Appeal to the Land and Environment Court under section 2.12 of *SEPP (Biodiversity and Conservation) 2021*.

Where a Development Consent is required, the applicant will be advised by one of Council's Planning Officers as to what information will be required.

3.1.2.1 Objectives

O1 To maintain the visual, social and environmental amenity of the area through the preservation of trees and other vegetation.

O2 To identify when Council approval is required under the provisions of *SEPP (Biodiversity and Conservation) 2021* to prune, remove or replace trees or vegetation.

O3 To identify declared trees and vegetation for the purposes of *Part 3- Council permits for clearing of vegetation in non-rural areas* under *SEPP (Biodiversity and Conservation) 2021*.

O4 To make the community aware of the implications for the unlawful removal, pruning or wilful destruction of trees and vegetation within the LGA.

3.1.2.2 Provisions

Approvals General

P1 Pursuant to *Part 2.2 Clearing vegetation in non-rural areas* and *Part 2.3 - Council permits for clearing of vegetation in non-rural areas* under *SEPP (Biodiversity and*

Conservation) 2021, Development Consent or a Tree Management Permit **is not required** for removal or pruning any of the following:

(a) non-declared trees or vegetation (i.e. comprising all trees and vegetation that do not meet the criteria under provision P2 below);

(b) trees or vegetation that are adequately justified to be dead as confirmed in writing by a qualified arborist (minimum AQF level 3) or qualified Horticulturalist (minimum AQF Certificate 3) and where the tree or vegetation is not required as the habitat for native animals[1];

(c) pruning of deadwood from a tree or vegetation, including dead palm fronds;

(d) maintenance pruning of trees whereby:

  (i) no more than 10% of the existing crown volume is removed; and

  (ii) branches no more than 100mm in diameter are removed and those branches are:

    a. not located more than 2.4m above ground level where they adjoin the trunk of the tree, or

    b. located within 1m of existing buildings (including eaves and gutters); and

  (iii) all work is undertaken in accordance with the Australian Standard for Pruning of Amenity Trees (AS 4373-2007).

(e) maintenance pruning of hedges:

  (i) where the hedge is less than 5m in height; or

  (ii) where the hedge is 5m or greater in height, but only where all work is undertaken in accordance with the Australian Standard for Pruning of Amenity Trees (AS 4373-2007) and must be conducted by a qualified Arborist (minimum AQF Level 3);

(f) trees or vegetation identified as a biosecurity risk (formerly known as noxious weeds) under the *Biosecurity Act, 2015*, except where that tree or vegetation is greater than 10m in height;

(g) trees or vegetation that are being maintained or removed by North Sydney Council staff (or their sub-contractors) on land under Council's ownership or care and control;

(h) trees or vegetation that have been authorised to be removed or pruned pursuant to a Development Consent issued under the *EP&A Act*, but not prior to the issue of a Construction Certificate relating to that Development Consent;

(i) trees or vegetation that are growing inside a building, where there is a roof over the tree (e.g. within an atrium or internal garden bed);

(j) the following tree and vegetation species:

  (i) African Olive Trees (Olea Africana);

  (ii) Bamboo (Bambusa species);

  (iii) Box Elder (Acer negundo);

  (iv) China Doll (Radermachia sinica);

  (v) Cocos Palms (Syagrus romanzoffiana);

[1] *Written justification is required prior to the removal or pruning of the tree(s) or vegetation, copies of which must be kept on hand by the property owner and the person undertaking the removal or pruning.*

(vi) European Nettle or Hackberry (Celtis sp) – except on land identified as a heritage item under cl.5.10 of NSLEP 2013;

(vii) Indian Coral Tree (Eryrthina x sykesii) – except on land identified as a heritage item under cl.5.10 of NSLEP 2013;

(viii) Privet species (Ligustrum sp) – except on land identified as a heritage item under cl.5.10 of NSLEP 2013;

(ix) Rubber Trees (Ficus elastica);

(x) Tree of Heaven (Ailanthus sp);

(xi) Umbrella Trees (Schefflera sp); or

(xii) Willow Trees (Salix spp) – except on land identified as a heritage item under cl.5.10 of NSLEP 2013.

P2 Development Consent or a Tree Management Permit **is required** in accordance with *SEPP (Biodiversity and Conservation) 2021* for the removal or pruning of a declared tree or vegetation. The **following trees and vegetation are declared for the purposes of this DCP**:

(a) any tree or vegetation on public land, regardless of size;

(b) any tree or vegetation with a height of 5m or more, or a crown width of 5m or more, or a trunk circumference of 500mm or more measured at ground level (existing);

(c) any tree identified as a biosecurity risk under the *Biosecurity Act, 2015* and is greater than 10m in height;

(d) any of the following species of trees or vegetation on land identified as a heritage item under cl.5.10 of NSLEP 2013 regardless of size:

(i) Bangalow Palms (Archontophoenix cunninghamiana sp);

(ii) European Nettle or Hackberry (Celtis sp);

(iii) Indian Coral Tree (Eryrthina x sykesii);

(iv) Kentia Palms (Howea forsteriana sp);

(v) Privet species (Ligustrum sp);

(vi) Willow Trees (Salix spp).

P3 Council, in determining an application for Development Consent or a Tree Management Permit under *SEPP (Biodiversity and Conservation) 2021*, must have regard to:

(a) the health or condition of the tree or trees, whether the tree is dead or dangerous, its proximity to existing or proposed structures, interference with utility services, interference with the amenity of any person or property;

(b) the necessity for action in order to construct improvements to the property the subject of the application to achieve reasonable development;

(c) the effects in the nature of erosion, soil retention or diversion or increases to overland flow;

(d) the number of trees in the surrounding area and the effect on the amenity of that area;

(e) the number of healthy trees that a given parcel of land will support;

(f) whether the trees or vegetation in question provide habitat for fauna and/or canopy connectivity; and

(g) any potential impacts to heritage items and/or heritage conservation areas.

P4 In determining its approval under P2 and P3 Council may request the applicant to submit additional supporting documentation (e.g. an arborist report prepared by a

qualified arborist with a minimum AQF Level 5 or engineering report) to justify the removal of the tree or vegetation.

P5 Council does not support the removal of trees or vegetation as a result of:

(a) leaf, fruit, flower, bark, cone or twig drop; or

(b) blocked or damaged water, sewer or stormwater drainage pipes; or

(c) cracking of driveways, footpaths, paving or fences; or

(d) issues arising from roosting, nesting or browsing fauna.

P6 Despite P5 above, Council may consider on merit the removal of trees or vegetation which result in the blocking of water, sewer or stormwater pipes or the cracking of driveways, footpaths and paving if there are no permanent repair solutions available (e.g. where tunnelling or re-sleeving of pipes, or removal of roots is not feasible). Council must not determine an application to which this clause applies, unless it has considered additional supporting documentation (e.g. an arborist report prepared by a qualified arborist with a minimum AQF Level 5 or engineering report) supplied by the applicant to justify the removal of the tree or vegetation.

P7 Branches of trees and vegetation located on private property that overhang public footpaths and roadways should be pruned back to the property boundary to a height of 2.4m (8ft) above ground level (existing). Pruning of these trees is the responsibility of the property owner. Where the tree or vegetation to be pruned comprises a declared tree or vegetation, Council's consent must be obtained prior to pruning.

P8 Where Council approves the issuing of a Development Consent or Tree Management Permit in accordance with this Section and *SEPP (Biodiversity and Conservation) 2021*, Council may impose a condition which requires:

(a) the replanting of replacement trees or vegetation on the land subject to the application; or

(b) where there is insufficient space on the development site:

(i) the replanting of replacement trees or vegetation in a specified location on public land; or

(ii) payment of a fee from the applicant to fund Council's planting of such trees on public land.

Replacement tree species will be specified by Council and will be of a type suitable for the site.

Fees associated with planting trees on public land shall be calculated based on the industry accepted average price to supply, install, and maintain for 13 weeks a containerised tree of the size specified by the assessing officer but that size shall be not less than 45 litres. Council's Infrastructure Specifications for Miscellaneous works contains Council contractor schedule of rates. The average price from the schedule will be used.

P9 All work must be carried out in accordance with Australian Standard *AS4373-2007: Pruning of Amenity Trees* and Council may condition that the work be carried out by a qualified arborist (minimum AQF Level 3) or a qualified horticulturalist (minimum AQF Certificate 3).

P10 Any Tree Management Permit issued by Council will be valid for the described work only, provided it is carried out within a 12 month period from the date of issue and may be subject to such conditions as required by Council. Tree or vegetation removal or pruning permitted under a Development Consent may have a longer timeframe imposed in accordance with the EP&A Act.

P11 Where a development application is lodged after a Tree Management Permit has been issued but prior to approved tree work taking place, that Permit becomes null and void and will be reassessed through the development assessment process.

Approvals for non-essential pruning work

P12 Council may approve a request from the public to prune trees located on public land in the immediate surrounds of the property upon which the applicant resides for 'cosmetic' or non-essential pruning for such purposes as aesthetics, increased sunlight or views, but only where such pruning:

(a) will not affect the health or integrity of the tree;

(b) will not have an adverse impact on the streetscape;

(c) will not have an adverse impact on the general safety of the public;

(d) is carried out in accordance with Australian Standard AS 4373-2007 – *Pruning of Amenity Trees* by a qualified arborist (minimum AQF Level 3);

(e) is done under the supervision of a council officer if deemed necessary by Council (minimum 5 days notice required).

P13 Non-essential pruning work will not be permitted on any vegetation growing on land zoned *C2 Environmental Conservation* or other public land managed by Council as bushland.

P14 Council will not support applications for tree or vegetation removal for the sole purpose of facilitating solar access to new solar photovoltaic or hot water systems. However, Council may consider applications for pruning trees or vegetation to enable solar access to existing solar photovoltaic or hot water systems to be maintained on a case by case basis, provided the proposed works are carried out in accordance with Australian Standard *AS4373-2007 - Pruning of Amenity Trees*.

Penalties

P15 Pursuant to s.629 of the *Local Government Act 1993*, an on-the-spot fine may be imposed for the injury or unnecessary disturbance of trees and vegetation on public land including road reserves without a lawful Development Consent or Tree Management Permit. This specifically relates to street trees, foreshore reserves, bushland and public open spaces.

P16 Pursuant to s.9.37 and Division 9.6 of the *EP&A Act*, an on-the-spot fine or court proceedings may be imposed for the injury, unnecessary disturbance or removal of trees and vegetation on private land without a lawful Development Consent or Tree Management Permit.

P17 Breaches of the requirements to P15 and P16 above, may result in prosecution with maximum penalties of $1.1million. Fines may be imposed on the resident, property owner, anyone ordering the work and/or contractors employed to undertake the works if they do not have a lawful Development Consent or Tree Management Permit.

P18 The resident, applicant, property owner and any contractor involved in the cutting down or pruning of any tree protected by this DCP, must have a copy of the current and valid Tree Management Permit or Development Consent displayed in a publicly accessible location of the site during the undertaking of those works.

P19 Rehabilitation and maintenance of tree vandalism sites is to be carried out in accordance with Council's Tree Vandalism Policy.

Note: *The extent of the penalty that may be imposed is set out within Council's Tree Vandalism Policy.*

3.1.3 Management of Trees and Vegetation on Adjoining Properties

Property owners generally have the ability to plant any type of trees or vegetation they like upon their property. Most species of trees and vegetation can be planted without development consent.

Whilst this is not normally a problem in itself, trees and vegetation on adjoining properties have the ability to result in damage to property or have the potential to cause damage to property or injury of persons utilising adjoining land. In addition, some property owners

have been known to plant trees or vegetation to purposely obstruct sunlight or views to adjacent properties, often known as "hedge rage" or "spite hedges".

Provisions under the *Tree (Disputes Between Neighbours) Act 2006* provide adjoining land owners in certain circumstances the ability to commence proceedings in the Land and Environment Court to have the subject trees or vegetation removed or lopped, amongst other remedies.

Affected persons are advised to consult the *Tree (Disputes Between Neighbours) Act 2006* to determine the most current criteria as to when proceedings can be commenced or what matters need to be considered.

3.1.3.1 Trees that cause or are likely to cause damage or injury

Part 2 of the *Tree (Disputes Between Neighbours) Act 2006* generally enables proceedings to commence. The Court must be satisfied that the subject tree has caused, is causing, or is likely in the near future to cause, damage to the applicant's property, or is likely to cause injury to any person.

Prior to the Court determining whether to issue orders or not, it must consider:

- if the applicant has made a "reasonable effort" to reach agreement with the owner of the land on which the trees are situated; and
- 13 individual matters for consideration under s.12 of the *Tree (Disputes Between Neighbours) Act 2006*, including but not limited to issues pertaining to location, biodiversity, heritage, social value, impacts from pruning and contribution to amenity.

The Court has broad remedial powers ranging from remedying any damage, payment of compensation for damage or injury, requiring actions to prevent injury to persons, requiring the tree (or parts of it) to be removed entirely, to having it lopped and maintained, to replacement of the tree(s), and includes the payment of costs for carrying out such works.

3.1.3.2 High hedges that obstruct sunlight or views (spite hedges)

Part 2A of the *Tree (Disputes Between Neighbours) Act 2006* generally enables proceedings to commence, but only where:

- it applies to two or more trees that are planted so as to form a hedge (i.e. does not apply to a single tree);
- the hedge has a minimum height of 2.5 metres above ground level (existing);
- the hedge does or will result in a "severe obstruction" of:
    - sunlight to a window of a dwelling situated on adjoining land, or
    - any view from a dwelling situated on adjoining land,

Prior to the Court determining whether to issue orders or not it must consider:

- if the applicant has made a "reasonable effort" to reach agreement with the owner of the land on which the trees are situated; and
- 19 individual matters for consideration under s.14F of the *Tree (Disputes Between Neighbours) Act 2006*, including issues pertaining to biodiversity, heritage, sunlight, views, privacy, location and length of time the hedge has existed.

The Court has broad remedial powers ranging from requiring the hedge (or parts of it) to be removed entirely, to having it lopped and maintained at a certain height, to replacement of the trees with another specified species, and includes the payment of costs for carrying out such works. These potential solutions should be kept in mind when making "a reasonable effort" to reach agreement with a neighbour, because in some instances it may not be "reasonable" to insist on full removal of trees/hedges if other more appropriate and equally effective solutions are available.

3.1.4 Protection of Trees During Construction

3.1.4.1 Objective

O1 To ensure that all trees in the public domain and on private property (both the site of development and neighbouring properties) are adequately protected during construction of developments.

3.1.4.2 Provisions

Where applicable, development applications are required to detail the location and type of any tree or vegetation to be removed and any effect on the landscape and streetscape the development may have. Refer to the development application form for further information.

General

P1 Existing trees should be retained and incorporated into proposed developments wherever the existing trees are of appropriate species and have an adequate life expectancy.

