Ku-ring-gai Local Centres Development Control Plan

ADOPTED - 28/11/17

EFFECTIVE - 07/12/17

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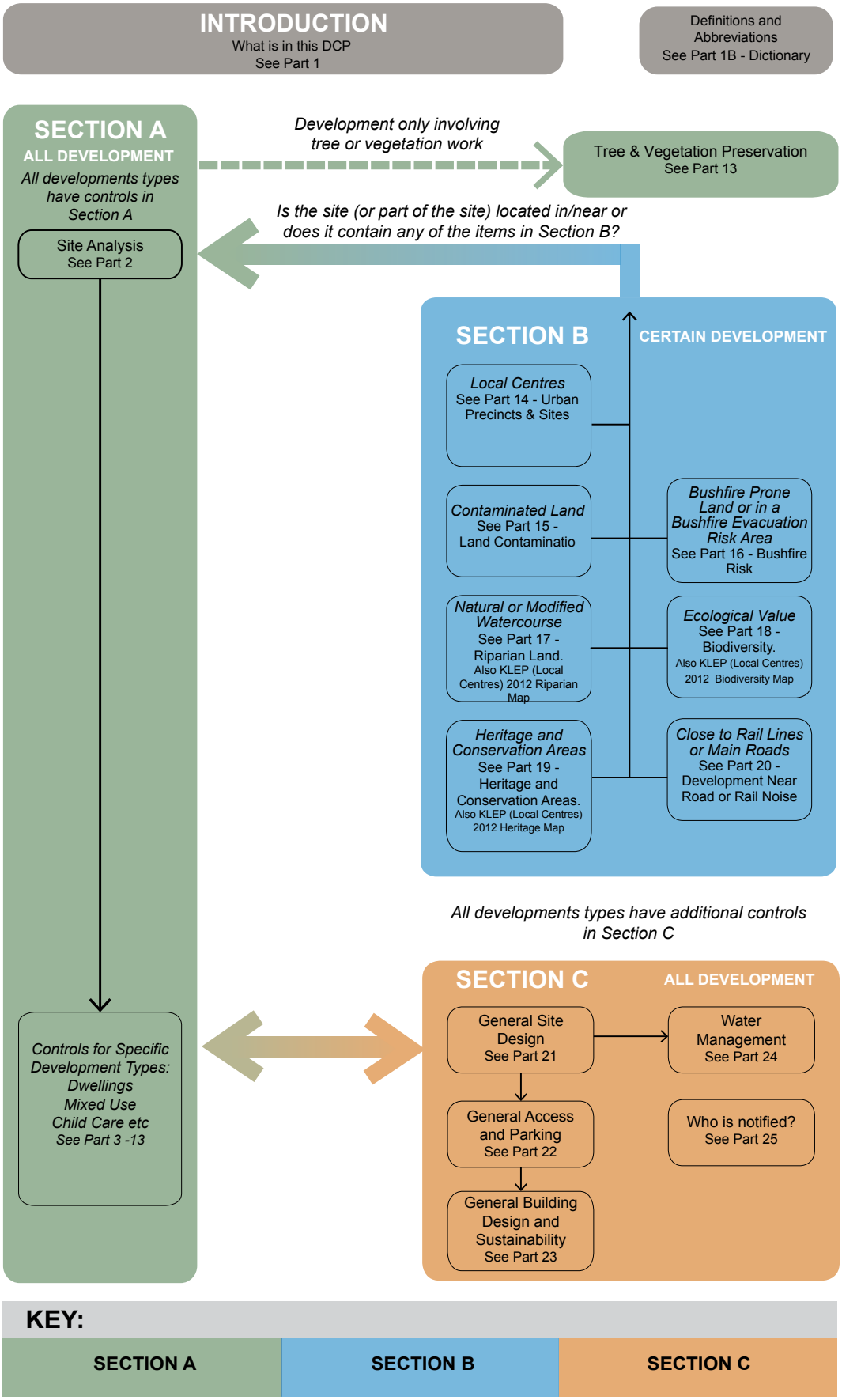
HOW TO USE THE DCP



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PART 1

INTRODUCTION

Introduction - How to use this DCP

1A Preliminary

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1A.2 Name of this DCP

1A.3 Commencement Date

1A.4 Land affected by this DCP

1A.5 General aims of the DCP

1A.6 Relationship to Ku-ring-gai Local Environmental Plan (Local Centres) 2012

1A.7 Relationship to State Environmental Planning Policies

1A.8 Relationships to other DCPs

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1B.1 Definitions

1B.2 Abbreviations

INTRODUCTION

What is a Development Control Plan?

A Development Control Plan (DCP) is a planning document which provides detailed guidance for the siting, design and assessment of new development.

This DCP establishes a framework for future development in those parts of the Ku-ring-gai Local Government Area under the Ku-ring-gai Local Environmental Plan (Local Centres) 2012.

The intent of the DCP is to provide more detailed provisions for development to achieve the purpose of the KLEP (Local Centres) 2012, while not being inconsistent with the provisions of the KLEP (Local Centres) 2012.

How to use this DCP

The planning framework contained in this DCP adopts a place-based planning approach. This is supported by design and environmental **objectives** and detailed **controls** aimed at achieving a high quality built environment, landscape setting and community spaces. These are supported by diagrams and photos.

The numbering of objectives and controls within this DCP are indicative only. The order does not imply any rating or weighting of the objective/ control.

1. Objectives

The objectives contained in this DCP outline the outcomes that proposed developments are required to achieve. In order to gain consent, developments need to demonstrate that they have fulfilled the relevant objectives for each element.

2. Controls

The design controls demonstrate the preferred ways in which the objectives are to be achieved for improving site and building design. The controls focus on building performance/functionality, form, layout, sustainability and residential amenity.

Council may consider alternate solutions to the controls provided in this DCP where:

i) the alternate solution is considered to be a reasonable planning outcome; and

ii) the alternate solution achieves the aims and objectives of that design element.

Note: Before preparing and submitting a development application, applicants must consult Council's Development Application (DA) Guide. The DA Guide is a comprehensive, step-by-step guide to what applicants need to know and do before lodging an application. All DAs submitted to Council must conform to the requirements of the DA Guide.

3. Diagrams and Photos

Diagrams and photos are used to illustrate particular elements sought by the controls. There may be other elements within the photos or diagrams that are not consistent with other controls in the DCP as they are drawn from a variety of locations and development types, not always consistent with the objectives for Ku-ring-gai. The photos and diagrams should therefore only be used for guidance about the particular elements.

4. Hyperlinks

To facilitate easy referencing between different Sections and Parts, hyperlinks in the e-version of the DCP are provided within the coloured boxes at the top of pages, or directly underneath topic headings. The colour of the box is the same as the signature colour of the Section being referenced as indicated in the diagram below.

Further controls that may apply:		
SECTION A PART 2 – Site Analysis	**SECTION B** PART 21 – Heritage Conservation Areas	**SECTION C** PART 23 – General Site Design

How is the DCP set out?

Following this Introduction and Preliminary Part 1, this DCP is set out in three (3) Sections: A, B and C, each with a number of Parts.

The Sections are designed to be used together to inform the design process. Refer to *Figure 1-1* for a visual representation of the relationship between the Sections and Parts to help with the use of the DCP. This diagram is included at the start of the Contents pages.

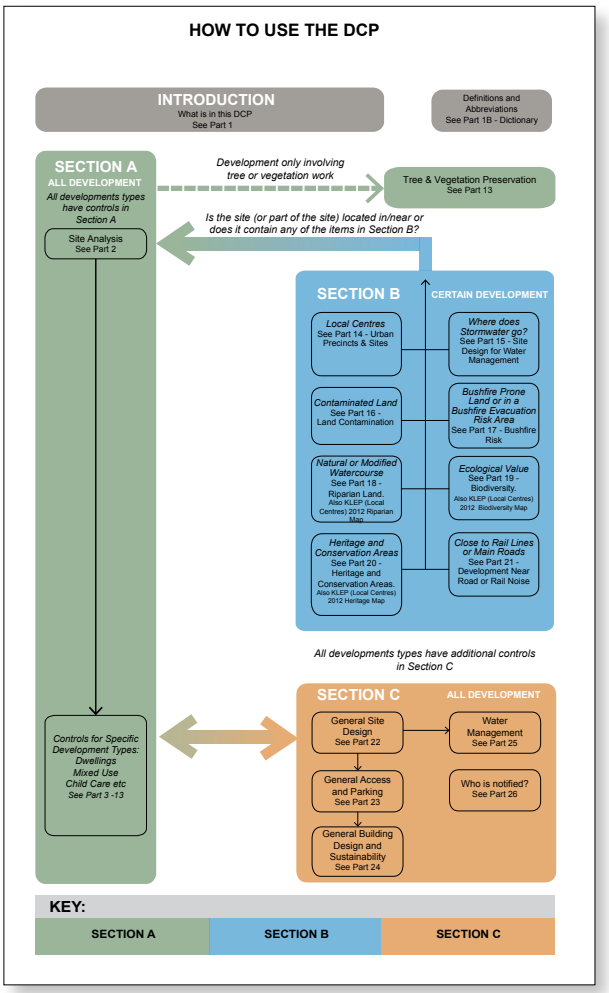


Figure 1-1:
Illustrated Guide to the DCP

INTRODUCTION (continued)

Structure of the DCP

This DCP comprises of twenty-six Parts. The parts are divided into a Part explaining the use of the DCP, followed by three sections A, B and C. A summary of all the Parts are provided below.

Introduction

Part 1 applies to all development types and is critical in:

i) understanding how to navigate through the DCP,

ii) understanding the relationship between this DCP and other statutory documents; and

iii) understanding terms within the DCP.

Part 1A: Preliminary

This Part contains general statutory information about how the DCP was prepared, the general aims of the DCP and its relationship to the Ku-ring-gai Local Environmental Plan (Local Centres) 2012 and other planning and design documents.