P2 Where trees are identified to be retained, they must be protected during construction in accordance with Australian Standard *AS4970 - Protection of trees on development sites* and best practice.

P3 An arborist report (prepared by a qualified arborist with minimum AQF Level 5) is required to be submitted with any development application where works are proposed within the Tree Protection Zone of a tree or where Council deems the vegetation on site is significant enough to warrant such a report.

P4 Where an existing tree(s) is approved for removal as part of a development, adequate space in the landscaped area is to be provided for an equivalent replacement canopy tree(s) appropriate to the site and scale of development.

Aerial photos shall be used to calculate the existing canopy cover across a site prior to development. The number and mature size of replacement trees must equal the total pre-development canopy cover. Where this cannot be achieved on site, P5 to Section 3.1 to Part B of the DCP shall be applied.

P5 Where insufficient space is available on the development site and significant canopy has been removed as part of the development, Council may require the planting of equivalent canopy replacement trees on public land or require payment of a fee to enable Council to undertake equivalent canopy replacement planting on public land.

That fee will be calculated based on the industry average cost to supply and install equivalent size replacement tree(s) plus 13 weeks maintenance. Refer to P8 to Section 3.1.2.2 to this Part of the DCP.

Bonds

P6 A tree bond may be required if trees are located in close proximity to a proposed development.

P7 The bond shall be lodged with the Council for each tree likely to be affected by the development, the bond amount to be forfeited if the identified tree is removed, destroyed or damaged. A minimum bond of $1,000.00 per tree will be applicable.

P8 Bonds must be lodged prior to any work commencing on site and will generally be held for a period of 12 months after completion of the development.

P9 Bonds will be refunded upon receipt of a tree condition report from a suitably qualified arborist (minimum AQF Level 5) confirming that the tree is in good health, prior to issuing an Occupation Certificate.

P10 The maximum bond amount will be the value of each tree calculated using an industry accepted Valuation Method.

Construction Hoardings

P11 When giving consideration to the issue of a Permit for the erection of a hoarding on Council property, Council will consider the likelihood of damage to trees, both on public and private property.

P12 Hoarding applications are to be accompanied by a plan(s) accurately locating any adjacent trees within 10m of the proposed hoarding.

P13 A tree bond may be required, if a tree(s) is located in close proximity of a proposed hoarding, the bond amount to be forfeited if the tree is removed, destroyed or damaged.

P14 Hoardings should be designed and erected to protect existing trees to clearances approved by Council and/or any conditions imposed by Council.

Works in Association

P15 Works in association are Council funded tree works on public property that may be combined with developer funded tree works for the purpose of integrating the streetscape. Council may contribute money to the developer to build works in association subject to it being in the public interest.

P16 Where two or more adjoining developments are under construction simultaneously, Council may offer to plant trees and/or install protection works for all developments in the interests of achieving an integrated and coordinated streetscape subject to the developer contributing money to Council to build these works. This is seen as adding value to the community dollars spent.

3.2 BUSHLAND

3.2.1 Introduction

North Sydney's bushland contributes to an attractive environment in which to live and:

(a) is a popular recreational resource, playing an important role in wildlife conservation;

(b) is an integral part of the harbour foreshore scenery; and

(c) contributes to the enjoyment of adjoining properties.

There are approximately 49 hectares of bushland in North Sydney with 47 hectares contained within public reservations. While bushland is typically located in narrow strips bordering urban development, there are some significant larger areas such as Balls Head.

Bushland is under pressure from both within and outside the bushland reserve system. Without significant commitment to the management of bushland degradation, biodiversity loss will continue to occur, resulting ultimately in increased costs for rehabilitation and maintenance and loss of ecosystem services. The high population density of North Sydney and limited opportunities for future open space reservations increase the need to effectively manage precious remnant bushland. As such, a holistic approach to bushland management needs to be taken.

Studies have found higher levels of bushland degradation occur along a bushland's boundary with residential properties. This is associated with excess runoff, dumping of imported fill soil and vegetation, siltation, leaching of fertilisers, infestation of introduced plant species, vegetation clearance and tree vandalism, unnatural fire regimes and inappropriately managed domestic animals.

Residents with properties adjoining bushland are encouraged to maintain their property in a way which complements the values and condition of adjoining bushland through providing additional habitat for indigenous flora and fauna. Volunteer Bushcare groups and Council staff undertake significant bushland rehabilitation activities within public reserves.

Council offers support to residents through the Bushcare Program that includes expert technical advice and training in bush rehabilitation, habitat creation, fauna management and home native gardening.

For further detailed information on this assistance, please contact Council's Bushland Management Co-ordinator or visit Council's website (*www.northsydney.nsw.gov.au*).

Whilst bushland can contribute to a pleasant visual outlook, it can also pose a risk to the loss of life or property in the event of a bush fire. Careful planning of development and regular vegetation maintenance is required to ensure this risk is minimised.

The provisions in Section 3.2 to Part B of the DCP aim to assist in the appropriate design and management of land adjoining bushland.

The provisions also complement the management of bushland areas by Council and the community. The provisions are compatible with the long term conservation and management of remnant bushland in accordance with Council's *Bushland Plan of Management* (under the *Local Government Act 1993*) and the principles and objectives of Chapter 2 – Vegetation in non-rural areas to *SEPP (Biodiversity and Conservation) 2021*.

3.2.1.1 General Objectives

The general objectives of Section 3.2 to Part B of the DCP are to:

O1 preserve, manage and rehabilitate bushland for its ecological, cultural, historical, scientific, educational, archaeological, geological, recreational, scenic and visual values;

O2 protect and enhance viable native fauna populations and their habitats;

O3 preserve remnant bushland on private properties;

O4 avoid and mitigate adverse affects on bushland associated with urban development;

O5 ensure that private landscaped areas complement bushland by providing food and habitats for fauna, reducing water and fertilizer requirements and maximising the use of locally indigenous vegetation species;

O6 ensure that vegetation is managed and maintained to reduce potential bush fire attack to residential dwellings.

3.2.1.2 When does this section of the DCP apply?

Section 3.2 to Part B of the DCP applies to development on land within the North Sydney LGA which is identified as *C2 Environmental Conservation*, Area A or Area B on the Bushland Buffer Map located in Figure B-3.1 at the end of this Section.

3.2.1.3 Relationships to other policies and documents

Where relevant, Section 3.2 to Part B of the DCP should be read in conjunction with the following:

(a) Commonwealth Environment Protection & Biodiversity Conservation Act, 1999 (*EP&BC Act*);

(b) NSW Environmental Planning and Assessment Act, 1979 (*EP&A Act 1979*);

(c) NSW Environmental Planning and Assessment Regulation 2021 (*EP&A Regulation 2021*);

(d) NSW Biodiversity Conservation Act (*BC Act 2016*);

(e) NSW *National Parks and Wildlife Act 1974*;

(f) NSW *Rural Fires Act 1997*;

(g) NSW Rural Fire Service's *Planning for Bush Fire Protection* (as amended);

(h) NSW *Biosecurity Act 2015*;

(i) NSW *Companion Animals Act 1998*;

(j) Protection of the Environment Operations Act 1997 (*POEO Act*);

(k) Chapter 2 – Vegetation in non-rural areas to *SEPP (Biodiversity and Conservation) 2021*;

(l) North Sydney Council's *Bushland Plan of Management*; and

(m) North Sydney Council's *Bushland & Fauna Rehabilitation Plans*.

3.2.2 Building design and siting

Each property has a different relationship with the adjoining bushland in terms of the size of a property's boundary with the bushland, the extent of existing development, the available landscaped area and the topography. In site planning and building design these differences need to be taken into consideration to ensure that development complements the bushland character and is appropriately set back from the boundary with the bushland.

3.2.2.1 Siting and design

Objectives

O1 To minimise any impacts of development on nearby bushland.

O2 To ensure landscaping protects and enhances North Sydney's urban biodiversity.

O3 To minimise the risk of loss of life or property in the event of a bush fire.

Provisions

P1 Development located within Area A as shown on the Bushland Buffer Map (refer to Figure B-3.1) that adjoins or is adjacent to (i.e. includes land that is located on the opposite side of a road) land zoned *C2 Environmental Conservation* must be setback a minimum of 10m from all bushland boundaries.

P2 Buildings and structures should be sited and designed to minimise any negative impacts on, and be complementary to, nearby bushland.

P3 Landscaped areas, as required under this DCP, should be predominantly concentrated at the boundary with bushland in order to create a buffer between the bushland and development.

P4 Sites with one or more boundaries adjoining bushland will be given special consideration, in terms of setbacks and location of landscaped area.

P5 Buildings and other structures, such as swimming pools and decks, should not be located directly adjacent to bushland. However, minor works relating to landscaping and stormwater containment may be appropriate adjacent to bushland, providing the initial and ongoing impacts on bushland are considered negligible by the Council.

P6 Buildings and structures must be designed to respect the topographical features of the site (e.g. buildings should not be cantilevered, but step down with the topography).

P7 Fencing should not incorporate a continuous foundation at its base along the boundary of a site adjacent to bushland, in order to reduce the impact of construction and improve visual aesthetics on the adjoining bushland.

P8 Do not excavate, fill, level or retain land adjacent to bushland.

P9 Access to proposed developments through or across land zoned *C2 Environmental Conservation* will not be permitted under any circumstances.

3.2.2.2 Bushland and Bushfire Hazard Management

Objectives

O1 To minimise the risk of loss of property and life through a bushfire.

O2 To maintain the landscape and environmental qualities of a locality.

Provisions

P1 Development of bushfire prone land as identified on Council's Bush Fire Prone Land Map must conform to the specifications and requirements of *Planning for Bush Fire Protection* (as amended) produced by the Rural Fire Service.

Note: *Not all properties located adjacent to land zoned C2 Environmental Conservation are Bush Fire Prone Land.*

P2 Landscape design at the bushland interface should seek to achieve the dual objectives of bushfire mitigation and biodiversity conservation by protecting remnant vegetation and enhancing habitat opportunities.

P3 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 land.

P4 Properties adjoining bushland not designated as 'bushfire prone' should consider bushfire threat mitigation in regard to building location and landscaping design/species selection.

P5 Sites are to be maintained where possible to minimise bushfire hazard without unduly altering the natural qualities of the area.

P6 Unencumbered access to bushfire prone properties is to be provided to assist in mitigating bushfire hazards.

3.2.2.3 Materials and colours

Objectives

O1 To minimise the visual impact of development upon bushland settings.

Provisions

P1 Materials should complement the bushland setting.

P2 Use colours and materials that are non-reflective and earth toned or selected to blend with the colours of the bushland.

3.2.3 Landscaping and stormwater management

The character of the bushland adjoining a residential property can be reflected in landscaping on that property through the compatibility of plant species, the preservation of existing trees and remnant bushland on the property and by limiting the amount of levelling, cutting and filling.

Local indigenous plants require much less fertiliser and water than exotic plants and provide food and habitat for local fauna species. The regular use of fertiliser will contaminate nearby bushland and water courses.

The potential for excessive storm water run-off and soil erosion occurs when vegetation cover is removed especially during urban construction or land development, and in the subsequent earth movement and land shaping that follows. Sediment moved in this way can destroy bushland and encourage the spread of weeds and exotic plants. For those properties with a boundary to bushland, effective stormwater management and sediment control can reduce the spread of introduced species both within the bushland and on properties with a bushland boundary.

Appropriate species selection will also assist in the uptake of water from any absorption pits and may reduce erosion during prolonged wet periods when absorption trenches overflow.

3.2.3.1 Weeds

Objectives

O1 To ensure that environmental and biosecurity weeds do not spread into bushland areas.

Provisions

P1 Environmental and biosecurity weeds (as listed on Council's website – *www.northsydney.nsw.gov.au*) must be eradicated from the property before the commencement of works.

P2 Locally indigenous vegetation species should not be removed from the boundary of a site.

P3 Land adjoining bushland should not remain un-vegetated for any period of time.

P4 All weeds must be fully and continuously suppressed for the duration of the development.

P5 Weed control must not adversely affect existing native vegetation on the site (or on adjoining land).

3.2.3.2 Landscaping design

Objectives

O1 Ensure that landscaping complements the adjoining bushland character and species.

O2 To ensure that landscaping on properties directly adjoining or opposite bushland not designated as bushfire prone meets the dual objectives of bushfire hazard mitigation and biodiversity conservation.

Provisions

P1 Retain any bush-rock in-situ or if removed re-use on-site.

P2 Retain the natural soil profile as much as possible.

P3 Use landscaping that will reduce potential fire hazards such as a disconnection between vegetation layers (i.e. ground covers, shrubs and canopy.

P4 Trees are planted in clumps, not with a continuous canopy between the bushland interface and the building line.

P5 Landscaping is maintained through fuel reduction, overhangs on roofs clipped, mulch minimised and garden well watered.

P6 Landscape design on properties adjoining non-bushfire prone bushland should achieve biodiversity objectives without exposing the property to increased bushfire risk. Guidance for achieving this provision can be found in the RFS's *Planning for Bush Fire Protection* (as amended).

3.2.3.3 Indigenous vegetation

Objectives

O1 To enhance the habitat of local flora and fauna species.

O2 Indigenous trees and plants are preserved.

Provisions

P1 Developments located within Area A as shown on the Bushland Buffer Map (refer to Figure B-3.1) that are required to incorporate a 10m wide vegetated buffer to bushland boundaries must submit a landscape plan to Council showing that the buffer will be vegetated using 100% local native species (as listed on Council's website). Landscape plan design should be species diverse and incorporate a range of vegetative layers that enhance the habitat value of the landscaped area for local wildlife.

P2 Developments located within Area A as shown on the Bushland Buffer Map (refer to Figure B-3.1) that will significantly alter existing vegetation, ground levels, or drainage conditions must submit a landscape plan to Council with at least 80% of the overall number of trees, shrubs and groundcovers being locally occurring native species (as listed on Council's website). The landscape plan design should be species diverse and incorporate a range of vegetative layers that enhance the habitat value of the

landscaped area for local wildlife. Exemptions may apply for heritage properties or properties within a heritage conservation area.

P3 Sites containing remnant bushland greater than 500m^2 must submit a Bushland Rehabilitation Plan prepared by a suitably qualified ecological consultant specialising in bushland regeneration.

P4 Retain all remnant bushland on the site undisturbed and protected during any construction or works undertaken.

P5 Do not disturb remnant bushland.

P6 Give consideration to soil depth, underground water flow, natural drainage, the understorey canopy and sufficient space around trees to ensure the long term conservation and health of indigenous trees and plants.

3.2.3.4 Stormwater run-off and soil erosion

Objectives

O1 To minimise the negative impacts of stormwater runoff and soil erosion on bushland vegetation, soil biota and catchment health.