Part 1B: Dictionary

This part includes definitions to clarify terms used in this DCP. Terms used in the dictionary of the KLEP (Local Centres) 2012 also apply to this DCP.

This Part also includes a list of the abbreviations used in the DCP.

SECTION A - applies to all development types

Section A comprises Part 2-13

Part 2 applies to all development types critical in:

i) project feasibility assessment; and

ii) the beginning of the design process

Part 2 is to be read in conjunction with the Parts of Section B that are applicable to the site.

Parts 3-13 contain detailed provisions that apply to the main development types likely to be proposed on land covered by the KLEP (Local Centres) 2012. Where a particular development type is not included in Section A, the objectives and controls in Section C will apply.

Parts 3-13 set parameters within which good building design can occur by illustrating the use of development controls and consistent guidelines for site and building design, which focus on building performance, functionality, form, layout and residential amenity.

Parts 3-13 are intended to be read in conjunction with the relevant parts in Section C.

The order of provisions within all the Parts is generally consistent with the order of the design process, although it is recognised that this will not be the same for all designers. It is also important to recognise that the design

process is inherently iterative, as shown in Figure 1-1, and that some Parts will need to be reviewed more than once.

Part 2: Site Analysis

This Part outlines the requirements for a site analysis. A site analysis is required for all development proposals. A thorough analysis of the site and its context enables the consideration of relevant issues at the earliest stage of the design process. This helps to minimise costs and delays while supporting good location based design.

Part 3: Land Amalgamation and Subdivision

This Part provides guidance on amalgamation of multiple lots preventing isolation of lots; and, guidance on subdivision of lots. The controls provide detail on specific objectives and controls which are to be taken into account when amalgamating and/or subdividing lots.

Part 4: Dwelling House

This Part contains provisions for single dwelling houses and ancillary structures built in the R2 - Low Density Residential, E4 - Environmental Living, R3 - Medium Density Residential and R4 - High Density Residential zones.

Part 5: Secondary Dwellings

This Part provides detailed provisions for secondary dwellings which are permissible in R2 - Low Density Residential and E4 - Environmental Living zones under the KLEP (Local Centres) 2012. These controls are to be read in conjunction with the relevant objectives and controls for dwelling houses in Part 4.

Part 6: Multi-Dwelling Housing

This Part provides guidance for multi-dwelling housing developments being built within R3 - Medium Density Residential and R4 - High Density Residential zones. Dwelling types can include detached and attached townhouse dwellings or villas.

Part 7: Residential Flat Buildings
This Part contains guidance for residential flat buildings which are permissible in the R4 -High Density Residential and B4 Mixed Use zones. Where commercial premises are permitted on the ground floor under Schedule 1 of the KLEP (Local Centres) 2012, also refer to Part 8 and Section Part 1.

Part 8: Mixed Use Development

The main focus of this Part is the provision for mixed use buildings within the B2- Local Centre zone and B4 Mixed Use zone. As defined in the KLEP (Local Centres) 2012, a mixed use building is one which contains 2 or more uses. In the context of Ku-ring-gai, mixed use buildings will typically contain the following uses:

i) retail or other commercial uses at ground and lower levels; and

ii) residential apartments and/or offices on upper levels.

INTRODUCTION (continued)

This Part also guides refurbishment and new business and retail development in the B2 - Local Centre and B4 - Mixed Use zone. These developments will typically be alterations and additions to existing retail or business premises, or single storey retail or business premises, that do not wish to provide residential development in the upper levels at this time.

Guidance is also provided for the development and operation of commercial premises in residential flat buildings, where they are permitted by Schedule 1 (Additional Permitted Uses) of the KLEP (Local Centres) 2012.

In the case of any inconsistency between the controls in Part 8 and those in Section B Part 1, the controls in Section B Part 1 will prevail to the extent of that inconsistency.

Part 9: Non-Residential and Office Buildings

This Part includes controls for all non-residential building developments including offices, within the B2 - Local Centre, B4 - Mixed Use, B5 - Business Development and B7 - Business Park zones. For mixed use buildings, it applies to those parts of the building to be used for non-residential and office purposes.

Part 10: Child Care Centres

This Part contains the provisions to guide the development of Child Care Centres. This part complements the provisions of the *Children (Education and Care services National Law Application Act 2010* and the *Education and Care Services National Regulations 2011.*

Part 11: Sex Industry Premises

This Part provides specific planning controls for Sex Services Premises and Home Occupation (Sex Services) Premises.

Under KLEP (Local Centres) 2012, Sex Services Premises and Home Occupation (Sex Services) Premises are permissible with consent in the B2 - Local Centre and B4 - Mixed Use. This Part of the KLEP (Local Centres) 2012 which places further restrictions on the location of sex services premises of the DCP is to be read in conjunction with KLEP (Local Centres) 2012.

Part 12: Signage and Advertising

This Part includes objectives and controls for signage and advertising structures. This Part of the DCP is to be read in conjunction with State Environmental Planning Policy No 64 - Advertising and Signage, and Schedule 2 of the KLEP (Local Centres) 2012 which makes certain signage and advertising permissible as exempt development.

Part 13: Tree and Vegetation Preservation

This Part of the DCP contains requirements for the preservation of trees and vegetation on all land covered by the KLEP (Local Centres) 2012. This Part is made in accordance with Clause 5.9 of the KLEP (Local Centres) 2012 and prescribes the trees and vegetation to which Clause 5.9 applies. It replaces the Tree Preservation Order for the lands to which

KLEP (Local Centres) 2012 applies.

This Part provides controls in relation to the protection, management and long term survival of Ku-ring-gai's tree and vegetation resource, both native and exotic. Tree and vegetation works that do not require Council consent are also listed. This Part establishes a framework for the submission of applications for tree and vegetation works in Ku-ring-gai.

Where trees are located on a Heritage Item property or within a Heritage Conservation Area, this Part should be read in conjunction with Clause 5.10 of KLEP (Local Centres) 2012 and Section B Part 20 of this DCP.

SECTION B - applies to relevent site aspects

Section B contains objectives and controls in relation to special circumstances or values that may apply to a site or area, regardless of the zoning or the development type.

It is important to be aware of Council's expectations very early in the development feasibility or design stage in matters such as urban precincts and sites, potential land contamination, the management of bushfire risk, the natural environment, cultural heritage, and safety and amenity close to railways or busy roads amongst others.

In the case of any inconsistency between the controls in Sections A, B and C, the controls in Section B will prevail to the extent of the inconsistency.

Part 14 Urban Precincts and Sites

This Part is structured to provide guidance for development on land identified as an "urban precinct or site". There are a number of components:

- Precincts
- Community Infrastructure
- Building Setbacks
- Built Form
- Public Domain and Pedestrian Access
- Building Entries, Car Parking and Service Access

For each of the urban precincts or sites a set of site-specific performance-based provisions are provided to guide development in addition to the other development controls in Sections A, B and C of this DCP.

Part 15 Site Design for Water Management

This Part supports KLEP (Local Centres) 2012 clause 6.2 - Stormwater and Water Sensitive Urban Design, and is preliminary to the Water Management Part in Section C of this DCP.

The provisions of this Part guide the type of water management measures that are required and their location on the site. These categories are used in Section C Part 25 of this DCP to provide detailed guidance on how to manage the volume and quality of water on and off the site.

INTRODUCTION (continued)

Part 16 Land Contamination

This Part requires the applicant to consider whether the site is contaminated. It contains provisions to ensure that the site is suitable, or can be made suitable, for the proposed development. It supplements *State Environmental Planning Policy (SEPP) 55 – Remediation of Land*.

Part 17 Bushfire Risk

This Part applies to land that is identified on Council's Bushfire Prone Lands Map and Bushfire Risk Evacuation Map. It includes objectives and design controls to ensure that any development on these lands manages risk to life and property while protecting the ecological values of the site and surrounds. It complements *Planning for Bushfire 2006*.

Part 18: Riparian Lands

This Part supports the provisions of Clause 6.4 of the KLEP (Local Centres) 2012. It applies to all land identified within the Natural Resource - Riparian Lands Map in the KLEP (Local Centres) 2012.

This part provides general guidance for development in riparian lands (including waterways) as well as additional guidance for development within specific categories of riparian lands identified on the Riparian Lands Map.

Part 19: Biodiversity Controls

This Part supports the provisions of Clause 6.3 of the KLEP (Local Centres) 2012. It applies to all land identified within the Natural Resource - Biodiversity Map in the KLEP (Local Centres) 2012 as well as to development that will have an impact on those lands.

It also applies to land identified as "Canopy Remnants" on the Greenweb maps at Part 19R.1. Applicants are required to check both the KLEP (Local Centres) 2012 and DCP maps to determine whether a site is affected by this Part.

In combination, these lands are referred to as the Greenweb for the purposes of this DCP.

Part 20: Heritage Items and Heritage Conservation Areas

Part 20 applies to any development that is:

i) on a Heritage Item listed under Schedule 5 Environmental Heritage in KLEP (Local Centres) 2012;

ii) in a Heritage Conservation Area (HCA) identified in KLEP (Local Centres) 2012;

iii) in the vicinity of a Heritage Item identified in KLEP (Local Centres) 2012.

This Part includes objectives and design controls to ensure that any development involving a Heritage Item conserves and enhances the Item. It also seeks to mitigate any potential adverse impacts of new development on the setting of Heritage Items and the Heritage Conservation Areas.

Part 21: Development near Rail Corridors and Busy Roads

This Part contains objectives and controls to ensure that development adjacent to major infrastructure corridors is located and designed to protect the infrastructure from damage; and, the users of the development from noise, vibration and other impacts related to development adjoining major road and rail infrastructure.

SECTION C - applies to all development

Section C contains general development controls which address planning issues that are applicable across a range of sites and across different types, forms and densities of development. To ensure a consistent approach to issues, this Part applies to all types of development.