Provisions

P1 Development within Area A as shown on the Bushland Buffer Map (refer to Figure B-3.1) must submit a *Drainage Plan* to Council addressing the requirements of Part B: Section 4 – *Water* in addition to the provisions of this Section.

P2 Development should not result in any increase in volume, concentration or rate of stormwater run-off to those which existed prior to development.

P3 Development should seek to improve the condition and function of stormwater management infrastructure from the pre-existing level.

P4 Existing site contours, topography and soil levels should be maintained.

P5 Stormwater collected from roofs, driveways and other impervious paved areas should be retained on site and discharged into the Council's stormwater system.

P6 Excavation for stormwater retention tanks should be minimised.

3.2.4 Cultural resources

There is potential that any undiscovered archaeological sites or Aboriginal sites or relics, would be found in the undisturbed areas of bushland within North Sydney. Therefore, care needs to be taken when undertaking works on properties adjoining bushland.

The preservation and documentation of any archaeological sites or Aboriginal relics found ensures evidence of previous settlement patterns of the local area can be maintained for future generations.

Objectives

O1 To protect, record and maintain archaeological sites and Aboriginal sites and relics.

Provisions

P1 Consideration is given to the objectives and requirements of cl.5.10 of NSLEP 2013 and Part C: Heritage Conservation of the DCP where archaeological sites and Aboriginal sites and relics are discovered before, during or after work is to be undertaken.

3.2.5 Threatened species

The protection of threatened fauna and flora species is a legal requirement that must be considered to ensure that works not only complement the bushland setting but reinforce and conserve the natural habitat for flora and fauna species. Lists of threatened species are

available on the NSW Department of Environment and Heritage website - *www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species*. Information pertaining to known threatened species and endangered ecological communities present within North Sydney is available on Council's website *www.northsydney.nsw.gov.au* or by contacting the Bushland Management Coordinator.

Objectives

O1 That development is undertaken in an environmentally sensitive manner with appropriate measures undertaken to minimise any adverse effects on threatened flora and fauna species, populations or ecological communities.

Provisions

P1 All development must be undertaken in accordance with the requirements of the NSW *BC Act 2016* and the Commonwealth's *EPBC Act 1999*.

3.2.6 Wetland areas

Wetlands in the form of Coastal Saltmarsh occur in certain locations around the North Sydney foreshore. It is important to note that Coastal Saltmarsh is listed as an Endangered Ecological Community under the NSW *BC Act 2016* and therefore requires special consideration where development activities may directly or indirectly impact on the community or its habitat. Whilst most of these wetlands are situated within designated bushland conservation reserves, some impacts related to urban development such as stormwater pollution, erosion, sedimentation and unauthorised access can cause negative impacts. Coastal Saltmarsh is known to occur on the foreshores of Gore Cove, Lavender Bay and Willoughby Bay. Current mapping of this community may uncover further locations on both Council and private land where this community occurs. Please contact Council's Bushland Management Coordinator for the most up-to-date mapping information for Coastal Saltmarsh in North Sydney.

Wetland environments provide habitat for important flora and fauna. In addition, surrounding vegetation can assist in lowering flood water velocities, intercept silt and aid in the uptake of nutrients to improve water quality.

Objectives

O1 To preserve the aesthetic, social and economic values of wetland areas.

O2 To ensure water entering into natural wetlands is of sufficient quality to ensure that wetland conservation values and functions are not compromised.

O3 To maintain or restore the physical, chemical and biological processes existing in wetlands by minimising changes to wetland hydrology from land uses in wetland catchments.

Provisions

P1 Maintain existing wildlife corridors and provide habitat links between isolated areas.

P2 Provide landscaping and planting of locally occurring species, at the site's boundary with the wetland in order to create a buffer between wetlands and development. This will provide additional protection and habitat.

P3 Wetland vegetation must not be removed.

P4 Development must not result in alteration of local surface runoff and groundwater flows to the wetland and ensure appropriate water flow regimes are maintained to the wetland.

P5 Development must not result in major changes to water flow processes including changes to current and wave patterns and tidal regimes.

P6 All stormwater runoff should be detained on site before draining to Council's stormwater system.

P7 Despite P6, if stormwater cannot be contained on site ensure a dispersed pattern of stormwater flow into the wetland as opposed to a concentrated flow.

P8 Ensure the quality of stormwater flowing into wetlands is maintained or improved through the use of WSUD on-site (refer to Part B: Section 4 - *Water* of the DCP).

P9 Where nutrient control devices and other pre-treatment measures are proposed, ensure that they are located away from wetland areas.

P10 Avoid sewage overflows in catchments upstream of wetlands.

P11 Minimise visual impacts on wetland through use of natural and non-reflective materials, muted colours and landscaped screens.

P12 Enhance and maintain social, educational and recreational values of wetland areas through appropriately sited boardwalks, information signs, collection of background information and consideration of European and aboriginal heritage. (Refer to Part C: Heritage Conservation).

P13 Submit a Wetland Effects Statement if the proposed development may impact on the ecology and habitat, hydrology and/or water quality of the wetland. The Wetland Effects Statement must address the assessment criteria set out in the Model DCP for *Protecting Sydney's Wetlands* published by the Sydney Coastal Council Group (2001).

P14 Only plant species which occur locally should be used for landscaping and revegetation near wetlands.

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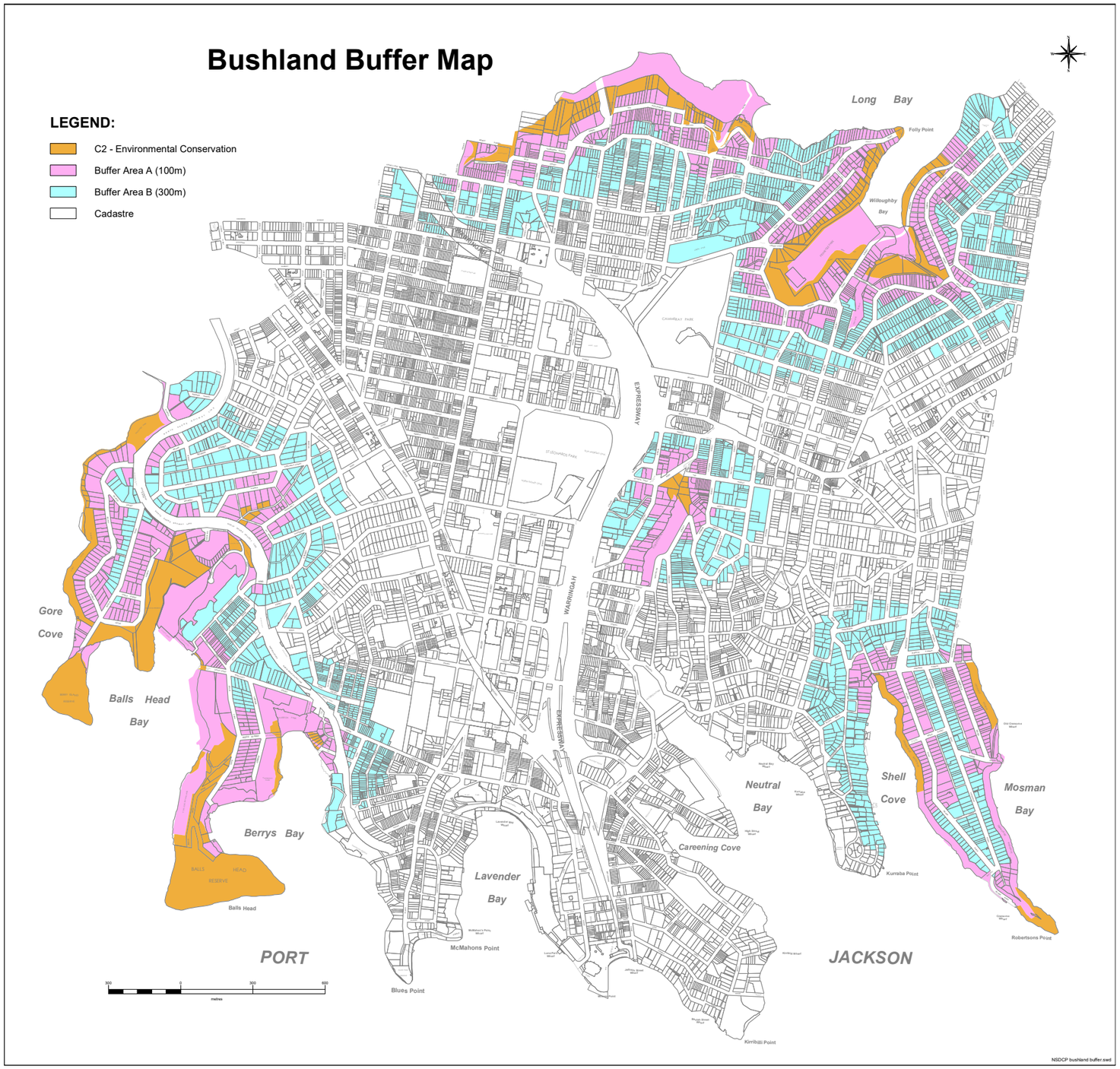

Figure B-3.1: Bushland Buffer Map

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SECTION 4 WATER

4.1 STORMWATER MANAGEMENT

4.1.1 Introduction

Stormwater drainage refers to systems from private developments such as;

- Inter-allotment stormwater draining through adjoining private property that remain in private ownership,
- Stormwater draining to a public road that reverts to Council's ownership.

Nuisance drainage problems resulting from developments are one of the most commonly reported complaints received by many Councils. Therefore disposal of stormwater drainage requires special attention.

Since private development is a primary contributor to stormwater entering Council's drainage system, the cost of providing a new drainage system from private development that is to revert to Council's ownership, must be borne by the developer.

Inter-allotment stormwater drains through private property remain forever the responsibility of the owner of the property. This includes inter-allotment easements that drain stormwater unless Council is mentioned in the Title Deeds as being responsible for maintenance of the easement.

Many drainage structures are required to be upgraded to meet current standards as a result of new development. Generally the developer is responsible for the cost of up-grading these structures in the vicinity of the development, where it can be demonstrated that the proposed development further overloads the existing drainage system.

North Sydney has many areas of kerb having heritage and conservation significance. Heritage kerb must be reconstructed where it is impacted by drainage systems from private development at no cost to Council.

Most development requires a drainage connection to a Council gutter or stormwater pipe located in an adjoining public road. Consequently, most development involves the carrying out of excavation or other work within the footpath or carriageway of a public road.

4.1.2 General Objectives

The general objectives of Section 4.1 to this Part of the DCP are to:

O1 To establish a long term drainage strategy for affected land, that will control stormwater run off from development and minimise nuisance flow onto adjacent land.

O2 To mimic pre-development or natural drainage systems as much as is possible.

O3 To improve Council stormwater drainage systems by achieving a high level of compliance with Council's design and construction standards.

O4 To minimise the impact of new development on the existing stormwater system.

O5 To minimise the risk of injury to people and damage to private and public property from the effects of stormwater disposal.

O6 To preserve, conserve and reinstate of heritage kerbs.

4.1.3 When does this section of the DCP apply?

Section 4.1 to this Part of the DCP applies to all development applications that involve:

(a) An increase in hard surface areas on a site; or

(b) Any change to the existing stormwater drainage requirements of the site.

4.1.4 Further Information

For more information about stormwater design and construction and associated details regarding permits, fees and charges consult with Council and refer to:

(a) North Sydney Council *Performance Guide*; and

(b) North Sydney Council *Infrastructure Specification Manual*.

4.1.5 Requirements

Objectives

O1 To ensure that stormwater drainage systems are satisfactorily designed to minimise impacts to neighbouring properties.

O2 To reduce stormwater discharge and improve stormwater quality through the incorporation of WSUD on-site.

O3 To mimic pre-development or natural drainage systems through the incorporation of WSUD on-site.

O4 To protect watersheds by minimising stormwater discharge and maximising stormwater quality.

O5 To minimise off-site localised flooding or stormwater inundation.

Provisions

P1 A *Stormwater Management Plan* is required for all developments and must demonstrate compliance with this section.

P2 New and reconstructed stormwater drainage systems should be designed and constructed to a minimum standard that complies with the technical requirements of the North Sydney Council *Performance Guide* and *Infrastructure Specification Manual*.

P3 Stormwater drainage disposal from private property should not cause nuisance drainage problems to any other property. Nuisance drainage is any damage to other property from stormwater caused by the development of property.

P4 Where stormwater drainage from private property cannot drain directly to a road without first draining through adjoining private property, an inter-allotment stormwater drainage easement is required. This easement should be sought by negotiation, mediation or by using mechanisms of s.88 of the *Conveyancing Act, 1919*.

P5 Easement widths are governed by requirements for access and maintenance of pipes by appropriate machinery.

P6 Zone of influence of stormwater pipes should not affect the structural stability of any structure, building or utility service.

P7 Stormwater should not be diverted into an adjoining catchment unless it can be demonstrated that the diversion will not cause detriment to any property or structures.

P8 Where an inter-allotment drainage easement cannot be obtained, Council may consider alternative proposals based on their merit.

P9 Minimum permissible pipe size leading from down pipes to primary inter-allotment drainage pipes is 100mm internal diameter sewer grade pipe or greater as required to meet drainage design criteria. Minimum permissible pipe size for primary inter-allotment drainage systems is 150mm diameter sewer grade pipe.

P10 Stormwater drains may not be constructed on public property without holding a *Street Opening Permit*, a Construction Certificate and design approved by Council.

P11 Stormwater drainage systems through adjoining private property should be designed and constructed to allow for an emergency overflow path to be located within the inter-allotment drainage easement.

P12 Pipes within an easement are permitted to carry only the amount of stormwater for which they are designed. Damage caused to property by unapproved works may be subject to legal action and a claim for damages.

P13 Physical obstructions should not be placed within an easement or emergency overflow path that may block the flow of surface run-off.

P14 Sandstone kerb and gutter with heritage significance is to be retained and not replaced with concrete.

P15 The stormwater drainage is designed to ensure existing downstream systems are not adversely affected. It should:

(a) 'fit' as much as possible, within the hydrology of the natural system;

(b) emphasise stormwater detention, vegetated overflow lines, sensitive location of discharge points and quality of receiving waters;

(c) minimise non-porous surfaces to reduce stormwater run-off;

(d) store water for re-use (such as in rainwater tanks);

(e) retain existing trees;

(f) exclude land needed for natural or modified drainage, floodplains, remnant vegetation, environmental values; and

(g) ensure stormwater drains are designed to accept rainwater only excluding other pollutants from the City's waterways.

P16 On-site detention, preferably on unpaved or grass surfaces, is used to trap and remove contaminants from stormwater and increase infiltration into the ground. Where technically possible, on-site gravel filled retention pits are incorporated.

P17 Demonstrate how run-off from the site will be minimised and the quality of water leaving the site will be improved.

P18 Use site contouring and landscaped areas to increase on-site infiltration of stormwater.

P19 Rainwater tanks should be installed for all residential and commercial developments, including major alterations and additions, and 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.

P20 As a minimum, post-development stormwater discharge rates should be less than pre-development stormwater discharge rates.

P21 As a minimum, post-development stormwater quality should be improved from pre-development levels.

P22 In residential development, grade land around structures to divert surface water clear of existing and proposed structures and adjoining premises.

P23 On-site stormwater detention, including the use of grass swales and detention basins, should be pursued where practicable to minimise and filter stormwater runoff.

P24 Do not construct over any registered easement without the approval of the body benefiting from the easement.

P25 Do not construct within 3m of a sewer/water main without the prior approval of the relevant service authority.

P26 Impervious surfaces should be minimised.

P27 Ensure paved areas are at least 50% pervious.

P28 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.

P29 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.

4.1.6 Maintenance and Monitoring

Objectives

O1 To ensure that erosion and sediment impacts are minimised during both the construction and post-construction period and that drainage systems are monitored and maintained.

Provisions

During Construction

The consent holder has an ongoing responsibility to maintain all sediment control devices during construction as required by the Erosion and Sediment Control Plan and as directed by Council. Stormwater drainage and erosion/sediment control devices will be inspected in the course of Council site inspections following issue of a construction certificate.

Where non-compliance with the approved construction drawings or Erosion and Sediment Control Plans occurs, Council may charge a reinspection fee, claim the environmental bond, and issue a stop work notice or infringement notice.

General Maintenance

P1 The owners of the properties affected by stormwater drainage easements are required to:

(a) Permit stormwater to be drained via the stormwater drainage system;

(b) Keep the stormwater system clean and free from silt, rubbish and debris;

(c) Maintain and repair the stormwater system so that it functions in a safe and efficient manner;

(d) Replace, repair, alter and renew the whole or parts of the stormwater system within the time and in the manner specified in a written notice issued by the Council;

(e) Not make any alterations to the stormwater system or elements thereof without prior consent in writing from the Council;

(f) Permit the Council, or its authorised agent, from time to time upon giving reasonable notice to enter and inspect the land for compliance with the requirements of this clause;

(g) Permit the Council, or its authorised agent, at any time and without notice in the case of an emergency to enter and inspect the land for compliance with the requirements of this clause; and

(h) Comply with the terms of any written notice issued by the Council in respect to maintenance requirements within the time stated in the notice.

P2 Where non-compliance occurs legal action may be considered under legislation dealing with environmental protection.

4.1.7 Procedures

Objectives

O1 To provide a framework which outlines the procedures to be followed when proposing and undertaking stormwater drainage works.

Provisions

P1 When lodging a development application the applicant should provide:

(a) Conceptual stormwater design plans; and

(b) Conceptual stormwater drainage easement details.

P2 Before starting stormwater drainage construction work, obtain:

(a) Street Opening Permit;

(b) Construction Certificate; and

(c) Copy of design plans approved with the construction certificate

P3 With an application for a Construction Certificate the applicant should provide:

(a) Evidence of an inter-allotment stormwater drainage easement having been created (if applicable);

(b) Detailed stormwater drainage design complying with the conditions of the Development Consent, this DCP, the *Performance Guide* and references for design and construction of infrastructure in North Sydney;

(c) Evidence of having paid all contributions, bonds and securities to Council; and

(d) Dilapidation report showing the pre-development condition of private and public property, utility services and heritage items.

P4 A qualified Hydraulics engineer should prepare Stormwater designs. Designs should incorporate hydraulic grade line analysis and demonstrate that WSUD has been incorporated to the maximum extent practicable and that the capacity of the existing downstream drainage system is sufficient to carry any additional flow from a development.

P5 Before applying for a refund of bonds and/or security, applicants are required to obtain approval from Council for completion of the stormwater drainage works.

P6 Work must not be carried out in a public road or footpath unless consent has been granted by Council (or other relevant roads authority) under s.138 of the *Roads Act 1993* and s.68 of the *Local Government Act 1993*. These are separate approvals to development consent or a complying development certificate. Consult with Council to determine if a permit is required.

P7 Where stormwater from development contributes to the overload of existing drainage systems at some distance downstream of the development site, Council may consider carrying out *works in association* with works required by the developer.

4.1.8 Stormwater Drainage Matrix

Table B-4.1 comprises a Stormwater Drainage Matrix which describes the process, prerequisites and references for addressing stormwater drainage.

TBALE B-4.1: Stormwater Drainage Matrix

This is About	Main activities	The Process	Pre-requisite	Compliance with	References	Comments
Stormwater Drainage	• Drainage from private property that is to revert to Council' s ownership	1. Lodge a Development Application	• Survey details • Concept stormwater design • Statement of Impact of stormwater • Dilapidation report	• This section of the DCP • Development Application Guides	• NSC Performance Guide • NSC Infrastructure Specification Manual	• Provide enough information to allow Council to assess the merit of the proposal • The Statement of Environmental Impact must address the issues raised in the checklist within the EP&A Act
		2. Obtain development consent	• Council considers impact of stormwater from new development on capacity of existing infrastructure and adjoining property	• EP&A Act 1979		• In order to minimise delay the applicant should ensure that the Information provided in the application is relevant, accurate and fit-for-purpose
		3. Lodge a Construction Certificate Application	• Detailed stormwater design • Erosion Control Plan • Section 138 Permit • Pay all fess and bonds • Certifications as required	• This section of the DCP • Development consent • s.138 of Roads Act 1993 (if Applicable)	• NSC Performance Guide • NSC Infrastructure Specification Manual	• Provide enough detailed design information to show that work can be built as per development consent conditions • No work is permitted on public property without a 138 Permit • Bonds are a security against damage to Council Infrastructure
		4. Obtain a Construction Certificate	• PCA assesses docs for compliance with development consent	• Development Consent		
		5. Start Construction	• Install erosion and sedimentation control measures • Given Council Notice	• This section of the DCP • Construction Certificate	• NSC Performance Guide • NSC Infrastructure Specification Manual	• A Construction Certificate must be obtained before construction may commence.
		6. Apply for Occupation Certificate	• As built drawings • Video of drain pipes • Certifications as required • Council approval	• BCA • This section of the DCP • Construction Certificate		• Video must show drainage pipes to be clean • Any unclean pipes must be cleaned before Council approves works

4.2 EROSION AND SEDIMENT CONTROL

4.2.1 Introduction

The potential for soil erosion occurs when vegetation cover is removed during the demolition or construction of buildings and structures, or where it is proposed to recontour the existing landform. As a result, sediment can enter the natural and stormwater drainage systems, and can potentially block their flow, reduce their capacity and eventually be deposited in receiving waters. Sediment reduces water depth, causes turbidity, reduces recreational amenity and damages aquatic systems. Sediment can also have a destructive impact on the quality of urban bushland.

Sedimentation represents a considerable cost to the community in cleaning and maintenance of stormwater infrastructure. Costs arise from increased flooding due to reduced capacity of drainage systems, cleaning of drains and dredging of receiving waters. Efficient sediment control techniques have benefits to the builder as well as the community, in improved access and site conditions and less time lost due to water logged sites.

4.2.2 General Objectives

The general objectives of Section 4.2 to this Part of the DCP are to:

O1 To provide a consistent approach to erosion and sediment control, with a view to achieving best practice.

O2 Establish principles for the control and management of erosion and sediment risks.

O3 To ensure that the Sydney and Middle Harbours water catchments are clean, productive and healthy.

O4 To minimise soil erosion and siltation resulting from building and excavation works.

O5 To ensure applicants submit sufficient information on proposed erosion and sediment control measures with development applications such that Council can make an informed decision.

O6 To ensure that consent conditions and *Erosion and Sediment Control Plans* are fully implemented through monitoring and maintenance protocols.

4.2.3 When does this section of the DCP apply?

Section 4.2 to this Part of the DCP applies to all development applications that involve:

(a) the removal of vegetation from a site;

(b) excavation, such that the land form of the site is altered; and

(c) placement of any type of fill material on a site.

4.2.4 Further Information

For more information about erosion and sediment control, consult with Council and refer to:

(a) North Sydney Council *Performance Guide*;

(b) North Sydney Council *Infrastructure Specification Manual*;

(c) NSW Department of Housing *Managing Urban Stormwater Soils and Construction* (4th edition, 2004);

(d) Selected techniques described in pamphlets available from the Council Customer Service Centre;

(e) Department of Planning, Housing and Infrastructure's *Guidelines for Erosion and Sediment Control on Building Sites* (2024); and

(f) Hawkesbury-Nepean Catchment Management Trust 2001 *Guidelines for Erosion and Sediment Control on Building Sites* (2001).

4.2.5 Requirements

Objectives

O1 Identify all areas likely to cause pollution of waterways from the transport of stormwater run-off containing sediment and silt and implement appropriate devices to stop the risk of pollution.

Provisions

P1 Divert clean water around the construction site to prevent contamination.

P2 Retain as much natural vegetation as possible and limit site disturbance to minimise the risk of pollution.

P3 Control stormwater that enters the construction site from upstream.

P4 Divert stormwater from undisturbed upper slopes onto stable areas.

P5 Retain and stockpile all excavated topsoil on site for future landscaping where feasible.

P6 Prevent sediment/silt from entering adjoining public or private property (especially drains) by installing sediment control devices at the low side of sites and wash down areas.

P7 Provide a single, stabilised entry/exit point to the site. Sediment or building materials should be prevented from reaching the road or Council's stormwater system. Sediment shall be removed by sweeping, shovelling or sponging. Under no circumstances shall sediment be hosed.

P8 Where a *work zone permit* over public property is applicable, ensure that appropriate debris control devices are implemented to prevent spillage of building materials into stormwater drains.

P9 Compact all drainage lines when backfilling.

P10 Revegetate all disturbed areas, after on-site works are completed, in order to stabilise surface.

P11 Maintain all sediment control devices during construction and earthworks to standards acceptable to Council.

4.2.6 Maintenance and Monitoring

Objectives

O1 To ensure that erosion and sediment impacts are minimised during the entire construction period of the development.

Provisions

P1 The consent holder, property owner, contractor, builder and all persons on site during construction are responsible for controlling soil erosion and preventing the discharge of sediments from the building site entering into Councils stormwater system.

P2 A condition may be imposed on a development consent requiring the payment of an environmental bond/security to cover the costs of making good any damage from pollution that a proposed development has the potential of causing.

P3 Erosion and sediment control measures will be inspected in the course of Council site inspections following issue of a construction certificate.

P4 Where non-compliance with the DCP occurs, Council may charge a reinspection fee, claim the environmental bond, issue a Clean Up Notice, Prevention Notice or Penalty Infringement Notice if a pollution incident has occurred or has the potential to occur.

P5 In more serious cases, legal action may be considered under legislation dealing with environmental protection.

P6 *Protection of the Environment Operations Act 1997* constitutes an act of pollution as being a criminal offence.

4.2.7 Procedures

Objectives

O1 To outline the requirements and procedures for addressing soil erosion and sediment control.

Provisions

P1 A *Statement of Intent* must be supplied with all development applications. The Statement must outline the sedimentation and erosion control measures to be utilised and a simple erosion control site diagram demonstrating how the proposal will achieve the general objectives of the DCP.

P2 An *Erosion/Sediment Control Plan* may also be required to be submitted with the Development Application for a development involving excavation or that is likely to pose a significant environmental risk. The plan should include diagrams showing the erosion and sediment control measures, their location and type. A detailed *Erosion/Sediment Control Plan* may also be required to obtain a Construction Certificate.

P3 Erosion and sediment control site signs must be displayed on the site during building works, and provide advice to protect the environment from sedimentation and erosion from building sites. These signs are available from Council's Customer Service Centre.

P4 Work must not be carried out in a public road or footpath unless a permit has been granted by Council (or other relevant roads authority) under s.138 of the *Roads Act 1993*, and/or s.68 of the *Local Government Act 1993*. These are separate approvals to development consent or a Complying Development Certificate. Consult with Council to determine if a permit is required.

4.2.8 Standards for Erosion and Sediment Control Plans

An Erosion and Sediment Control Plan can vary from a simple statement for minor proposals to complex engineering plans and associated documentation for major proposals, including all details of erosion and sediment control measures to be utilised.

Objectives

O1 To ensure that soil erosion and sedimentation is considered at the design stage of the development.

Provisions

P1 *Erosion and Sediment Control Plans* should:

(a) Consider a range of erosion and sediment control measures, including (where relevant) runoff diversion techniques, sediment trapping devices, construction of exits and entrances, revegetation techniques, site management, and controls for stormwater removal and pump-out.

(b) Be part of a soil and water management plan that addresses erosion and sediment control and additional water quality and/or water quantity issues during both the construction and operational stages. This can include identifying

concrete delivery locations, service trenches, waste management and chemical storage.

(c) Demonstrate that appropriate controls have been planned, and that when implemented will minimise erosion and sedimentation. The Erosion and Sediment Control Plan should also demonstrate that its design life exceeds the anticipated life of the project or stage for which it has been designed, to allow for unforeseen delays or contingencies.

(d) Adequately cover the contingency of, and change or delays to the project, activity or scope of works.

4.2.9 Erosion and Sediment Control Matrix

Table B-4.2 comprises an Erosion and Sediment Control Matrix which describes the process, pre-requisites, references for addressing soil erosion and sediment control.

TABLE B-4.2: Erosion and Sediment Control Matrix

This is About	Main activities	The Process	Pre-requisite	Compliance with	References	Comments
Preventing pollution of waterways & bushland from the effects of erosion and sediment	• Any work that is likely to cause pollution from erosion and sediment • Maintaining erosion and sediment control devices as part of development activities	1. Lodge a Development Application	• Survey details • Statement of Environmental Impact • Erosion Control Plan showing how to minimise impact of pollution	• This section of the DCP • Development Application Guides	• NSC Performance Guide • NSC Infrastructure Specification Manual	• Provide enough information to allow Council to assess the merit of the proposal • The Statement of Environmental Impact must address the issues raised in the checklist within the EP&A Act
		2. Obtain development consent	• Council assesses development application based on the risk of pollution and the merit of information presented.	• EP&A Act 1979		• In order to minimise delay the applicant should ensure that the Information provided in the application is relevant, accurate and fit-for-purpose
		3. Lodge a Construction Certificate Application	• Detailed construction drawings must include Erosion Control Plan • Section 138 Permit • Pay all fess and bonds	• This section of the DCP • Development consent • s.138 of Roads Act 1993 (if Applicable)	• NSC Performance Guide • NSC Infrastructure Specification Manual	• Provide enough detailed design information to show that work can be built as per development consent conditions • No work is permitted on public property without a s.138 Permit • Bonds are a security against damage to Council Infrastructure
		4. Obtain a Construction Certificate	• PCA assesses docs for compliance with development consent	• Development Consent		• Principal Certifying Authority issues Construction Certificate
		5. Start Construction	• Install erosion and sedimentation control measures • Give Council Notice	• This section of the DCP • Construction Certificate	• NSC Performance Guide • NSC Infrastructure Specification Manual	• A Construction Certificate must be obtained before construction may commence.
		6. Apply for Occupation Certificate	• As built drawings • Video of drain pipes • Certifications as required • Council approval	• BCA • This section of the DCP • Construction Certificate		

4.3 WATER CONSERVATION

Objectives

O1 To minimise the use of potable water.