The Parts in this Section are to be read in conjunction with the Parts of Section B relevant to the specific site, and the controls under the same heading in Section A for the specific development type.

Part 22: General Site Design

This Part provides Council's controls concerning site design and layout, with particular attention to the relationship with the site analysis, and to landscaping, earthworks and slope. The Part provides controls which minimise the impact of the development on the site's native vegetation natural landscape and bushland, manages excavation and any earth works on a site, and ensures appropriate designing for sloping sites.

Part 23: General Access and Parking

Issues addressed in this Part includes equitable access and pedestrian movements; vehicle and bicycle access and parking.

Part 24: General Building Design and Sustainability

This Part provides general development controls for Building Design and Sustainability. This section aims to provide information for all building types on issues including green buildings, building services, waste management, social impact, sustainability of building materials and colours, roof terraces and podiums, construction, demolition and waste disposal.

Part 25: Water Management

This Part aims to ensure that the water management techniques employed for any given development are appropriate to both the site location and the development type as identified in Section B of this DCP. It therefore applies different controls to different situations and is to be followed from the start of the design process.

This Part supports Clause 6.2 of the KLEP (Local Centres) 2012. The controls cover stormwater management, design and water quality, water recycling and reuse (where reuse for water conservation is not covered by BASIX), subsurface water management and flood control and minimisation. This Part of the DCP is also intended as a complementary document to BASIX.

Part 26: Notification

This Part explains Council's requirements and processes for the involvement of stakeholders in the consideration of development applications made under Part 4 of the EP&A Act 1979. The requirements and processes are tailored to the type of application and the potential impact of the proposal. Provisions outlining the requirements for submissions to Council are also included.

PART 1A

1A Preliminary

1A.1 Purpose of this DCP

1A.2 Name of this DCP

1A.3 Commencement Date

1A.4 Land affected by this DCP

1A.5 General aims of the DCP

1A.6 Relationship to Ku-ring-gai Local Environmental Plan (Local Centres) 2012

1A.7 Relationship to State Environmental Planning Policies

1A.8 Relationships to other DCPs

1A.9 Schedule of Amendments

PRELIMINARY

1A PRELIMINARY

1A.1 Purpose of this DCP

This DCP has been prepared in accordance with Section 74C of the Environmental Planning and Assessment Act 1979 and Part 3 of the Environmental Planning and Assessment Regulation 2000. The DCP provides more detailed guidance to facilitate the aims and objectives in the KLEP (Local Centres) 2012 and to facilitate development permissible within the KLEP (Local Centres) 2012

Under Section 79C of the Act, the consent authority is required to take into consideration the relevant provisions of this DCP in determining an application for development in the Ku-ring-gai local government area.

1A.2 Name of this DCP

This Development Control Plan (DCP) is the Ku-ring-gai Local Centres Development Control Plan.

1A.3 Commencement Date

This Development Control Plan was adopted by Council and came into effect 7 December 2017. It is subject to amendments, which are listed in the Schedule of Amendments at the end of Section 1A.9.

1A.4 Land affected by this DCP

This Development Control Plan applies to all land to which KLEP (Local Centres) 2012 applies.

1A.5 General aims of the DCP

The general aims of this DCP are as follows:

i) Establish a future character for Ku-ring-gai's Local Centres, and ensure that development across the Local Government Area positively contributes to the existing character of the residential areas;

ii) Ensure high quality sustainable urban design and architectural design of buildings;

iii) Provide high quality public spaces and streets;

iv) Encourage the provision of a range of building types which provide for increased housing choice, diversity of employment opportunities, access to retail and commercial services and other activities that contribute to a sustainable vibrant community;

v) Ensure buildings and other development have a good relationship with neighboring developments, the public domain and the landscape qualities of the locality;

vi) Encourage the development of a variety of housing types which do not dominate, but harmonises with and contributes to the treed landscape and is sympathetic to the street and land on which it is proposed.

vii) Ensure a high level of residential amenity in building design for the occupants of buildings, including daylight access, acoustic control, privacy protection, natural ventilation, design for safety, outdoor living, landscape design, indoor amenity and storage provision;

viii) Promote the principles of ecologically sustainable development including water sensitive urban design, climate responsive building design, energy efficiency, and selection/use of building materials;

ix) Ensure buildings and landscaping are designed for all age groups and degrees of mobility;

x) Promote increased use of public transport, walking and cycling;

xi) Provide traffic control measures and outcomes that manage and improve local traffic impacts and promote pedestrian safety;

xii) Ensure the heritage significance of the Heritage Items and Heritage Conservation Areas is conserved, and encourage development which respects that significance;

xiii) Promote and support biodiversity conservation, riparian restoration and ecological integrity;

xiv) Ensure the long term survival of Ku-ring-gai's native and exotic tree and vegetation cover;

xv) Ensure the appropriate management of risks, such as flooding, bushfire and land contamination;

xvi) Ensure that the process of notifying development applications allows public participation that is proportionate to the potential impact.

1A.6 Relationship to Ku-ring-gai Local Environmental Plan (Local Centres) 2012

This DCP conforms to the provisions of the KLEP (Local Centres) 2012 and is to be used in conjunction with that document for the assessment of all development applications. If there is any inconsistency between this DCP and the KLEP (Local Centres) 2012, the KLEP (Local Centres) 2012 will prevail.

Compliance with the provisions of this DCP does not necessarily guarantee that consent to a Development Application (DA) will be granted. Each DA will be assessed having regard to the LEP, this DCP, other matters listed in Section 79C of the EP&A Act and any other policies adopted by Council.

Council may consider alternate solutions to the controls provided in this DCP where:

i) the alternate solution is considered to be a reasonable planning outcome; and

ii) the alternate solution achieves the aims and objectives of that design element.

PRELIMINARY

1A.7 Relationship to State Environmental Planning Policies

This DCP must be read in conjunction with relevant State Environmental Planning Policies (SEPPs). If there is any inconsistency between this DCP and any relevant SEPP, the provisions of the SEPP will prevail.

1A.8 Relationships to other DCPs

All Development Control Plans applying to the land to which this Plan applies and to other land cease to apply to the land to which this Plan applies.

1A.9 Schedule of Amendments

	Date	Amendment
1	24 June 2016	Various amendments to align and make consistent the Ku-ring-gai Development Control Plan and the Ku-ring-gai (Local Centres) Development Control Plan
2	7 December 2017	Various amendments to align and make consistent the Ku-ring-gai (Local Centres) Development Control Plan with Council's adopted Turramurra Community Hub Masterplan. Sections amended: -Contents and Cover Pages updated to reflect amendments. -14B Turramurra Local Centre - 14B.1 to 14B.7. -14B.8 Precinct T1: Pacific Highway and Ray Street Retail Area. -14R.4 Turramurra Community Hub Masterplan.

PART 1B

DICTIONARY

1B Dictionary

1B.1 Definitions

1B.2 Abbreviations

1B.1 DEFINITIONS

In this DCP the following definitions apply. Terms used in the dictionary of the KLEP 2015 also applies to this DCP.

accessible car parking — car parking that is designed and built in accordance with the provisions in *AS2890.6* to accommodate the needs of occupants with mobility impairment.

acoustic privacy — a measure of sound insulation between apartments, between apartments and communal areas, and between external and internal spaces.

active street frontage — building street frontages at street level that provide direct and level entry and openings to allow physical and visual access that encourage interaction between the inside of a building and the external areas adjoining the building, including footpaths, road reserves or public spaces. Active street frontages support pedestrian safety and amenity and provide an interface between the public and private domain.

> **Note**: See the definition of 'street frontage' and 'street level' in this dictionary.

adjoining land — land that has a boundary in common with the site on which the development is proposed or that is separated from the site by not more than a pathway, driveway, laneway, roadway or similar thoroughfare.

advertisement — has the same meaning as in the Act.

> **Note**: The term is defined as follows:
>
> advertisement means a sign, notice, device or representation in the nature of an advertisement visible from any public place or public reserve or from any navigable water.

advertising strucutre — has the same meaning as in the Act.

> **Note**: This term is defined as follows:
>
> advertising structure means a structure used or to be used principally for the display of an advertisement.

Advertising structure are a type of signage as defined in the KLEP.

afflux — the rise in water level in a stream, channel or flow path caused by a constriction or impediment downstream.

amalgamated development site — two or moer a number of lots joined to form a single development site for the purposes of a development application.

amenity — the 'liveability' or quality of a place which makes it pleasant and agreeable to be in for individuals and the community. Amenity is important in both the public and private domain and includes the enjoyment of sunlight, views, privacy and quiet.

ancillary — in the context of residential development, includes but is not limited to, such related facilities as a swimming pool, outbuilding, pergola, patio, pathway, driveway or tennis court.

aquatic habitat — the natural home of marine or freshwater animals, plants or organisms.

articulation zone — the area of three dimensional modelling at the periphery of the building, including any changes in façade alignment, balconies, bay windows and sun shading devices.

at-grade — on ground level (not on a building structure).

1B.1 DEFINITIONS (CONTINUED)

average recurrence interval — the long term average number of years between floods which will equal or exceed the selected event.

backwater — that part of a stream, channel or flowpath where the water is kept back due to some controlling influence or obstruction downstream.

back-up facility — means a facility that assists in the operation of the child care centre including cot rooms, child-accessible toilet areas, nappy change areas and bottle preparation areas.

balcony — any unenclosed platform (with balustrades) located at the height of 0.3 metres or more above adjacent finished ground level either cantilevered or supported over open space, which is attached to a dwelling and used for the exclusive enjoyment of the occupants.

bank — the primary bank of a waterbody.

barrier free access — approach and entry of a facility which is accessible by persons with disabilities (eg. grade level entry).

basement — has the same meaning as set out in the KLEP 2015.

> **Note**: The term is defined as follows:
>
> basement means the space of a building where the floor level of that space is predominantly below ground level (existing) and where the floor level of the storey immediately above is less than 1 metre above ground level (existing).

bay window — a large window or series of windows projecting from the outer wall of a building and forming a recess within.

bedroom — any habitable room, which in the opinion of Council, is capable of being used as a bedroom.

biodiversity corridor — an area to facilitate the connection and maintenance of native flora and fauna habitats. Within the urban landscape, biodiversity corridors may be broken by roads and other urban elements and may include remnant trees and associated native and exotic vegetation.

blank wall — an expanse of wall that does not contain any openings. Walls with advertising or facade modelling, which have no openings, are considered blank walls.

building height — has the same meaning as in the KLEP 2015.

> **Note**: The term is defined as follows:
>
> building height (or height of building) means the vertical distance between ground level (existing) and the highest point of the building, including plant and lift overruns, but excluding communication devices, antennae, satellite dishes, masts, flagpoles, chimneys, flues and the like.

building line or setback — has the same meaning as in the KLEP 2015.

> **Note**: The term is defined as follows:
>
> building line or setback means the horizontal distance between the property boundary or other stated boundary (measured at 90 degrees from the boundary) and:
>
> (a) a building wall, or
>
> (b) the outside face of any balcony, deck or the like, or
>
> (c) the supporting posts of a carport or veranda roof,
>
> whichever distance is the shortest.

1B.1 DEFINITIONS (CONTINUED)

Building sustainability index (BASIX)	State Environmental Planning Policy (Building Sustainability Index: BASIX 2004).
building zone	the area within which a building can be built, usually represented in plan and section.
built-upon area	the area of a site containing any built structure (whether covered or uncovered), any building, carport, terrace, pergola, hard-surface recreation area, swimming pool, tennis court, driveway, parking area, or any like structures, but excluding minor landscape features.
bush fire hazard	bush fire prone land identified as “bush fire prone vegetation Category 1” or “bush fire prone vegetation Category 2” on the Ku-ring-gai Bush fire Prone Lands Map.
bushland	land on which there is vegetation which is either a remainder of the natural vegetation of the land or, if altered, is still representative of the structure and flora of the natural vegetation.
catchment	an area of land from which all runoff water flows to the same low point in a waterbody or drainage depression (creek, river, harbour, etc) and always relates to a specific location.
character item	A character item is a building with a commercial streetscape that has a significant facade that warrants retention within the street wall. A character item is not a heritage item.
clinical waste	any waste having the potential to cause infection and that has been generated by medical, nursing, dental, veterinary, pharmaceutical or other related activities, includes infectious substances, pathogenic substances, pharmaceutical’s and pharmaceutical residues, cytotoxic substances and wastes from the production and preparation of pharmaceutical products.
commercial waste	refuse or waste material arising from any trade or industry but excludes liquid waste, demolition waste, building waste, contaminated waste, green waste or recyclable waste.
common area	that part of the site not subject to exclusive or private use by any particular residents or occupants of the building(s) and which is under the control of a body corporate. Common area includes setback areas and communal open spaces that provide landscaping and deep soil areas.
communal open space	outdoor open space within the common area with shared facilities such as barbeque, seating, etc. for recreation, relaxation and social activities of residents and occupants of a development. Communal Open Space is not for the exclusive use of individual residents or occupants of any single dwelling. It does not include private open space.
community land development	community land development within the meaning of the *Community Land Development Act 1989*.
compatible use	a use for a heritage item which involves no change to its culturally significant fabric, changes which are substantially reversible or changes which make a minimal impact
compost	vegetative material capable of being converted to humus by a biological decay process.

1B.1 DEFINITIONS (CONTINUED)

conservation (general)

the use, management and protection of resources so that they are not degraded, depleted or wasted and are available on a sustainable basis for present and future generations.

conservation (of a Heritage Item)

All the processes of looking after an item so as to retain its cultural significance. It includes maintenance and may, according to circumstances, include preservation, restoration, reconstruction and adaptation and will be commonly a combination of more than one of these

conservation management strategy

a document that identifies conservation strategies and management strategies that are appropriate to enable the general significance of a heritage item to be retained.

contaminated waste

waste which has the potential to cause injury, infection or offence. Sources include medical, nursing, dental veterinary, pharmaceutical and similar facilities engaged in treatment, investigation, teaching or research. Domestic sources include sharps and associated medical waste generated as a result of home based treatment of a medical condition (such as those associated with a diabetes sufferer or dialysis patient).

contributory property

contributory properties are buildings and sites within a HCA which are deemed to exhibit one or more of the following characteristics:

i) buildings and sites that make an important contribution to the character and significance of the HCA. They can be from a key historical layer, true to an architectural type, style or period, or highly or substantially intact including their garden setting. Where subdivision has occurred, the subdivision is within the key historical period or the area.

ii) buildings and sites which are altered from their original form but are recognisable and could be reasonably reinstated to that condition or the alterations are not considered to be detrimental to the integrity of the building; for example, a building that has been rendered or painted or where the roof cladding has been replaced but the form is otherwise legible.

iii) buildings and sites with new layers/additions sensitive to the style, form, bulk, scale and materials of the original building.

Note: Contributory buildings do not necessarily need to be high-quality buildings but should represent the key historical period of the HCA. An HCA may also contain high-quality buildings which are not necessarily from the key historical period.

core (relating to a building)

component of building for vertical circulation (eg. lift, stairs).

cornice

a decorative horizontal moulding at the top of a building which 'crowns' or finishes the external façade.

coved

to make in an inward curving form. A concave surface forming a junction between a ceiling and a wall.

cross-through apartment

apartment on one level with two opposite aspects.

curtain wall

a non-bearing wall, often of glass and steel, fixed to the outside of a building and serving especially as cladding.

dangerous goods

has the same meaning as in the *Dangerous Goods Act 1975*.

datum or datum line

a significant point or line in space established by the existing or desired context, often defined as an Australian Height Datum.

1B.1 DEFINITIONS (CONTINUED)

daylight

consists of both diffused light from the sky (sky light) and sunlight.

Note: See the definition of 'sunlight' in this dictionary.

dead tree

a tree is considered dead when it has no living vascular tissue.

deck

an external platform, usually elevated, usually located alongside and accessible from an interior space or around a swimming pool, and often made of timber.

deep soil landscaping

the soft landscaped part of the site area:

i) that is not occupied by any structure, whether above or below the surface of the ground, except for minor structures such as:
- paths to 1.2m wide;
- storm water pipes of 300mm or less in diameter;
- lightweight fences;
- bench seats;
- lighting poles;
- drainage pits with a surface area less than $1m^2$.

ii) that has a minimum width of 2m;

iii) that is not used for car parking;

iv) may be used for water sensitive urban design, provided it does not compromise the ability to achieve the screen and canopy planting required by this DCP.

Note: For the purposes of calculating deep soil landscaping and landscaped areas, any access handle on battle axe sites is excluded.

demolition (heritage)

The damaging, defacing, destroying or dismantling of a heritage item or a component of a heritage conservation area, in whole or in part.

designated development

has the same meaning set down in the *Environmental Planning and Assessment Act 1979*.

development

has the same meaning set down in the *Environmental Planning and Assessment Act 1979*.

development application

has the same meaning set down in the *Environmental Planning and Assessment Act 1979*.

development assessment officer

the Council officer with primary responsibility for assessing the development application.

development assessment team leader

a Council officer with responsibility for a group of development assessment officers.

drainage easements

the legal rights attached to land whereby another parcel of land has the right to use part or all of the land for the purpose of draining water.

drainage reserves

the lands vested in Council for drainage purposes.

dripline of a tree

the horizontal extent of the canopy of the tree.

dual aspect apartment

apartments which have at least two major external walls facing in different directions, including corner, cross over and cross through apartments.

dual-use facility

means a child care centre and another independent use or a child care centre within a residential dwelling house where both uses are located on a single site but uses are separated.

1B.1 DEFINITIONS (CONTINUED)

earthworks

has the same definition as in the KLEP 2015.

Note: The term is defined as follows:

earthworks means excavation or filling.

edge effects

the detrimental impacts on natural areas at the interface with urbanised environments. An increased proportion of edge increases the potential for:

- Weed invasion;
- Predation by companion animals;
- Disturbance by humans and animals;
- Dumping of garden refuse;
- Wind and light penetration.

Reducing edge effects can assist with maintaining species diversity and composition, community dynamics, and ecosystem functioning.

effective slope

has the same meaning as in *Planning for Bush Fire Protection 2006.*

Note: The term is defined as follows:

the effective slope is that slope within the hazard which most significantly affects fire behaviour of the site having regard to the vegetation class found.

erosion control devices

measures to assist in minimising erosion and downstream sedimentation.

excavation

has the same meaning as set down in the KLEP 2015.

Note: The term is defined as follows:

excavation means the removal of soil or rock, whether moved to another part of the same site or to another site, but does not include garden landscaping that does not significantly alter the shape, natural form or drainage of the land.

external collection point

usual (or agreed) point on the footpath/roadway, where waste and recyclables are loaded onto vehicles. The waste and recycling containers are placed on the footpath, by the occupant of the property, just prior to the collection day and removed after the waste is picked up by Council's contractors. Applicable to residential development where the number of units is less than 6.

façade

the external face of a building.

family day care

means a service that provides care for up to 7 children aged less than 12 years in the home of the family day care provider. Family day care providers are governed by the management structure of a family day care scheme.

fill

has the same meaning as set down in the KLEP 2015.

Note: The term is defined as follows:

fill means the depositing of soil, rock or other similar extractive material obtained from the same or another site, but does not include:

(a) the depositing of topsoil or feature rock imported to the site that is intended for use in garden landscaping, turf or garden bed establishment or top dressing of lawns and that does not significantly alter the shape, natural form or drainage of the land, or

(b) the use of land as a waste disposal facility.