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

Provisions

P1 A BASIX Certificate is required to be submitted with all residential development types nominated under *SEPP (Sustainable Buildings) 2022*.

Note: *BASIX assessments and certificates can be obtained on-line through the NSW Planning Portal at https://www.planningportal.nsw.gov.au/*

The following provisions apply to residential developments that do not require a BASIX Certificate and where relevant to commercial and other non-residential development.

P2 Consideration is to be given to incorporation of grey-water and black-water reticulation systems.

P3 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 development.

P4 Install a stormwater tank where this will not affect amenity, views and other requirements of this section of the DCP.

P5 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..

P6 Harvest and use rainwater for garden irrigation and toilet flushing.

P7 Collect and reuse stormwater runoff for subsurface irrigation.

P8 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.*

P9 Install water efficient irrigation systems and controls.

P10 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.

P11 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.

P12 Install a pool cover where the proposed development includes an external swimming pool.

Commercial

P13 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.

P14 Rainwater tanks should be plumed to appropriate end uses, including toilet flushing, water features, car washing and garden irrigation.

P15 Separate meters are to be installed on separate units of occupancy in non-residential BCA class 5, 6 and 7 buildings.

P16 A reporting system should be developed to inform/educate occupants about the building's water consumption.

P17 Use waterless urinals.

P18 Install sensor operated taps, or automatic shutoff taps, especially in public area.

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SECTION 5 SOLAR ACCESS

5.1 OBJECTIVES

O1 To ensure that all dwellings have reasonable access to sunlight and daylight with regard to the urban context within which they are located.

O2 To ensure that solar access is maintained to Special Areas, open spaces and publicly accessible outdoor places.

O3 To maintain solar access to residential areas surrounding the North Sydney Centre.

O4 To avoid the creation of long solid masses of development which prevent the penetration of daylight and/or sunlight through to pedestrian levels and to northern and eastern facades of buildings.

5.2 PROVISIONS

General

P1 Spaces are to be created between taller buildings (i.e. those generally greater than 8 storeys) to avoid a solid mass of development and to allow daylight and/or sunlight to penetrate through to the pedestrian level.

P2 Setbacks must be provided between buildings above the podium level in the *E2 Commercial Centre* and *MU1 Mixed Use* zones.

P3 Provide a mix of sun-protected and unprotected areas in public open spaces, roof top gardens and other outdoor spaces.

Development within the North Sydney Centre

P4 Development must comply with the height and overshadowing requirements contained within cl.4.3 and cl.6.3 of NSLEP 2013.

Development outside the North Sydney Centre

P5 Development should be designed and sited to provide a minimum of 3 hours of solar access between the hours of 9.00am and 3.00pm at the winter solstice (21st June) 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 in any residential accommodation on the land on which the development is located or on adjoining land.

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

P6 Despite P2, at least 70% of dwellings within a residential flat building or shoptop housing should receive a minimum of 2 hours of solar access to living rooms and private open spaces between the hours of 9.00am and 3.00pm at the winter solstice (21st June).

P7 Development should be designed and sited such that it will not result in a net increase in overshadowing:

(a) between 12 pm and 2 pm from the March equinox to the September equinox (inclusive) on land within the North Sydney Centre that is within the *RE1 Public Recreation* zone or that is identified as a "Special Area" under NSLEP 2013, or

(b) between 10 am and 2 pm from the March equinox to the September equinox (inclusive) of the Don Bank Museum.

P8 New development should not overshadow existing or proposed public open spaces located outside of the North Sydney Centre between 11.30am and 2.30pm, or any alternative specified timeframes for particular spaces identified in Part F of the DCP.

SECTION 6 VISUAL PRIVACY

6.1 OBJECTIVES

O1 To ensure that existing and future residents are provided with a reasonable level of visual privacy.

6.2 PROVISIONS

Building Separation

P1 Provide visual separation between any non-residential use and dwellings.

P2 Development for the purposes of residential flat building and shoptop housing are to provide adequate separation to adjacent properties and within the development between habitable rooms, balconies and non-habitable rooms, consistent with *SEPP (Housing) 2021*. The relevant building separation distances are reproduced in Table B-6.1. Increased setbacks may be required to ensure that adequate solar access is provided to neighbouring dwellings.

TABLE B-6.1: Building Separation Requirements

Building height (metres)	Between habitable rooms and balconies	Between habitable & non-habitable rooms	Between non-habitable rooms
Up to 4 storeys (approx. 12m)	12m	9m	6m
5 to 8 storeys (approx.-25m)	18m	12m	9m
9 storeys (approx. 25m +)	24m	18m	12m

P3 Council may consider a variation to the building separation control within P5 above, but only where the applicant can demonstrate that the variation has been made in response to site and context constraints and that the variation is not made at the expense of amenity (e.g. visual and acoustic privacy, outlook, solar access). However, Council will not consider a variation if an apartment's only outlook is onto an area that is under the minimum building separation distance.

Windows

P4 Locate windows to avoid direct or close views into the windows, balconies or private open space of adjoining dwellings.

P5 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.

P6 Provide suitable screening structures to minimise overlooking to the windows, balconies or private open space of dwellings within the same development or adjoining land.

Decks, Patios, Terraces, Open Entertaining (excluding residential flat buildings and shoptop housing development greater than 2 storeys in height)

P7 Limit the width and depth of any deck, patio or terrace located greater than 1m above ground level (existing) where privacy and loss of views is an issue and consider using screen devices where relevant.

P8 Private or communal open spaces or open entertaining spaces such as terraces, patio, gardens and the like are not supported on rooftops.

P9 Despite P7 above, private or communal 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; and

(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) for non-residential development, there is no other appropriate ground level space for outdoor recreation;

(e) for residential accommodation, there is no other appropriate ground level space for outdoor recreation off a primary living room.

Note: *For residential flat buildings and shoptop housing development greater than 2 storeys in height, the provisions of the Apartment Design Guide apply.*

SECTION 7 OPERATIONAL NOISE

7.1 NON-RESIDENTIAL USES

Objectives

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

Provisions

P1 Noise emission associated with the operation of non-residential premises or non-residential components of a building within all zones other than the *R2 Low Density Residential*, *R3 Medium Density Residential*, *R4 High Density Residential* or *C4 Environmental Living* Zones must not exceed the maximum 1 hour noise levels (LAeq 1 Hour) specified in Table B-7.1.

TABLE B-7.1 –Noise Emission Limits

Time Period			Max 1 hour noise level (LAeq 1 Hour)
Day	**Period**	**Time**	
Weekday	Day	7am – 6pm	60 dBA
	Evening	6pm – 10pm	50 dBA
	Night	10pm – 7am	45 dBA
Weekend	Day	8am – 7pm	60 dBA
	Evening	7pm – 10pm	50 dBA
	Night	10pm – 8am	45 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.*

P2 Noise emission associated with the operation of non-residential premises on land within the *R2 Low Density Residential*, *R3 Medium Density Residential*, *R4 High Density Residential* or *C4 Environmental Living* zones, or on land zoned *SP2 Infrastructure* which is also located adjacent to land zoned *R2 Low Density Residential*, *R3 Medium Density Residential, R4 High Density Residential* or *C4 Environmental Living*, must not exceed the maximum 1 hour noise levels (LAeq 1 Hour) specified in Table B-7.2.

TABLE B-7.2: Noise Emission Limits

Time Period			Max 1 hour noise levels (LAeq 1 Hour)	
Day	**Period**	**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
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.

P3 In terms of determining the maximum noise levels as required by P1 and P2, the measurement is to be taken at the property boundary of the nearest residential premises. Within a mixed use development, the boundary is taken to be nearest floor ceiling or wall to a residential dwelling on the site.

P4 Despite P1 and P2 above, the noise emission associated with the operation of non-residential premises or non-residential components of a building 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.

P5 Council may require the submission of an Acoustic Report to ensure compliance with P1 above.

P6 Plant and machinery should incorporate noise reduction measures to minimise their impacts.

P7 Developments should be designed and / or incorporate features that reduce noise transmission.

P8 Where practical, development should incorporate adequate measures for tonal, low frequency, impulsive, or intermittent noise.

P9 Materials with low noise penetration properties should be used where practical.

P10 Mechanical equipment, such as pumps, lifts or air conditioners should not be located adjacent to bedrooms or living rooms of any dwellings on adjoining properties.

P11 Developments must comply with *EPA Noise Policy for Industry 2017* in particular the modification required for acceptable noise level (ANL).

7.2 LATE NIGHT TRADING PREMISES

The following objectives and provisions apply to all development to which Part D: Section 9 - *Late Night Trading Premises* of the DCP applies.

7.2.1 Acoustic Emission Limits

Objectives

O1 To ensure the use of premises do not result in any unreasonable acoustic impacts on surrounding residential properties.

Provisions

P1 The premises must comply with the following relevant noise criteria:

(a) the noise emission limits set out in P1 to Section 7.1 to this Part B of the DCP for development located in the:

(i) *E1 Local Centre* zone;

(ii) *E2 Commercial Centre zone*; and

(iii) *MU1 Mixed Use* zone.

(b) the noise emission limits set out in P2 to Section 7.1 to this Part B of the DCP for development located in all other zones.

(c) All relevant noise criteria required by the NSW Office of Liquor and Gaming for licensed premises.

P2 An Acoustic Report prepared by an appropriately qualified Acoustic Consultant which predicts the likely level of compliance with the criteria outlined in P1 as relevant must be submitted with a development application for any of the following late night trading premises or activities:

(a) pubs,

(b) small bars,

(c) outdoor dining,

(d) smoking areas, and

(e) any use proposed to operate beyond the maximum trading hours.

P3 Where relevant, an Acoustic Report should take into account any mechanical plant associated with the use of the site.

P4 The recommendations of any Acoustic Report must form part of the Plan of Management where relevant and shall be adhered to at all times.

P5 The applicant may be required to undertake on-going acoustic monitoring and this will be required as part of a condition of consent.

Note: *It is at Council's discretion to request the submittal of an Acoustic Report for any development application if it considered the proposal may impact adversely on the amenity of the area.*

7.2.2 External doors, windows and openings

Objectives

O1 To minimise noise impacts on surrounding residential properties.

O2 To protect adjacent residential properties located within close proximity to late night premises.

Provisions

P1 Where a premises is located within close proximity of a residential property or other sensitive noise receiver and is likely to result in adverse acoustic impacts, all doors and windows on a building's elevation fronting a residential receiver, must be kept closed no later than the hours specified in the following table, other than to allow entry or egress.

TABLE B-7.3– Doors and windows to be kept closed

Zone		Doors and windows to be kept closed by:
E2 Commercial Centre		11pm
MU1 Mixed Use		10pm
E1 Local Centre	Properties in Kirribilli Village identified in Figure D-9.1	10pm
	1) Properties within Kirribilli Village, other than those identified in Figure D-9.1 2) Properties with a frontage to Miller St, Cammeray 3) Blues Point Road, McMahons Point	9pm
	All other locations	8pm
All other zones		8pm

P2 Notwithstanding P1, doors and windows must be closed in accordance with the recommendations of any applicable Acoustic Report, where the recommendation is more restrictive than the hours specified in P1.

P3 Where a site has two frontages, entry or exit after 10pm should occur only from the primary frontage or road and not onto a secondary road or laneway.

P4 The applicant must demonstrate that the premises can be adequately ventilated to accommodate the closure of these doors and windows and that the premises can comply with relevant BCA provisions including egress and fire safety.

7.3 Sex Services and Restricted Premises

Objectives

O1 To minimise noise at the boundary of the premises.

Provisions

P1 Applications for sex services premises or restricted premises (other than for retail sales only) must be accompanied by a *noise management plan* and an *acoustic impact report* prepared by a suitably qualified acoustic consultant.

P2 Windows and doors should incorporate noise reduction measures.

P3 Premises should incorporate building materials and arrange room layouts to minimise noise transmission.

SECTION 8 LIGHT SPILL AND REFLECTIVITY

8.1 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.

8.2 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.

(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 the curfew outlined in Table B-8.1.

TABLE B-8.1 – Illumination curfews

Zone	Curfew Time
E2 Commercial Centre	1.00am
E1 Local Centre E3 Productivity Support MU1 Mixed Use	11.00pm
Any other zone	10.00pm

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

P5 Staff entrances in commercial buildings 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 in commercial buildings in residential zones to minimise sky glow.

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

8.2.1 Illumination in the employment and mixed use zones

The following provisions apply to non-residential development on land within the *E1 Local Centre*, *E2 Commercial Centre*, *E3 Productivity Support*, and *MU1 Mixed Use* zones.

Objectives

O1 To ensure the safety of pedestrians in the public domain after dusk.

Provisions

General

P1 The following areas must be illuminated in accordance with *AS 1158.3.1 - Pedestrian (P)*:

(a) public footpaths;

(b) laneways; and

(c) areas under publicly accessible awnings over public or private property.

P2 Accent lighting should be used to highlight solid sections of buildings which adjoin public footpaths.

P3 Level of lighting provided, and fittings used, should be consistent with that of nearby properties.

P4 Lighting is to be provided in accordance with *AS/NZS 1158.3.1:1999 Pedestrian (P) – "pedestrian area performance and installation requirements"* except in the following instances:

(a) Within the North Sydney CBD Locality Area:

(i) Illuminance values in the range of 150% to 400% of the Lighting Category P6 illuminances.

(ii) Maintained horizontal average illuminance – 30 lux.

(iii) Minimum maintained horizontal average illuminance – 10 lux.

(iv) Maintained illuminance uniformity – 10.

(v) Maintained vertical illuminance – 10 lux.

(b) Within all other employment and mixed use zones:

(i) Illuminance values in the range of 100% to 300% of the Lighting Category P6 illuminances.

(ii) Maintained horizontal average illuminance – 20 lux.

(iii) Minimum maintained horizontal average illuminance – 7 lux.

(iv) Maintained illuminance uniformity – 10.

(v) Maintained vertical illuminance – 7 lux.

P5 As a minimum requirement, all external lighting should operate, from dusk until dawn on Thursday, Friday and Saturday nights, and from dusk until midnight on all other nights. Extended illumination may be considered in the *E2 Commercial Centre* zone only.