1B.1 DEFINITIONS (CONTINUED)

finished ceiling level (FCL)	the level of the lower surface of the relevant ceiling.
finished floor level (FFL)	the level of the upper surface of the relevant floor.
firearms outlet	premises used for the display, exhibition or sale of goods which require a license under Section 7 of the *NSW Firearms Act (1996).*
fire egress	a path or opening for going out (ie. an exit) in a fire or emergency situation.
flood	a relatively high stream flow that overtops the natural or artificial banks in any part of a stream, river, estuary, lake or dam, and/or overland runoff before entering a waterbody.
flood standard conveyance zone	the zone in a plan view of the 1:100 year flow through the property.
french (or juliet) balcony	a small projecting balcony, generally ornamental or only large enough for one person standing.
furnishing	the furniture, appliances, and other movable articles in an outdoor dining area, but excludes planter boxes, utensils, dining sets and the like.
gold level	the intermediate highest level of housing within the *Livable Housing Guidelines*. It features design elements allowing ageing in place and accommodating people with higher mobility needs. **Note**: Refer to *www.livablehousingaustralia.org.au*
green building	is one that incorporates design, construction and operational practices that significantly reduce or eliminate the negative impact of development on the environment and building occupants.
green star rating	is an internationally-recognised assessment of the sustainable attributes of a development which enable it to minimise its impact upon the environment. The Green Building Council of Australia (GBCA) provides a formal certification process for ratings of Four Star Green Star ('Best Practice') and above; this service provides for an independent third party review of buildings and their sustainable attributes and initiatives.
green waste	organic garden waste. This includes any waste material that in its raw form comprises vegetation (such as grass, leaves, mulch, plants, branches, twigs and tree loppings). Green waste does not refer to wood wastes such as tree stumps or kitchen vegetable scraps.
greenweb	Greenweb includes: 1. All land identified on the Greenweb map in Part 19 of this Development Control Plan and includes land identified as: i) Core Biodiversity Lands; ii) Support for Core Biodiversity Lands; iii) Landscape Remnant; iv) Biodiversity Corridors and Buffer Areas; v) Canopy Remnants 2. Other lands that meet the criteria for Greenweb in accordance with the methodology contained within the Ku-ring-gai Biodiversity and Riparian Lands Study Version 5.
greywater	household wastewater that has not come into contact with toilet waste.

1B.1 DEFINITIONS (CONTINUED)

gross pollutant	litter and debris that is transported by urban runoff and that is not less than 5mm in diameter and/or is retained by a 5mm mesh screen.
gross pollutant trap (GPT)	a structure that acts as a water pollution control measure by intercepting and retaining gross pollutants (coarse sediment, trash and debris).
ground level	has the same meaning as the KLEP 2015. **Note**: The term is defined as follows: ground level (existing) means the existing level of a site at any point. ground level (finished) means, for any point on a site, the ground surface after completion of any earthworks (excluding any excavation for a basement, footings or the like) for which consent has been granted or that is exempt development. ground level (mean) means, for any site on which a building is situated or proposed, one half of the sum of the highest and lowest levels at ground level (finished) of the outer surface of the external walls of the building
habitable room	any room or enclosed space 4m or greater used for normal domestic activities, including living, dining, family, lounge, bedrooms, study, kitchen, sun room and play room – but excludes bathrooms, separate toilets and laundries.
hazardous waste	any waste that because of its physical, biological or chemical properties, is capable of causing a danger to the life or health of any living thing if it is released into the environment, and/or is, or contains a substance described in the *Protection of the Environment Operations Act 1997* e.g. can include dangerous goods, poisons, liquids and other waste containing hazardous components. If in doubt contact the NSW Environment Protection Authority or Council.
high side	the site slopes upwards from the Primary street.
holding berm	a small bank for retaining water.
hopper	a fitting into which waste is placed and from which it passes into a chute or directly into a waste container. It consists of a fixed frame and hood unit (the frame) and a hinged or pivoted combined door and receiving unit.
hydraulics	the study of flow of fluid. In civil engineering, this concerns mainly flow of water in waterways – in particular, the changes in flow parameters such as water level and velocity.
hydrology	the study of water as it relates to rainfall and the runoff process – in particular, catchment behaviour, flow rates and volumes.
illuminated sign	any sign that is internally **or externally** illuminated.
impervious	land or material that is not readily penetrable by water.
in the vicinity (of a Heritage Item or HCA)	not only means immediately adjoining a heritage item or HCA, but depending on site context, can be extended to include other sites with a high visual presentation due to landform, size or location of a heritage item or HCA
internal collection point	a designated hard stand area suitable in size for the number and type of containers utilised by the development. Waste and recyclable materials are placed at the collection point, by the occupant, for collection of the day of service and are then returned to the designated waste storage area. Applicable to residential development where the number of units is more than 4 and for commercial and industrial development.

1B.1 DEFINITIONS (CONTINUED)

intervening lot

any lot that is located on the bush fire hazard side of the lot to be subdivided, and may be directly adjoining or separated by a public or private road, pathway, access handle to another lot or the like.

invert

the lowest point of a channel or gutter, or the internal base of a pipe.

key vegetation community

Key vegetation communities contain significant vegetation. These are defined as:

- communities currently listed under the NSW Threatened Species Conservation (TSC) Act 1995, NSW Fisheries Management (FM) Act 1994 and / or the Environmental Protection and Biodiversity Conservation (EPBC) Act 1999.
- Coastal Shale Sandstone Forest (this community type 92% cleared as listed in the VIS Classification Database. That is, has less than 8% of its estimated distribution prior to 1750 remaining in the catchment area.

Vegetation condition is a key factor determining the inclusion of remnant vegetation as a threatened ecological community, under the TSC Act, FM Act and EPBC Act. In order to recognise that future variations in federal and state scientific committee determinations and their interpretation may occur, Key Vegetation Communities have been based upon vegetation community not condition. As such Key Vegetation Communities may include areas outside the scope of conditions required to meet the determination.

NSW Office of Environment and Heritage, VIS (Vegetation Information Systems) Classification Database available at www.environment.nsw.gov.au/research/Visclassification.htm

Ku-ring-gai Natural Area

all Council managed lands classified as community land and categorised as 'Natural Areas' under the NSW Local Government Act 1993, and crown land under *Crown Lands Act 1989* (under care control and management of Ku-ring-gai Council as a natural area).

landmark building

a building of high quality and unique architectural style designed to be highly responsive to a specific site and its features, and utilizes architectural elements to be easily seen and recognised as a point of reference and navigating tool for pedestrians, cyclists and vehicles.

landscaped area

has the same meaning as in the KLEP 2015.

> **Note**: The term is defined as follows:
>
> landscaped area means a part of a site used for growing plants, grasses and trees, but does not include any building, structure or hard paved area.

L_{Aeq}

The equivalent continuous noise level. The level of noise equivalent to the energy average of noise levels occurring over a measurement period.

L_{A90}

The A-weighted sound pressure level that is exceeded for 90 per cent of the time over which a given sound is measured. This is considered to represent the background noise.

light shelf

a horizontal element attached to a window that reflects sunlight up onto a ceiling surface.

light spill

light that escapes from the area requiring to be lit and lights up adjoining areas.

lightwell

a shaft for air or light, enclosed on all sides or which has the potential to be enclosed by future adjoining development, and either open to the sky or glazed.

1B.1 DEFINITIONS (CONTINUED)

living room	shall be one room of either lounge or dining room, or open plan living areas including eat-in kitchen areas; and it shall not include bedrooms, bathrooms, storage areas, laundries or separate toilets.
local fauna habitat	an area of structured vegetation, or alluvial or estuarine vegetation, which provides important habitat for threatened and non-threatened fauna species. Local fauna habitat areas provide stepping stone connections between larger protected areas (including regional fauna habitats and Ku-ring-gai Natural areas). This connection may be direct or through biodiversity corridors. For more detail, see Ku-ring-gai Council (Ku-ring-gai Biodiversity and Riparian Lands Study) .
local provenance	plant or seed stock of local origin or seed, used to maintain the patterns of variation exhibited by a species over its range, reflecting its evolutionary history.
local road	a street with a prime function to provide access to adjacent land uses.
low side	the site slopes downwards from the Primary street.

1B.1 DEFINITIONS (CONTINUED)

maisonette a two-storey apartment, where the storeys are vertically stacked.

main road a road that is declared to be a main road by an order in force under section 46 of the Roads Act 1993.

major roadway **Note**: A major roadway for the purposes of this DCP includes:

- Archbold Road
- Bobbin Head Road (between Pacific Highway to Burns Road)
- Boundary Street (between Pacific Highway and Clive Street/ Eastern Valley Way)\
- Burns Road (between Eastern Road and Warrimoo Avenue)
- Eastern Arterial Road
- Eastern Road (between Burns Road and Junction Road)
- Comenarra Parkway
- Fox Valley Road (between Pacific Highway and Comenarra Parkway)
- Horace Street
- Illoura Avenue (Between the railway bridge to Millewa Avenue)
- Junction Road
- Killeaton Street (between Warrimoo Avenue and Mona Vale Road)
- Kissing Point Road (between Pacific Highway to The Comenarra Parkway)
- Lindfield Avenue (between Havilah Road and Tryon Road)
- Lady Game Drive
- Link Road
- Mona Vale Road
- Pacific Highway
- Railway Avenue
- Redleaf Avenue
- Ryde Road
- Telegraph Road
- Yanko Road
- Main Road 328, Section of Boundary Street, between Pacific Highway and Babbage Road, within the Local Centre boundary; and
- Secondary Road 2043, Section of Horace Street, Link Road, Killeaton Street within the Local Centre boundary.

Note: The list above is by no means exhaustive. Council may order that air, noise and/or soil testing be carried out or that a report be prepared demonstrating the impacts that traffic generated by the centre will have on the roadway where child care centres are proposed in the vicinity of other roads that carry a high Section of traffic.

mobile phone base station a device used for the transmission of signals through the mobile (or cellular) telephone network by way of Radio Frequency Electromagnetic Radiation (RF EME).

mobile care service means a child care service that visits specific premises at specific times. The age of children cared for depends on the type of service provided.

1B.1 DEFINITIONS (CONTINUED)

multi-use facility	a child care centre and other child-related activities or services (commercial or not-for-profit) operating on a single site often sharing facilities.
natural ventilation	the movement of sufficient volumes of fresh air through a dwelling.
neighbouring land	any land, other than adjoining land, within the Ku-ring-gai local government area, the enjoyment of which the assessment team leader considers may be detrimentally affected by the development proposal.
non-habitable room	spaces of a specialised nature not occupied frequently or for extended periods, including bathrooms, toilets, pantries, walk-in wardrobes, corridors, lobbies, photographic darkrooms and clothes drying rooms.
north facing	between 30 degrees east and 20 degrees west of true solar north.
notification	written information provided to potential stakeholders by the Council in the form of a letter, e-mail, information on Council's website or a sign that may be viewed from a public place.
nutrients	substances that provide nourishment to another organism. In the context of stormwater, they consist primarily of Total Phosphorus (filterable phosphorus and particulate phosphorus) and Total Nitrogen (nitrates, nitrites, ammonium compounds and organically bound nitrogen compounds).
obvert	the internal top of the pipe or other enclosed drainage system.
occupier	a person who lives on the land.
on-site detention	a device used to control the rate of stormwater runoff in order to reduce peak discharges during storm events.
on-site retention	a device that controls the rate and volume of stormwater runoff to reduce peak and total volume discharges during and after storm events by ensuring that water is reused on the site.
open plan	dwelling layouts where spaces are not divided into discrete rooms, but are open and connected to allow flexibility of use (typically living, dining, kitchen and study areas).
operable wall	an internal wall which can be moved, for example by sliding, folding, or pivoting, to allow for different room configurations.
operable window or door	window or door which can open to the outside.
orifice	a narrow opening into a pipe or cavity.
Out of School Hours (OOSH) Care	means a service that provides care for school aged children under 12 years old, usually before or after school hours, on pupil-free days or during school holidays. Centres are usually located on school grounds or in community halls.
overshadowing	shadows caused by a proposed structure, together with any existing structures to be retained, but not including shadows cast by trees, vegetation or boundary fences.
owner	has the same meaning as in the *Environmental Planning and Assessment Act 1979*.
parapet	a horizontal low wall or barrier at the edge of a balcony or roof. Often taken to refer to the decorative element which establishes the street wall height of heritage buildings (see also Cornice).

1B.1 DEFINITIONS (CONTINUED)

part thereof	in the calculation of the number of items (apartments, parking spaces etc) required, the overall requirement figures are to be rounded up to the nearest whole number.
passive surveillance	the casual surveillance of public spaces and streets by the users of the local area or adjoining land.
peak discharge	the maximum discharge occurring during a flood event.
permitted site discharge	the controlled rate of runoff allowed from a site.
pervious	land or material that is penetrable by water.
Planning for Bush fire Protection	the publication produced by the NSW Rural Fire Service and Planning NSW to provide guidance to Councils, planners, fire authorities, developers and home owners with regard to bush fire protection strategies.
platinum level	the highest level of housing within the *Livable Housing Guidelines*. It features design elements allowing ageing in place and accommodating people with higher mobility needs. **Note**: Refer to *www.livablehousingaustralia.org.au*
pole (or pylon) sign	a sign that is erected on a pole or pylon independent of any building or other structure.
pollutant	a substance that adversely affects the physical, chemical or biological properties of the environment.
portico	a porch or walkway with a roof supported by columns, often leading to the entrance of a building.
potable	drinkable.
potentially contaminated land	land which may have been associated with potentially contaminating activities, as described in Council's Contaminated Land Policy.
primary street	the street or streets (where there is more than one primary street) to which the front of a dwelling house, or a main building, on a lot faces or is proposed to face, and/or which typically forms the main address of the lot or property and/or has the wider carriageway or carries the greater volume of traffic. Primary streets include highways, main roads and local streets.
primary communal open space	the main consolidated communal open space, providing facilities for recreation, relaxation and social activities such as seating and barbeque facilities.
principal active frontage	is located on primary streets within the centres and supports a wide variety of uses and activities on the ground floor and has a very open and public presence (i.e. windows and doors). **Note**: Also see *Part 8C-14.*
private courtyard	private open space which may be on a structure (eg. podium, parking deck) or at ground level.
private open space	has the same meaning as set down in the KLEP 2015. **Note**: The term is defined as follows: private open space means an area external to a building (including an area of land, terrace, balcony or deck) that is used for private outdoor purposes ancillary to the use of the building.

1B.1 DEFINITIONS (CONTINUED)

public exhibition	is where a development application is made available for inspection, by any person, at the office of Council, and such other places to be determined by Council for a period not less than fourteen (14) calendar days.
public street	i) any road that is opened or dedicated as a public road, whether under the *Roads Act 1993* or any other Act or law, and ii) any road that is declared to be a public road for the purposes of the *Roads Act 1993*.
putrescible waste system	food or animal matter (including dead animal parts) or unstable or untreated biosolids.
rainscaping	directing runoff from hardstand areas to a garden or lawn area. This includes the following: the garden or lawn must be at least 0.02m below the hardstand area and relatively flat to allow the flow to spread across its full area.
rating background level	The overall single figure background level representing each assessment period (day/evening/night) over the whole monitoring period (as opposed to over each 24hr period used for the assessment background level). This is the level used for assessment purposes. It is defined as the median value of: - all the day assessment background levels over the monitoring period for the day; - all the evening assessment background levels over the monitoring period for the evening; or - all the night assessment background levels over the monitoring period for the night.
rear boundary	the boundary furthest from and generally parallel to the street boundary. On corner sites, the rear boundary is the furthest from the Primary Street boundary. On battleaxe sites, the rear (and all other boundaries) are to be nominated for the development.
recognised public drainage	a common stormwater drainage system that conveys public stormwater and that generally includes one or more of the following: street drainage comprising surface systems (formed and unformed kerb and gutter, earth channels); underground systems (pipes, road pits, headwalls, inlets and outlets); natural and constructed open channels
reconstruction (of a Heritage Item)	Returning a place as nearly as possible to a known earlier state by the introduction of new or old materials into the fabric (not to be confused with conjectural reconstruction).
recyclable	material capable of being reprocessed into useable material and includes any item collected by Council's Recycling Service (e.g. plastic, vegetation, paper etc).
regional fauna habitat	an area generally of structured vegetation, or alluvial or estuarine vegetation, which provides important regional habitat for threatened and non-threatened fauna species. These areas are directly connected to or within large formal reserves within or adjoining the Ku-ring-gai LGA. For more detail, see Ku-ring-gai Council (2014) Ku-ring-gai Biodiversity and Riparian Lands Study) .
regionally significant species, populations and habitat	flora and fauna species, populations, ecological communities and habitat identified as regionally significant in Council's Biodiversity Strategy.

1B.1 DEFINITIONS (CONTINUED)

remnant	locally native vegetation occurring within fragmented landscapes. Remnants may be small to medium sized patches of vegetation surrounded by highly modified land, used for urban development and associated infrastructure.
residential apartment building	has the same meaning as Residential Flat Building under *Ku-ring-gai Local Envrionmental Plan 2015.*
restoration (of a Heritage Item)	Returning the existing fabric of a place to a known earlier state by removing accretions or by reassembling existing components without introducing new material.
riparian land	land adjoining a waterway (including a piped waterway) and the waterway itself, but not including land adjoining an artificial waterbody. This includes all land identified within the Riparian Lands Map in KLEP 2015.
road verge	that part of land between the property boundary line and the roadway edge, usually owned by a public authority.
runoff	rainfall that ends up as stormwater.
Section 96(1) modifications	are modifications by Council to consents that involve minor errors, misdescriptions or miscalculations in accordance with Section 96(1) of the *Environmental Planning and Assessment Act 1979*.
Section 96(1A) modifications	are modifications by Council to consents that involve minimal environmental impact in accordance with Section 96(1A) of the *Environmental Planning and Assessment Act 1979*.
Section 96(2) modifications	are other modifications by Council to consents that may have an environmental impact in accordance with Section 96(2) of the *Environmental Planning and Assessment Act 1979*.
Section 96AA modifications	are modifications made by consent authorities to consents granted by the Land and Environment Court, in accordance with Section 96(AA) of the *Environmental Planning and Assessment Act 1979*.
secondary street	a street that is not a primary street and is typically a local road or lane.
secondary communal open space	a smaller communal open space than the Primary Communal Open Space.
sediment	solid material, either mineral or organic, that is in suspension, is being transported, or has been moved from its site of origin by air, wind, water or gravity.
setback	has the same meaning as in the KLEP 2015. **Note**: setback has the same meaning as 'building line or setback'. See the definition of the term in this dictionary.
setting (of a Heritage Item)	the immediate or extended environment of a place that is part of, or contributes to, its heritage significance and distinctive character
sewerage	the arrangement of pipes that transport sewage.
shopfront	the front side of a store facing the street; usually contains display windows.

1B.1 DEFINITIONS (CONTINUED)

significant tree

a tree which

i) is visible over a wide area due to its size; or

ii) is a large specimen in a prominent location; or

iii) has ecological values because it forms part of the remnant vegetation of the area and contributes to the gene flow, has habitat hollows, provides food for wildlife; or

iv) is a rare species in good condition; or

v) exhibits exceptional form; or

vi) is associated with the history of a place; or

vii) forms part of an avenue of trees.