P6 Control is initiated by a suitably adjusted/calibrated photo-electric switch should be incorporated to turn on at dusk and that the lights will be at full output when the

daylight illuminance in the subject areas falls to the required illuminances stipulated above.

P7 Luminaires must be suitable for the installation conditions (non-corroding, sealed against ingress of water, dust and insects) and utilize lamps with a luminous efficacy not less than 70 lumens per watt.

P8 Luminaires should be aesthetically compatible with the design of the awnings and building façade to which they are attached.

P9 Bare lamp fluorescent luminaires are not permitted.

P10 The use of recessed downlights (with suitable broad lighting distribution) is encouraged wherever practical.

P11 Where the design of the awning or building façade precludes the installation of recessed downlights, use surface mounted luminaires compatible with the design of the awning/façade.

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SECTION 9 WIND AND AIR QUALITY

9.1 WIND SPEED

Objectives

O1 To ensure pedestrian comfort is not adversely affected by wind when walking along public streets or sitting down in public spaces.

Provisions

P1 Buildings should be designed to reduce wind velocity at footpaths and publicly accessible outdoor spaces.

P2 Where a proposal results in a building exceeding 33m in height:

(a) it should not result in the wind speed exceeding 13m/s at footpaths and publicly accessible outdoor spaces, and

(b) a Wind Impact Assessment, prepared by an appropriately qualified person, must be submitted with the application demonstrating the proposal's acceptability.

9.2 CLEAN AIR

Objectives

O1 To ensure that development does not adversely affect air quality.

Provisions

P1 Operating plant, building materials and finishes should be incorporated that are non-toxic and reduce toxic emissions.

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SECTION 10 ENVIRONMENTAL SUSTAINABILITY

10.1 INTRODUCTION

Residential

Nearly half the energy consumption in buildings is through heating, cooling, ventilation and lighting. By incorporating passive solar design and technologies that reduce energy consumption it is possible to reduce costs to the resident (e.g. lower energy bills) and to the environment (e.g. a reduction in greenhouse gases and use of non-renewable resources), both of which contribute to sustainable development.

Commercial development

The commercial and retail sectors are significant users of electricity and are major contributors to greenhouse 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.

Nearly half of energy consumption in buildings is due to heating, cooling, ventilation, office equipment and lighting. Most commercial buildings or premises could reduce their energy consumption by at least 20% by investing in the latest energy efficient equipment. Such investment invariably offers a highly profitable rate of return, resulting in cost-effective energy savings with the positive result of reducing emissions.

The main sources of energy use in commercial buildings include heating and cooling (air-conditioning), lighting and the use of office equipment. A typical energy bill is 25% of a building's total operating costs. By incorporating passive solar design strategies and using building techniques that minimise energy use, it is possible to reduce energy associated costs by up to 60%. 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.

10.2 ENERGY EFFICIENCY

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 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.

P2 Ensure that the development does not reduce the energy efficiency of buildings in the vicinity.

P3 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.

P4 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.

P5 Lighting for streets, parks and any other public domain spaces provided as part of a development should be energy efficient LED lighting.

P6 Car parking areas should be designed and constructed so that electric vehicle charging points can be installed at a later time.

P7 Where appropriate and possible, the development of the public domain should include electric vehicle charging points or the capacity for electric vehicle charging points to be installed at a later time.

P8 Improve the efficiency of hot water systems by insulating hot water systems.

P9 Wherever possible solar hot water systems should be provided.

P10 Incorporate on-site renewable energy sources to supplement energy needs during daily peak energy use.

P11 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.

P12 Timers and movement sensors should be used to minimise energy consumption, particularly for lighting and mechanical ventilation in public areas.

P13 Energy efficient lighting and technology should be used to reduce energy consumption. Consider the use of solar powered illumination.

P14 Use solar powered lighting for external areas.

P15 The use, location and placement of photovoltaic solar panels take into account the potential permissible building form on adjoining properties.

Non-residential development

P16 In multi-floor or multi-tenant or strata-subdivided developments, electricity sub-metering is to be provided for light, air-conditioning and power within each floor and/ or tenancy and/or strata unit. Locations are to be identified on the development plans. Electricity sub-metering should be provided for significant end uses that will consume more than 10,000 kWh/a.

P17 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.

P18 Locate appliances and equipment that generate waste heat, (such as copiers) in areas separated from the spaces requiring cooling.

10.3 PASSIVE SOLAR DESIGN

Objectives

O1 To ensure that site layout and building orientation allows for maximum solar access , especially to living areas of dwellings, and are adapted to local climatic conditions and prevailing site characteristics.

Provisions

P1 To achieve maximum solar access orient the building within 20° west of north to 30° east of north.

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 on building elevations should be minimised and incorporate shading in summer.

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 eaves or shading device 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 demonstrates how the landscaping contributes to energy efficiency by providing substantial shade in summer, especially to west facing windows and open car parking areas, and enabling winter sunlight to penetrate 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.

Residential

P9 Locate the main daytime living areas (e.g. family, dining and meal rooms) on the northern side of dwellings.

P10 Ensure windows of living areas that face north will receive at least three hours of sunlight between 9am and 3pm over a portion of their surface during the winter solstice.

P11 Where main living areas are oriented northwards, aim to achieve a glazed area of 30% of the dwelling's floor area in this direction.

P12 Provide adjustable awnings, shutters and external louvres on east and west facing windows.

P13 Consideration should be given to using north facing pergolas to shade walls and windows (deciduous vines can be trained over the pergola to provide effective cooling in warm weather).

P14 Where a north facing pergola contains fixed louvres, space and orient the louvres so that a line between the top of one blade and the bottom of the next makes an angle of 70°.

P15 Angle louvres to correspond to the lowest altitude angle the sun reaches at noon in winter (31° in Sydney).

P16 South facing glazing should be kept to a minimum to reduce winter heat losses.

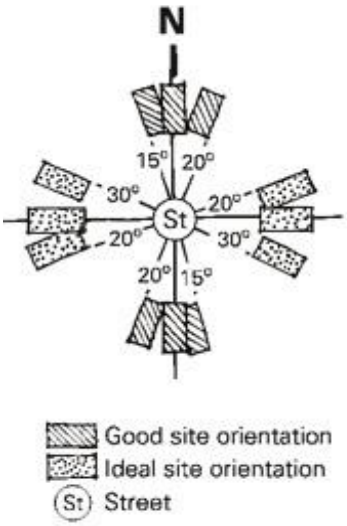

Figure B-10.1:

Good passive solar performance can be achieved at minimal cost if the development is appropriately oriented.

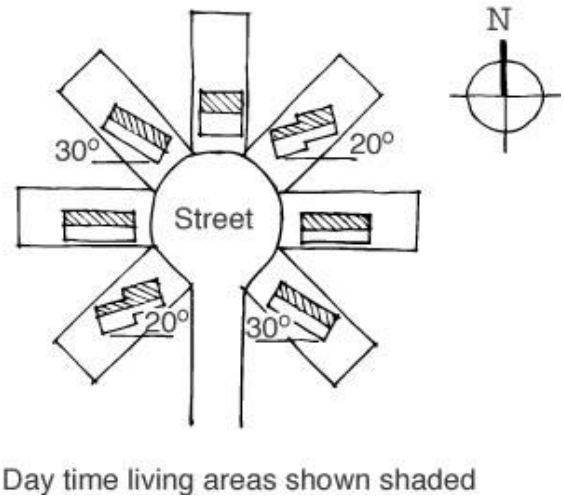

Figure B-10.2:

Where possible, orient the development such that daytime living areas and outdoor spaces are north-facing.

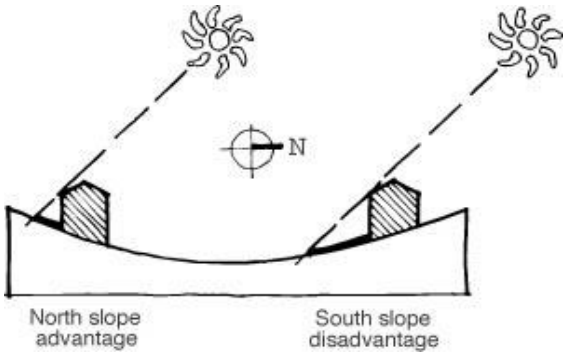

Figure B-10.3:

A north facing slope increases the potential for access to northern sun and is ideal for higher housing densities. A south facing slope increases the potential for overshadowing

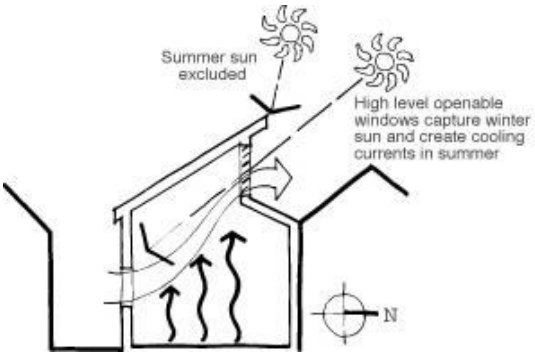

Figure B-10.4:

Poor orientation can exclude winter sun, and cause overheating in summer by allowing low angle east or west sun to strike glass surfaces

10.4 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 dwelling more comfortable to live in 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).

10.5 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 dwellings are designed to provide all habitable rooms 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.

O3 To ensure that workers in commercial development are provided with direct access to fresh air and to assist in promoting thermal comfort for occupants.

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).

10.6 COLOURS AND MATERIALS

Colours and materials can be used to absorb or reflect heat from the sun. Dark colours tend to absorb the sun's rays whereas light colours are more reflective. There is little advantage in using dark external colours to absorb heat in winter. However, the use of lighter colours, particularly on the roof area and on east and west facing walls, are particularly advantageous during summer to reflect the sun's heat. Glare effects and streetscape issues need to be considered when choosing external colours.

Objectives

O1 To maximise the energy efficiency of buildings.

O2 To encourage the use of materials which have a low environmental impact during their life cycle.

O3 To encourage the use of toxin free material to minimise the health impact of materials used indoors.

Provisions

P1 Buildings should use lighter coloured materials and finishes on main external parts of the building.

P2 Products with the least life cycle impact should be favoured.

P3 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 and produced materials;

(d) materials with a low embodied energy content;

(e) salvaged and/or recycled materials;

(f) timber 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) toxin-free floor finishes.

P4 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.

P5 Use physical termite barriers (made of granite or stainless steel) instead of chemicals where possible.

10.7 HOT WATER SYSTEMS IN RESIDENTIAL ACCOMMODATION

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 hot water systems installed in dwellings must not solely rely on electrical mains power to heat the water (n.b. sole electrical hot water systems are not permitted in new dwellings).

P2 Install solar powered water heaters on any residential development. 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 Centralise solar or heat pump hot water systems in larger scale residential flat buildings or attached dwelling developments, to achieve economies of scale.

P6 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.

10.8 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.

10.9 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[1] 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.

10.10 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; and

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

10.11 Sustainability Reporting

10.11.1 Residential Accommodation

Objectives

O1 To ensure that development for residential accommodation minimises their use of non-renewable energy resources.

Provisions

P1 A BASIX Certificate is required to be submitted with all developments incorporating residential development types nominated under *SEPP (Sustainable Buildings) 2022*.

[1] *"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.*

Note: *BASIX assessments and certificates can be obtained on-line via the NSW Planning Portal at* www.planningportal.nsw.gov.au

10.11.2 Non-Residential Development

The commercial and retail sectors are significant users of electricity and are major contributors to greenhouse 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.

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 NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW), 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 DCCEEW'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[2] 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.

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

Provisions

P1 Applications are to demonstrate compliance with the requirements for non-residential development types nominated under *SEPP (Sustainable Buildings) 2022*. Where there is an inconsistency between the targets set under *SEPP (Sustainable Buildings) 2022* and this DCP, those under the SEPP will prevail.

P2 Development must comply with the submission requirements and performance targets set out in Table B-10.1 in order to demonstrate the proposed development will achieve an efficient use of resources.

TABLE B-10.1 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 this section of the DCP.
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 this section of the DCP.
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 this section of the DCP.
	A NABERS Energy Commitment Agreement and associated documentation (see s.10.12.2 (P2) 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 this section of the DCP, particularly regarding on-site detention, discharge rates and quality of discharge; and demonstration that WSUD has been incorporated to the maximum extent practicable.

TABLE B-10.1 Non-residential thresholds, submission requirements and performance targets		
Threshold/size	**Submission requirement**	**Performance target**
>5000m² GFA	A NABERS Energy Commitment Agreement and associated documentation (see s.2.6.1(P3) 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; AND	Compliance with / consideration of (as relevant) DCP provisions within this section of the DCP, 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 this section of the DCP and demonstrate that the development will achieve a very high degree of environmental sustainability.

P3 Buildings, or the non-residential components of mixed use buildings, that have a gross floor area 2000m^2 or greater and less than 5000m^2 must be capable of achieving a minimum 4.5 star rating under DCCEEW'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 DCCEEW, 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 DCCEEW'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 DCCEEW'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.

P4 Developments involving the provision of 5,000m^2 or more of non-residential 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*.

P5 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.

SECTION 11 CONTAMINATION AND HAZARDOUS BUILDING MATERIALS

11.1 INTRODUCTION

This Section forms the basis for the management of land contamination and hazardous building materials within the LGA. In addition, it comprises Council's policy for dealing with land contamination under the Department of Planning's (DoP) *Managing Land Contamination: Planning Guidelines* and Chapter 4 – *Remediation of Land* to *SEPP (Resilience and Hazards) 2021*).

11.1.1 General objectives

The general objectives of this Section of the DCP are to:

O1 Provide a framework for the integration of land contamination management into the planning and development process with the specific aim to:

(a) provide for the appropriate investigation and remediation of contaminated land;

(b) ensure that changes of land use will not increase the risk to health or the environment;

(c) avoid inappropriate restrictions on land use; and

(d) provide information to support decision making and to inform the community about land contamination.

O2 Provide a framework for the investigation, reporting and removal of hazardous building materials from a site to ensure that risk to the health of the community or environment is not adversely affected.

11.1.2 When does this section of the DCP apply?

This Section of the DCP applies to all development applications involving land which is known or has potential to be contaminated or affects buildings or works constructed and or improved with hazardous building materials.

11.1.3 Relationship to other Documents

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

(a) *Environmental Planning and Assessment Act 1979* (EP&A Act 1979);

(b) *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation 2021);

(c) *Contaminated Land Management Act 1997* (CLM Act 1997);

(d) *Contaminated Land Management Regulation 2022*;

(e) Chapter 4 – Remediation of Land to *SEPP (Resilience and Hazards) 2021*;

(f) DoP's *Managing Land Contamination - Planning Guidelines* (to be used in association with Chapter 4 – Remediation of Land to *SEPP (Resilience and Hazards) 2021*);

(g) DoP's Draft Contaminated Land Planning Guidelines; and

(h) NSW EPA's *Guidelines for the Assessment and Management of Sites Impacted by Hazardous Ground Gases*.