Note: Refer to Section 19.7 for a description of significant trees in key vegetation community (KVCs).

sill height

the vertical height of a window sill above the finished floor level which it serves.

silver level

the basic level of housing within the *Livable Housing Guidelines*. It features design elements allowing ageing in place and accommodating people with higher mobility needs.

Note: Refer to *www.livablehousingaustralia.org.au*

site coverage

has the same meaning as set down in the KLEP 2015.

Note: The term is defined as follows:

site coverage means the proportion of a site area covered by buildings. However, the following are not included for the purpose of calculating site coverage:

any basement,

any part of an awning that is outside the outer walls of a building and that adjoins the street frontage or other site boundary,

any eaves,

unenclosed balconies, decks, pergolas and the like.

Note: The definition of 'site coverage' uses a calculation of the 'site area'. Site area in the KLEP 2015 states in part '...does not include the area of any land on which development is not permitted to be carried out under this Plan.'

skylight

an overhead window, as in a roof, admitting daylight.

snorkel window

a window that is not visible in its entirety from all points within a habitable room.

soffit

the underside of a part of a building (such as an arch, overhang, staircase, cornice or beam etc).

soft landscaping

the area planted with gardens, trees, lawns and/or includes remnants of the natural landscape.

staff / parent accessible area

means any area of the child care centre that restricts unsupervised access by children or is not intended for use by children.

stepping stone

geographically isolated remnant that functions as habitat islands facilitating the movement of flora and fauna and genetic resources within a modified landscape.

1B.1 DEFINITIONS (CONTINUED)

storage space — within dwellings, storage space can be in the form of cupboards in halls, living rooms and laundries. Storage in kitchens, bedrooms or bathrooms do not count towards this requirement. Storage space may be partially provided as lockable areas affiliated with the dwelling (within basement parking).

stormwater — untreated rain water that runs off the land onto which it falls.

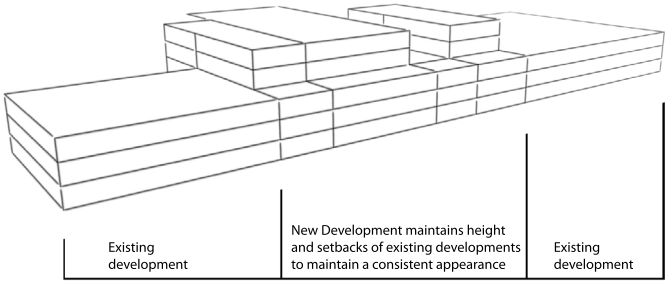
strata title building — a strata title building within the meaning of the *Strata Schemes (Freehold Development) Act 1973* or the *Strata Schemes (Leasehold) Development Act 1986*.

street frontage — the building elevation that is directly in front of, and visible from, any street at the property boundary.

street level — the finished floor level of the pavement or road reserve in front of the property boundary from which access into the site is generally provided.

streetscape — the character of the locality (whether it be a street or precinct) defined by the spatial arrangement and visual appearance of built and landscape features when viewed from the street.

street wall — the wall of the building from street level to the top of the podium, which faces the street or public domain. A street wall is created when the facades of consecutive buildings are aligned along the edge of a street. An ideal street wall offers a sense of consistency and formality and includes a continuous variety of ground floor businesses.



string course — a shallow moulding continued across a whole facade which may be defined by its position.

studio dwelling — a residential dwelling including one main room which is used as a bedroom, living room and dining room, and with no separate bedrooms.

a single room apartment consisting of one main room used as a bedroom, living and dining area and a kitchen/kitchenette and bathroom.

subsurface water (SSW) — any moving or stationary body of water or moisture occurring underneath the land surface, but not below the geological basement.

subterranean room — a room within a residential dwelling that has an external wall to any part of the room (habitable and non habitable), including external storage, below the adjacent finished ground level and/or in direct contact with soil and/or requiring physical or spatial tanking.

sunlight — direct beam radiation from the sun.

Note: See the definition of 'daylight' in this dictionary.

1B.1 DEFINITIONS (CONTINUED)

supporting active frontage	is located on primary streets or secondary streets or lanes. This frontage will support active uses at ground level however it is acknowledged that vehicle and service access will be a requirement. **Note:** Also see *Part 8C-14.*
sustainable building management	a sustainable building is one that addresses social, economic and environmental issues to ensure the long-term viability of that building.
sustainable waste	managing and controlling the generation of waste so that the needs of the current generation are met without limiting the options and capacity of future generations to meet their own needs.
terrace (outdoor area)	an unroofed and usually paved area connected to a dwelling and accessible from at least one room. May be on-grade or on a structure (podium)
terrestrial habitat	the natural habitat of organisms that live on land
threatened ecological community	an ecological community listed as an 'endangered ecological community' or 'critically endangered ecological community' under the *NSW Threatened Species Conservation Act (1995)* or the *Commonwealth Environmental Protection of Biodiversity Conservation Act (1999).*
top hamper sign	a sign that is attached to the transom of a doorway or display window of a building.
total suspended solids	are the inorganic and organic particles suspended in the water column. They can be defined as the filterable residue retained on a 2.0 µm pore size filter dried at 105ºC.
townhouse	a dwelling included in multi-dwelling housing development, being a dwelling that has a separate ground floor entrance door directly accessible from the circulation pathway from the street or entry point into the main living area or its adjacent foyer and which has a private courtyard area at ground level which is at the same level as the floor level of the living areas within the dwelling.
transmitter	see 'mobile phone base station'
tree	i) a perennial plant with at least one self-supporting woody, fibrous stem, whether native or exotic, which is 5 metres or more in height; or ii) a plant that has a trunk diameter of 150mm or more measured at ground level.
trunk drainage	the stormwater drainage system that links property, interallotment and street drainage with the receiving waters.
unencumbered indoor play space	means useable play space that excludes items such as passage ways or thoroughfares, door swing areas, cot rooms, toilets or shower areas located in the building or any other facility, such as cupboards, that inhibits opportunity for play.
unencumbered outdoor play space	means useable play space that excludes items such as car parking areas, storage sheds and other fixed items that prevent children from using the space or that obstruct the view of staff supervising children in the space.
under awning sign	a sign that is attached to underside of an awning (other than the fascia or return end).

1B.1 DEFINITIONS (CONTINUED)

urban forest

the urban forest of Ku-ring-gai includes the entirety of the trees and large woody shrubs (both naturally occurring and planted) that grow on public and private land excluding:

i) Office of Environment and Heritage protected areas (e.g. Nature Reserves and National Park listed under the National Parks and Wildlife Act 1974 (NSW)(NPW Act))

ii) Ku-ring-gai Natural Areas as categorised under the Local Government Act 1993 (NSW)

villa

a townhouse which has only one storey.

visitable

a place that can be accessed from the carpark all the way into the apartment by people who use wheelchairs, in that there must be at least one wheelchair accessible entry and accessible path of travel to the living area and to a toilet that is either accessible or visitable as defined by *AS 4299.*

visually prominent sites

sites that are situated on highly visible locations and include ridge top locations, escarpments, environmentally sensitive sites on sloping land, elevated allotments, corner sites, road bends, vista end points and any site that has the potential to dominate the visual amenity.

volume reduction equipment

devices which reduce the volume of waste or recyclable material, including compressing devices such as compactors, balers and shredding, pulverising or crushing devices.

Walking distance

the shortest distance between two points measured along a route that may be safely walked by a pedestrian using, as far as reasonably practicable, public footpaths and pedestrian crossings.

waste

as defined by the *Protection of the Environment Operations Act 1997* (POEO Act) includes:

i) any substance (whether solid, liquid or gaseous) that is discharged, emitted or deposited in the environment in such volume, constituency or manner as to cause an alteration in the environment, or

ii) any discarded, rejected, unwanted, surplus or abandoned substance, or

iii) any otherwise discarded, rejected, unwanted, surplus or abandoned substance intended for sale or for recycling, reprocessing, recovery or purification by a separate operation from that which produced the substance, or

iv) any substance prescribed by the regulations to be waste for the purposes of this Act.

v) a substance is not precluded from being waste for the purposes of the POEO Act merely because it can be reprocessed, re-used or recycled.

waste and recycling room

a designated room or a combination of designated rooms upon the site (can be located inside or outside) of a building for the housing of approved containers to store all waste material (including recyclable material) likely to be generated by the buildings' occupants.

waste cupboard

a temporary storage area that is designed to hold at least a single days waste. The waste cupboard is typically located in the kitchen. It should be designed to enable some separation of recyclables and non-recyclables.

1B.1 DEFINITIONS (CONTINUED)

waste service compartment	located on each floor of a building for interim storage of recyclables with access to a hopper and providing a fire rated compartment around garbage chute hoppers.
wastewater	sewage, greywater or water that is contaminated by human or commercial processes, and includes water from a domestic pool.
written submission	a submission in writing in the form of a letter, report, facsimile transmission, petition, e-mail or other like form.