This package of legislation and guidelines is cross-referenced and the documents work in conjunction with each other. If, when using the DCP, clarification of any matter is required, refer to the above primary legislative documentation.

11.2 CONTAMINATED LAND

11.2.1 Decision Making Process

In determining all Planning Proposals and development applications, Council will consider the possibility of land contamination and the implications it has for any proposed or permissible future uses of the land. A precautionary approach will be adopted to ensure that any land contamination or hazardous materials issues are identified and dealt with early in the planning process.

Council is required to assess and determine all Planning Proposals in accordance with Ministerial Direction 4.4 – Remediation of land under s.9.1 of the EP&A Act and development applications in accordance with the relevant provisions contained within *SEPP (Resilience and Hazards) 2021*.

Initial Evaluation

As part of every Planning Proposal and development application, Council will conduct an initial evaluation to determine whether contamination is an issue, and whether sufficient information is available for Council to appropriately carry out its planning functions. The initial evaluation checklist is to be addressed on the basis of readily available information held by the Council or provided by the applicant (Also refer to section 3.2.1 of *Managing Land Contamination: Planning Guidelines*).

Initial Evaluation checklist –

(a) Is the Council aware of any previous investigations about contamination on the land? What were the results, including any previous initial evaluations?

(b) Do existing Council records show that an activity listed in the Managing Land Contamination Planning Guidelines has ever been approved on the land? (The use of records held by other authorities or libraries is not required for an initial evaluation.)

(c) Was the subject land at any time zoned for industrial, agricultural, or defence purposes?

(d) Is the land currently used for an activity listed in the Managing Land Contamination Planning Guidelines?

(e) To the Council's knowledge, has the land ever been regulated through licensing or other mechanisms in relation to any activity listed in the Managing Land Contamination Planning Guidelines?

(f) Are there any land use restrictions on the land relating to possible contamination, such as notices issued by the NSW Environment Protection Authority or other regulatory authority?

(g) Does a site inspection conducted by the Council (optional) suggest that the site may have been associated with any activities listed in the Managing Land Contamination Planning Guidelines?

(h) Is the Council aware of information concerning contamination impacts on land immediately adjacent to the subject land which could affect the subject land?

If none of the answers suggest that the land might be contaminated or that further enquiry is warranted, the planning process should proceed in the normal way. Further reference to this Section of the DCP will only be necessary if contamination is identified on site during development.

If the initial evaluation indicates that contamination is or may be present, or the Council has insufficient information on which to make a planning decision, then the applicant will be required to engage a suitably qualified consultant to undertake further investigations, as indicated below. The appropriate level of investigation will depend on the circumstances and may involve one or more of the following stages:

Stage 1 - Preliminary Investigation

Stage 2 - Detailed Investigation

Stage 3 - Remedial Action Plan

Stage 4 - Validation and Monitoring

These four stages are described in further detail in the following subsection of the DCP.

Procedures for Planning Proposals

Council must consider contamination issues in accordance with Ministerial Direction 4.4 – Remediation of land under s.9.1 of the EP&A Act when determining a Planning Proposal.

In addition to these requirements, if Council has reasonable grounds to suspect that the land may be contaminated because of the land's history, condition or other information known to Council, Council will require the submission of:

(a) a *Preliminary Investigation*; or

(b) a combined *Preliminary Investigation* and *Detailed Investigation* for a site specific Planning Proposal.

Where a Planning Proposal involves the rezoning of land that covers a large area (e.g. precinct or LGA based) Council may include provisions in an LEP or DCP to ensure that the potential for contamination and the suitability of the land for any proposed use is further addressed prior to the redevelopment of the land.

Subsection 11.2.2 to this Part of the DCP outlines when and what information Council will require relating to site contamination issues to be submitted with a Planning Proposal.

Procedures for Development Applications

Council must consider contamination issues in accordance with cl.4.6 to *SEPP (Resilience and Hazards) 2021*when determining a development application.

Contamination issues may be addressed by refusing consent, or by issuing consent subject to conditions. In appropriate cases, deferred commencement consent might be issued, requiring remediation and validation to be undertaken prior to other work commencing. Modifications of development applications will be considered under this DCP in the same way as new development applications.

All land affected by a planning decision will be considered under this Section of the DCP. For example, where a development application proposes to dedicate land for open space, the suitability of that land for open space will be considered under this DCP. The Council may require a *Preliminary Investigation* or *Detailed Investigation* and a deed of indemnity in these cases.

Subsection 11.2.2 to this Part of the DCP outlines when and what information Council will require relating to site contamination issues to be submitted with a development application.

11.2.2 Contamination Investigation and Reporting

Due to the technical nature, specialised issues and potential risks to life from contamination, the investigation and reporting requirements set out in the following four stages must be undertaken by a suitably qualified consultant and all associated costs must be borne by the applicant. EPA accredited auditors will be accepted as being suitably qualified consultants.

11.2.2.1 Stage 1 - Preliminary Investigation

Stage 1 involves identifying past or present potentially contaminating activities. The purpose of the investigation is to determine whether further detailed investigation is warranted due to the likelihood or evidence of contamination.

Note: *Information sources that may be useful in understanding the history of a site include the following:*

- *Past aerial photographs*
- *Council records - town planning, scheme maps, development and building applications, complaints, pollution incident reports*

- *Local Historical Publications - documents particularly relevant to North Sydney are listed in a Council document "SEPP Research Documents" (1 June 1999.)*
- *Current and previous site owners and occupiers*
- *Current and previous site workers*
- *Long-term residents*
- *Past and Present Telephone Books*
- *Noxious Trades register formerly kept pursuant to the* Noxious Trades Act 1902 *(repealed 18 November 1991)*
- *Sands Sydney and New South Wales Directory 1858-1932/3*
- *NSW Environment Protection Authority Section 35 Notices, past and present scheduled premises.*
- *Sydney Water Corporation Trade Waste Agreements*
- *Work Cover Authority Dangerous Goods Branch*
- *Power sites containing present and past electrical substations*

The level of investigation must be appropriate to the potential risk from contamination. An investigation is not necessary at the rezoning stage if there is no reason to suspect contamination.

P1 A *Preliminary Investigation* is required to be submitted to Council in accordance with Ministerial Direction 4.4 – Remediation of land under s.9.1 of the EP&A Act, cl.4.6 to *SEPP (Resilience and Hazards) 2021*, and the DoP's *Managing Land Contamination: Planning Guidelines*.

P2 Council may also require a Preliminary Investigation to be submitted when:

(a) Council has reasonable grounds to believe the land is contaminated because of the land history, condition, or other information known to Council;

(b) The site has been investigated or remediated but there is insufficient information available about the nature and extent of contamination or remediation, or the circumstances have changed;

(c) There are restrictions on, or conditions attached to, the use of the site by a regulatory or planning authority that are, or may be, related to contamination, but there is insufficient information available about the nature and extent of contamination;

(d) Council records indicate that the site is or may be associated with pollution incidents or dumping of wastes;

(e) The site adjoins land that has been associated with activities that may cause contamination listed in DoP's *Managing Land Contamination: Planning Guidelines*.

(f) and it is possible that contamination may have migrated to the subject site;

(g) A spot rezoning is proposed to allow a specific development or land use. In these cases a preliminary and detailed investigation may be required to prove the land is suitable for the development or can and will be made suitable; or

(h) The site history is unclear and the site is proposed to be used for residential, educational, recreational, medical or child care uses.

P3 *Preliminary Investigations* and *Detailed Investigations* may be combined into a single report where land is known to contain or have contained a potentially contaminating activity.

If the results of the preliminary investigation conclusively demonstrate that there is no potential for, or existence of, contamination that makes the land unsuitable for the proposed use, then Council will not require any further investigations to be conducted.

11.2.2.2 Stage 2 – Detailed Investigation

The purpose of Stage 2 is to determine the nature, extent and degree of contamination existing on a site and to assess the risk posed by contaminants to human health and the environment. This information is then used to prepare a *Remedial Action Plan*, if necessary.

P1 A *Detailed Investigation* is required to be undertaken when the results of the *Preliminary Investigation* demonstrate the potential for or existence of contamination that may affect the proposed use of the land.

P2 The *Detailed Investigation* must be undertaken and reported in accordance with the DoP's *Managing Land Contamination: Planning Guidelines*.

P3 The Detailed Investigation must include a statement outlining whether the site is suitable for the proposed use in its current state, or if remediation is necessary to make the site suitable for the proposed use. If remediation is required, the report should also list the feasible remediation options available to remediate the site (refer to section 11.2.5 - Site Audit).

11.2.2.3 Stage 3 –Remedial Action Plan

The purpose of Stage 3 is to identify and establish remediation objectives, clean up criteria and a strategy for remediation. The *Remedial Action Plan* is also to identify any approvals that need to be obtained from regulatory authorities (refer to the provisions of Chapter 4 – Remediation of Land to *SEPP (Resilience and Hazards) 2021*).

Prior to determining a development application, Council must be satisfied that remedial measures have been, or will be, undertaken in accordance with the submitted *Remedial Action Plan*, to make the site suitable for the proposed use.

Remedial works may require separate development consent (refer to section 11.2.3 - Control of remediation work). If development consent is required for remediation of contaminated land, a *Remedial Action Plan* must be submitted with the development application for approval.

P1 A *Remedial Action Plan* must:

(a) be submitted to Council in accordance with the DoP's *Managing Land Contamination: Planning Guidelines* if the detailed investigation concludes that the land is not suitable for the proposed use in its present state;

(b) demonstrate how the applicant or their consultant proposes to reduce risks to acceptable levels and achieve the clean up objectives for the site;

(c) document remedial works to be undertaken at the site and address the matters covered in subsection 11.2.4.

P2 A *Remedial Action Plan* should include an *Environmental Management Plan*.

P3 Council may require site auditor comment on the proposed remediation objectives, and clean up criteria, prior to the *Remedial Action Plan* being finalised (refer to subsection 11.2.5 - Site Audit).

Depending upon the level of information available at the time of assessing a Development Application, the requirement for a *Remedial Action Plan* may be imposed as a condition of consent.

11.2.2.4 Stage 4 –Validation and Monitoring Report

The purpose of Stage 4 is to confirm that the objectives stated in the *Remedial Action Plan* have been achieved and that any relevant conditions of development consent have been complied with.

P1 A *Validation and Monitoring Report* is required to be submitted to Council in accordance with the DoP's *Managing Land Contamination: Planning Guidelines* after remediation works have been completed, and prior to the commencement of new building construction works approved in an associated development consent.

P2 Applicants are encouraged to use the same consultant who conducted the Preliminary Investigation, Detail Investigation and remediation works to prepare the Validation and Monitoring Report.

P3 Council will need to be satisfied that the site is suitable for the proposed use when considering any subsequent development applications for the subject site. Hence it is recommended that comprehensive records are maintained during the remediation and validation works for all sites (See subsection 11.2.5 - Site audit.).

Usually Council will place a condition on any development consent granted requiring the submission of a *Validation and Monitoring Report* prior to the issuing of a Construction Certificate. Alternatively, Council may issue a deferred commencement consent for the proposed use, requiring that remediation and validation is undertaken prior to other work commencing.

11.2.3 Control of Remediation Work

Remediation comprises work carried out for the purpose of removing, dispersing, destroying, reducing, mitigating or containing the contamination of any land, or eliminating or reducing any hazard arising from the contamination of the land (including by preventing the entry of persons or animals on the land).

Remediation work is regulated by Chapter 4 – Remediation of Land to *SEPP (Resilience and Hazards) 2021* (refer to clauses 4.7-4.15 of the SEPP) and the DoP's *Managing Land Contamination: Planning Guidelines*.

Remediation work typically falls into either Category 1 or Category 2 works. Development consent is required to undertake Category 1 remediation works, but not for Category 2 works. Broadly speaking, Category 2 remediation work is all remediation work that is not Category 1. The full definition of Category 1 remediation work is contained with clauses 4.8 and 4.10 to *SEPP (Resilience and Hazards) 2021*.

P1 Remediation work must be undertaken in accordance with the relevant provisions of Chapter 4 – Remediation of Land to *SEPP (Resilience and Hazards) 2021*and the DoP's *Managing Land Contamination: Planning Guidelines*.

P2 In addition to P1, Category 2 remediation must comply with the site management requirements set out in subsection 11.2.4 of this Part of the DCP. Category 2 remediation work that does not comply with Subsection 11.2.4 of this Part of the DCP will be classified as Category 1 remediation work and will require development consent.

P3 Comprehensive records should be maintained during the undertaking of remediation and validation works for all sites to demonstrate that the site will be suitable for the proposed use.

11.2.4 Site Management Requirements

All Category 2 remediation work must be carried out in accordance with the following site management requirements. These requirements apply to the whole of the North Sydney LGA and have been formulated to ensure that Category 2 remediation work does not adversely impact upon the environment and public amenity.

Category 2 remediation work that does not comply with these requirements will be classified as Category 1 remediation work and will require development consent.

Development applications lodged for Category 1 remediation work should identify any departures from these requirements and any alternative site management measures to be implemented.

Note: *Refer to parts 4.4-4.6 of the Managing Land Contamination: Planning Guidelines in regard to assessment of development applications.*

Remediation Work

P1 All remediation work must be carried out in accordance with:

(a) the *Managing Land Contamination: Planning Guidelines*; and

(b) the standards contained within the NSW Environment Protection Authority guidelines made under the *CLM Act 1997*.

Notification

P2 Notice of proposed work must be given to the Council in accordance with Chapter 4 – Remediation of Land to *SEPP (Resilience and Hazards) 2021*, clause 4.13.

Note: *Clause 4.13 SEPP (Resilience and Hazards) 2021 requires that the notice to Council must:*

(a) be in writing, and

(b) provide the name, address and telephone number of the person who has the duty of ensuring that the notice is given, and

(c) briefly describe the remediation work, and

(d) show why the person considers that the work is category 2 remediation work by reference to clauses 4.8, 4.11 and (if it applies) 4.12(1) to SEPP (Resilience and Hazards) 2021, and

(e) specify, by reference to its property description and street address (if any), the land on which the work is to be carried out, and

(f) provide a map of the location of the land, and

(g) provide estimates of the dates for the commencement and completion of the work.

At least 30 days notice is also required, except in the case of work required to be carried out immediately under the terms of a remediation order (in which case, at least 1 day's notice is required).

P3 The following additional information must be submitted with the notice to the Council:

(a) copies of any Preliminary Investigation, Detailed Investigation and Remedial Action Plan for the site, and

(b) contact details for the remediation contractor and any other party responsible for ensuring compliance of remediation work with regulatory requirements.

Hours of Operation

P4 All remediation work shall be conducted within the following hours (unless consent conditions provide otherwise):

Monday – Friday:	7am - 5pm
Saturday:	8am - 1pm
Sundays or Public Holidays:	No work is permitted

Health and safety

P5 The work must satisfy applicable occupational health and safety and construction safety regulations, including any Work Cover Authority requirements to prepare a health and safety plan. Site fencing must be installed to exclude the public from the site. Safety signs must be erected that warn the public to keep out of the site, and a contact telephone number provided for enquiries.

Noise

P6 Noise emissions must comply with relevant standards under the Protection of the Environment Operations Act 1997. Vibration from the works must not be felt on any adjoining property.

Air quality

P7 Materials must not be burnt on the site.

P8 Vehicles entering and leaving the site with soil or fill material must be covered.

P9 Dust suppression measures must be carried out to minimise wind-borne emissions in accordance with the NSW Department of NSW Department of Environment and Heritage's

Managing Urban Stormwater: Soils and Construction. Odour suppression measures must be carried out to avoid effects on adjoining properties.

Water quality

P10 Runoff must be drained to an adequately bunded central collection sump and treated, if necessary, to meet NSW Environment Protection Authority discharge criteria.

Erosion and sediment control

P11 Erosion and sediment control techniques are to be in accordance with North Sydney Council guidelines on Erosion and Sediment Control. All remediation works shall be conducted in accordance with an erosion and sediment control plan that follows the brochure *Preparing an Erosion and Sediment Control Plan* published by the Department of Conservation & Land Management. The plan must be kept on-site and made available to Council officers on request (See also Council's leaflet *Erosion and sediment control for urban development*).

P12 Erosion and sediment control measures must be established prior to commencement of work. All erosion and sediment measures must be maintained throughout the remediation works.

P13 Temporary stockpiles of contaminated materials must be kept in a secure area. Facilities must be installed for cleaning vehicles prior to leaving the site. Detailed designs for any pollution control system, including leachate collection and disposal, must be provided to the Council with notice of proposed work required pursuant to cl.4.13 to *SEPP (Resilience and Hazards) 2021*.

Waste

P14 Any removal of contaminated solids from the site must comply with relevant laws for the transportation, treatment and disposal of waste materials. Waste materials must not be disposed of on land without:

(a) permission of the land owner; and

(b) development consent from the relevant local council (if required); and

(c) an environment protection licence from the NSW Environment Protection Authority.

Landscaping and rehabilitation

P15 Disturbed areas must be progressively stabilised and revegetated in accordance with a landscape plan.

Remedial Action Plan

P16 The remediation work must be carried out in accordance with a Remedial Action Plan prepared in accordance with Chapter 4 – Remediation of Land to *SEPP (Resilience and Hazards) 2021*, the DoP's *Managing Land Contamination: Planning Guidelines*, this DCP and any relevant guidelines issued under the *CLM Act 1997*.

Validation

P17 A validation and site monitoring report prepared in accordance with relevant guidelines issued under the *CLM Act 1997* must be submitted to the Council within one month from completion of the remediation work.

P18 All validation and site monitoring reports must be completed by a suitably qualified environmental consultant.

P19 A detailed survey of all sites used for landfill disposal must be prepared within one month from completion of the remediation work, and submitted to Council. The plan must identify the extent and depth of all fill material in relation to existing roadways and buildings. The survey must also include a detailed survey of all sites used as landfill disposal pits, identifying boundaries and depth of disposal pits in relation to existing roadways and buildings.

Community information

P20 Reasonable measures must be undertaken by the applicant to keep nearby residents informed about the proposed work, such as signs, leaflets, public meetings, and telephone contact numbers.

Compliance with legislation

P21 Compliance with relevant environmental legislation and planning guidelines is required in addition to the provisions in this section.

Post remediation works

P22 Following validation of the site, notice of completion must be submitted to Council in accordance with clauses 4.14 and 4.15 to *SEPP (Resilience and Hazards) 2021*and within 30 days of completion of the work.

P23 A copy of the validation report must also be submitted to Council with the notice of completion.

11.2.5 Site Audit

A site audit comprises an investigation to determine one or more of the following:

(a) the nature and extent of contamination of land

(b) the nature and extent of the investigation or remediation

(c) what investigation or remediation is necessary before land is suitable for any specified use or range of uses

Council may request a site audit to be undertaken at any or all stages in the site investigation or remediation process. In accordance with the *Managing Land Contamination Planning Guidelines*, Council will require a site audit prepared by an Environment Protection Authority accredited auditor for contaminated land if Council:

- believes on reasonable grounds that the information provided by the applicant is incorrect or incomplete;
- wishes to verify whether the information provided by the applicant has adhered to appropriate standards, procedures and guidelines; or
- does not have the internal resources to conduct its own technical review.

A site audit will be required in most cases, as the Council will usually want to verify whether the information provided by the applicant has followed appropriate standards, procedures and guidelines. The Council will not usually have the internal resources to conduct its own technical review. The applicant is responsible for engaging an accredited auditor to perform a site audit and to pay the costs involved.

When Council requests a site audit, it will also specify any issues to be included in the audit, as well as requiring a site audit to address any issues raised in s.53B of the CLM Act 1997.

Requirements

P1 The following are examples of issues that Council may request a NSW EPA accredited auditor for contaminated land to address when conducting a site audit:

(a) Has the contaminated land consultant complied with all appropriate standards, procedures and relevant NSW EPA guidelines?

(b) What further investigation or remediation is required before the land is suitable for any specified use or range of uses?

(c) Whether the auditor considers that the proposed remediation is adequate, and if undertaken, will render the site to be suitable for the proposed use?

(d) Whether it can be concluded that there is no unacceptable off-site migration of contaminants?

(e) Whether the contamination conditions at the site are suitable for in-ground absorption of stormwater?

P2 Either the applicant or the appointed auditor shall liaise with Council during the preparation of the site audit to ensure that the scope of the site audit addresses the concerns raised by Council.

P3 For sites that raise complex issues, the site auditor should be engaged during the investigation processes and planning of remedial action, liaising with the consultant and the Council to streamline these processes. The following steps (P4 to P6) may then be undertaken.

P4 The auditor may provide a statement to Council indicating that remediation of the site is feasible and environmentally justifiable, and that following remediation, the site is likely to be suitable for its intended use.

P5 The auditor can review the remedial action plan prepared by the consultant and be satisfied that issues relating to remediation policy, scheduled waste management and off site disposal consents are properly addressed.

P6 The auditor can review the validation report prepared by the consultant and decide if the site is suitable for its intended purpose and that issues such as groundwater contamination, and contaminant migration have been adequately addressed.

Site Audit Statements

The NSW Environment Protection Authority Guidelines for the NSW Site Auditor Scheme indicate the content and format of site audit statements (see also S.53B of the *CLM Act 1997*, and the *CLM Regulation 2022*).

Before issuing a site audit statement, the site auditor must prepare and finalise a summary site audit report. The EPA Guidelines for the NSW Site Auditor Scheme outlines what must be included in a site audit report.

11.2.6 Council records and community information

Council has an important role in supplying the community with information regarding land use history, land contamination and remediation. Council also has a statutory responsibility under s.59 of the *CLM Act 1997* to include information provided to Council by either the EPA or accredited auditors on Certificates issued under s.10.7 of the *EP&A Act 1979*.

The process of information collection about land contamination is an ongoing process. Information concerning contaminated land will be added to Council's property information system when development applications are processed or when information is provided to the consent authority via other sources.

Information Management

The Council does not hold comprehensive information about land contamination. In the past, little information was kept about contaminated land. The information that Council does have on record relating to contamination generally relates to only a very small number of sites. Council is aware of some land where potentially contaminating land uses have taken place. It is possible that some of these sites are contaminated and that others are not, but can not be determined until further detailed investigations have been undertaken. It is also possible that there are some parcels of land which are contaminated in the local government area that is not known to the Council.

Land contamination is dynamic and no information system can record the nature of all contamination within the local government area at any one time. Council records will change over time as information comes to light. Specifically, the following information will be added to the record for individual parcels of land from time to time:

- Information contained in development applications, indicating use for a potentially contaminating activity listed in the Managing Land Contamination Planning Guidelines.

- Reports submitted to Council, including preliminary investigation, detailed investigation, remedial action plans, validation and monitoring reports, and site audit statements.
- NSW Environment Protection Authority declarations and orders issued under the CLM Act 1997 (including voluntary investigation and remediation proposals agreed by the NSW Environment Protection Authority).
- Prior notification of Category 2 remediation works.
- Notification of completion of Category 1 and Category 2 remediation work.

Information about land contamination held within the Council's records will be supplied to the public by the following means (subject to payment of any prescribed fees):

- By issuing Planning Certificates (s.10.7 Certificates) on application to Council.
- By providing access to documents in accordance with the *Government Information (Public Access) Act 2009* and other legislation.

Information relating to land contamination or the likelihood of land contamination is gathered, kept and disseminated, so as to:

- Provide a basis for informed planning decisions that consider land use history
- Provide reliable information to the community
- Minimise risk to health and the environment
- Avoid unnecessary restrictions on development
- Acknowledge any limitations on information, such as its degree of uncertainty or accuracy, and the purpose and time it was collected

Planning Certificates

All Planning Certificates issued under s.10.7(2) of the *EP&A Act 1979* will state that Council has adopted this development control plan, as well as the information required under s.59(2) of the CLM Act 1997, where the land is:

- significantly contaminated land;
- subject to a management order;
- subject of an approved voluntary management proposal;
- subject to an ongoing maintenance order; or
- subject of a site audit statement.

In addition, a Planning Certificate issued under s.10.7(2) will indicate, pursuant to Clause 10 to Schedule 2 of the *EP&A Regulation 2021*, whether the land has been identified by Council as having the potential to be contaminated due to previous activities carried out on the site.

When a Planning Certificate is requested under s.10.7(5) of the *EP&A Act 1979*, Council will provide additional information known to Council about site contamination issues, including that the site may be contaminated because of past zonings or uses, the existence of reports on past site investigations, notifications of remediation, site audit statements, and the like.

11.3 HAZARDOUS BUILDING MATERIALS

There are some instances where buildings have been constructed with or fitted with hazardous building materials. These materials are often inert when left in situ, however can become hazardous to a person's health when disturbed. The following subsection sets out the investigations, reporting requirements and removal and disposal methods required to be provided or carried out.

11.3.1 Initial Investigation

Council will conduct an initial evaluation as part of every development assessment to determine whether hazardous building materials are an issue, and whether sufficient information is available for Council to appropriately carry out its planning functions. The initial evaluation checklist is to be addressed on the basis of readily available information held by the Council or provided by the applicant. In completing the checklist, the following questions are to be considered:

(a) Is the Council aware of any previous investigations about hazardous building materials on the land? What were the results, including any previous initial evaluations?

(b) Was the subject land at any time used for commercial premises, industrial premises, telecommunication facilities, transport facilities, electrical facilities, water supply facilities, sewerage facilities, agricultural purposes or defence purposes?

(c) Was the affected building(s) constructed prior to 1970?

If none of the answers suggest that the land might contain hazardous building materials or that further enquiry is warranted, the planning process should proceed in the normal way. However, if the initial evaluation indicates that hazardous building materials may be present, or the Council has insufficient information on which to make a planning decision, then the applicant will be required to undertake further investigations. In particular, the applicant will be required to submit a Hazardous Building Materials Survey Report.

11.3.2 Hazardous Building Materials Survey Report

P1 A Hazardous Building Material Survey Report is required to be submitted with the lodgement of all Development Applications involving demolition of the following:

(a) Commercial, industrial and retail buildings with a gross floor area of greater than 500m^2;

(b) Transport, telecommunications, electrical, water or sewerage facilities or structures; or

(c) Any building on a site, where it is proposed to be used for child care purposes.

Based on its initial assessment of a Development Application, Council may impose a condition on a development consent for other types of development requiring the submission of a Hazardous Building Material Survey Report to Council prior to the issue of a Construction Certificate.

P2 The associated investigations are required to be carried out in accordance with the requirements of the relevant NSW Environment Protection Authority guidelines.

P3 The associated investigations and report must be completed by a suitably qualified consultant to undertake the preliminary investigation and to pay all the costs involved (EPA accredited auditors will be accepted as being suitably qualified consultants).

P4 The investigations should involve at least a visual inspection of accessible and representative construction materials and the collection and analysis of materials suspected of containing hazardous materials.

P5 The inspection should identify the presence of any of the following materials:

(a) **Asbestos:** The assessment must be carried out in accordance with the guidelines documented in the Asbestos Code of Practice for the Management and control of Asbestos in Workplaces [NOHSC:2018 (2005)] and the *Protection of the Environment Operations (Waste) Regulation 2014*.

(b) **Synthetic Mineral Fibres (SMF):** Investigations should be made of electrical insulation, plumbing materials, heat insulation, acoustic insulation and fire insulation. The materials should be broken down into their main groupings consisting of:

(i) Continuous Glass Filaments;

(ii) Fibreglass, glass fibre or glasswool;

(iii) Rockwool; and

(iv) Ceramic Fibres

(c) **Polychlorinated Biphenyls (PCBs):** All light fittings should be inspected for the presence of PCB containing capacitors. The capacitors are to be cross referenced with the ANZECC Identification of PCB Containing capacitors database -1997.

(d) **Lead-containing Paint:** Representative painted surfaces are to be tested. Investigations should be focused on areas where lead based paint would have been traditionally used, such as exterior gloss paints, window and door architraves, skirting boards.

(e) **Ozone depleting substances:** Inspection of refrigerant gas labels on representative refrigeration and or air conditioning plants are to be noted and documented. Where there are no labels, assessment is to be based on the age and condition of the plant.

P6 The Report is also to provide general recommendations for the removal, of the hazardous materials, including the preparation of detailed document such as a Management Plan, Technical Scope of Works, SafeWork, Method Statements and Risk Assessments to appropriately address health and safety issues associated with the specific work and site conditions. The recommended conditions contained in any of the above reports may be included as conditions to a development consent.

11.3.3 Removal of Hazardous Building Materials

The removing, dispersing, destroying, reducing, mitigating or containing of hazardous building materials on any land, or eliminating or reducing any hazard arising from its removal must be undertaken in accordance with the following documents or legislation:

- *Work Health and Safety Act 2011*,
- *Work Health and Safety Regulation 2017*,
- The NSW WorkCover Code of Practice for the Safe Use of Synthetic Mineral Fibres,
- National Occupational Health and Safety Commission's National Code of Practice for the Safe Use of Synthetic Mineral Fibres,
- Code of Practice for the Safe Removal of Asbestos [NOHSC: 2002 (1988)].

Council may impose a condition on a development consent requiring the applicant to comply with these documents and legislation.

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