1B.2 ABBREVIATIONS

LIST OF ABBREVIATIONS

ACA	Australian Communications Authority
ACIF	Australian Communications Industry Forum
ADG	Apartment Design Guide
AFS	Australian Forestry Standard
AHD	Australian Height Datum
ARI	Average Recurrence Interval
ARPANSA	Australian Radiation Protection and Nuclear Safety Agency
AS	Australian Standard
BASIX	Building Sustainability Index
BCA	Building Code of Australia
CMP	Conservation Management Plan
DA	Development Application
DA guide	Ku-ring-gai Council's Development Application Guide (available from Council's Customer Service Centre)
DCP	Development Control Plan
DEC	Department of Education and Communities
DoCS	NSW Department of Community Services (as it was then)
EFM	Electromagnetic Field Exposure
EP&A Act	*Environmental Planning and Assessment Act 1979*
FSC	Forest Stewardship Council
GBCA	Green Building Council of Australia
GFA	Gross Floor Area
HCA	Heritage Conservation Area
ICNIRP	International Commission on Non-ionising Radio Protection
L	Litre(s)
LHA	Livable Housing Australia
KCP 2010	Ku-ring-gai Contributions Plan 2010
KL	Kilolitre*s*
KLEP Local Centre 2012	Ku-ring-gai Local Environmental Plan (Local Centres) 2012
KLEP 2015	Ku-ring-gai Local Environmental Plan 2015
KPDP 2010	Ku-ring-gai Public Domain Plan 2010
m	Metre(s)

1B.2 ABBREVIATIONS (CONTINUED)

max	Maximum
min	Minimum
MGB	Mobile Garbage Bin
NSW EPA	NSW Environment Protection Authority
OSD	on-site detention
OSR	on-site retention
PEFC	Programme for the Endorsement of Forest Certification
PoEO Act 1997	Protection of the Environment Operations Act 1997
RMS	Roads and Maritime Services
SEPP	State Environmental Planning Policy
SHI	Statement of Heritage Impact
Sydney Water	Sydney Water Corporation
VPA	Voluntary Planning Agreement
WMP	Waste Management Plan

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SECTION A

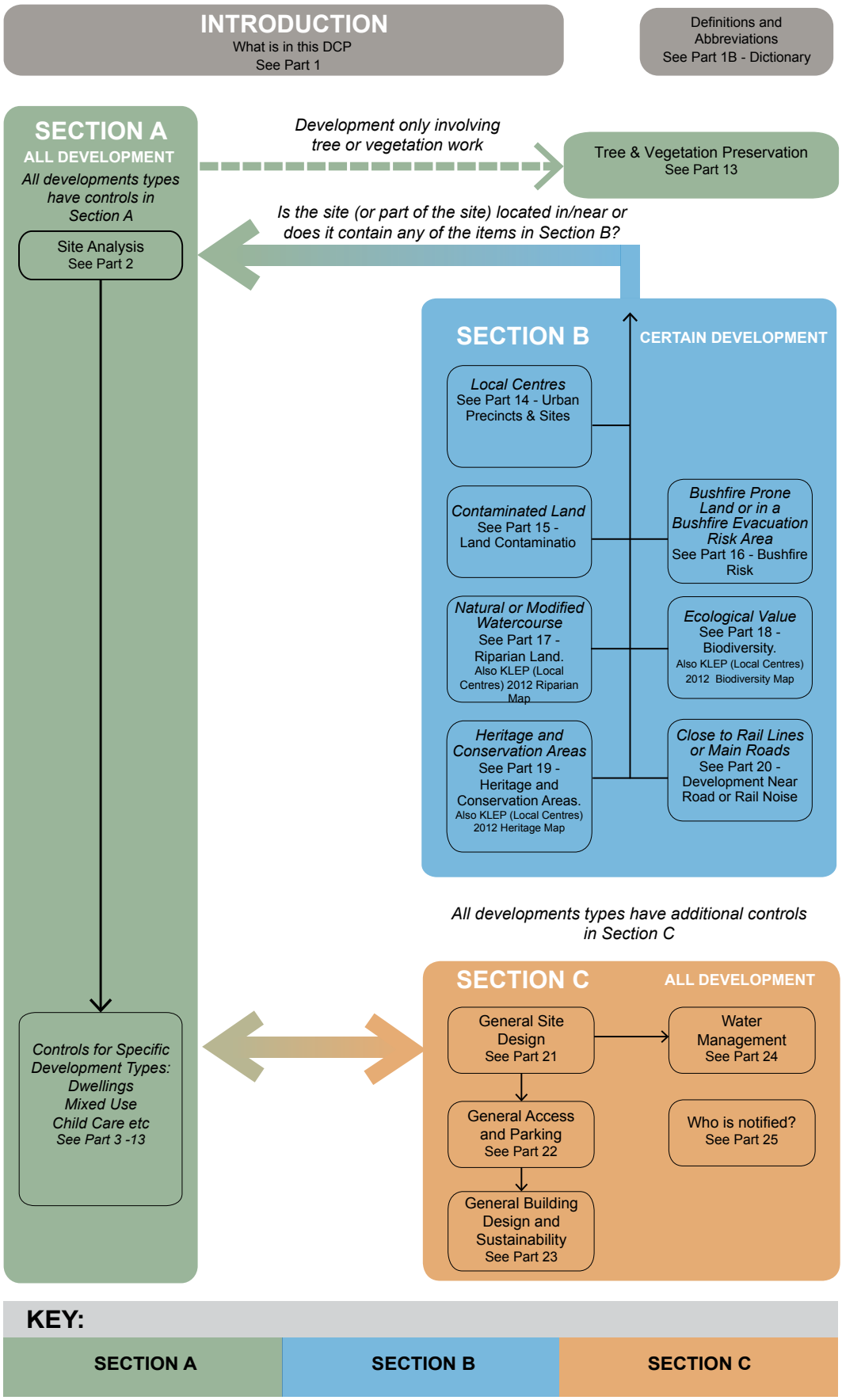
Ku-ring-gai Local Centres Development Control Plan

ADOPTED - 28/11/17

EFFECTIVE - 07/12/17

SECTION A

HOW TO USE THE DCP



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PART 2

SITE ANALYSIS

Introduction

2.1 Site Analysis

SITE ANALYSIS

SITE ANALYSIS

INTRODUCTION

A site analysis establishes the context of a proposed development by showing graphically the constraints and opportunities on the site, its immediate locality and the wider environment, and includes both natural and built elements.

The site analysis will influence how the design optimises site attributes and complements neighbourhood character whilst preserving the amenity of adjoining developments. A good site analysis is therefore essential in achieving a sustainable, responsive and sensitive development.

2.1 SITE ANALYSIS

Further controls that may apply		
	SECTION B **PART 15** - Land Contamination **PART 16** - Bushfire Risk **PART 17** - Riparian Lands **PART 18** - Biodiversity **PART 19** - Heritage Items and Heritage Conservation Areas	

Objectives

1 *To identify the existing characteristics of the subject site and the surrounding area.*

2 *To encourage good site planning and landscape outcomes, informed by an understanding of the site and its context.*

3 *To identify the natural, environmental, cultural and historical values of the subject site and surrounds to be protected.*

4 *To ensure that proposed development is compatible with the existing or desired future character of the area.*

5 *To consider the amenity of users of the subject site and the locality.*

6 *To ensure that sustainability and potential risk to life and property are considered at an early stage in the design process.*

7 *To ensure that potential zone interface impacts are recognised and addressed in a proposal.*

8 *To ensure that the design response is well founded and responsive to site context.*

Controls

1 Development applications are to contain a site analysis that includes:

i) a sketch/diagrammatic plan with a legend; and

ii) a written component.

The amount of information in a site analysis will depend on the size and scale of the proposal, the site locality, complexity, nature and context.

2 The site plan and statement of environmental effects for the development application is to show how the proposed development responds to the site analysis.

3 The site analysis is to contain information on the subject site and surrounding areas as follows:

i) Site Description – Written description of streetscape and its predominant elements.

ii) Standard of Documentation – All information required in Council's DA Guide, Appendix 1 – Standard of Documentation.

Note: Photos may be required.

iii) Additional information – Any other information that may affect the proposed development or that identifies effects that the development might have on the site and surrounds.

iv) A plan of the site showing dimensions, streets and adjoining sites is required to an appropriate scale (usually either 1:100 or 1:200). A simple example is provided at *Figure 2.1-1*. For more complex developments, the site analysis will require a series of plans or sketches and photographic analysis. A sample of some elements is provided at *Figure 2.1-2*.

Site characteristics within the subject site

4 The site analysis plan is to include, but not be limited to, the following characteristics as appropriate:

i) Orientation & Climate – Scale, north point (magnetic north and true north), and prevailing wind direction(s) shown by arrows.

ii) Topography & Drainage – Contours of 0.5m intervals, spot levels if available, slope gradients, runoff (upstream and

Controls

downstream), piped drainage, open channels, overland flow-paths, flood levels, location of any features that may impact on surface and subsurface flows, location of any riparian lands.

iii) **Site Access** – Existing access to and from the site of the proposed development including easements and/or rights-of-carriageway.

iv) **Open Space** – All open space and other recreation areas, including private, commercial and communal open space, on the site and adjoining land.

v) **Existing Vegetation and Natural Features** – Location and spread of all trees on the site and adjoining lands as identified on the survey plan including proximity to surrounding bushland. Location of rock outcrops.

vi) **Biodiversity and Riparian** – Tree species or ecological communities are to be identified.

vii) **Bush fire prone land** – An indication of whether the site is identified on Council's Bush fire Prone Lands Map or Bush fire Risk Evacuation Map. If the site is Bush fire prone, the direction of fire and "Effective Slope" as defined in Planning for Bush fire Protection 2006.

viii) **Other risks** - Any other risks that apply to the site, such as flood, contamination, rail noise and vibration.

ix) **Views -** Direction of any views to surrounding areas and important public or private views to the site.

x) **Existing development** – Location of existing structures and natural features on the subject site.

Characteristics of surrounding/adjoining sites

5 The site analysis plan is to include, but not be limited to, the following characteristics as appropriate:

i) **Existing development** – Location of existing structures and natural features adjoining the subject site.

ii) **Key features of adjoining sites** – Overshadowing/ solar access, overlooking windows, view lines, building bulk, prevailing street setback, and landscaping/ screening, topography, inter-allotment drainage easement available to the subject site, riparian lands and private and public open space.

iii) **Services & facilities** – Location of site in relation to community facilities such as local shopping centres, bike paths, utilities, and public transport.

iv) **Zone interface** - Adjoining zoning (including any proposed zoning in a draft LEP).

v) **Heritage** – Heritage Items and Heritage Conservation Areas in the surrounding locality and landscape.

vi) **Noise & Safety** – Noise sources at and external to the site (including railway lines, arterial roads, etc).

2.1 SITE ANALYSIS (continued)

Controls

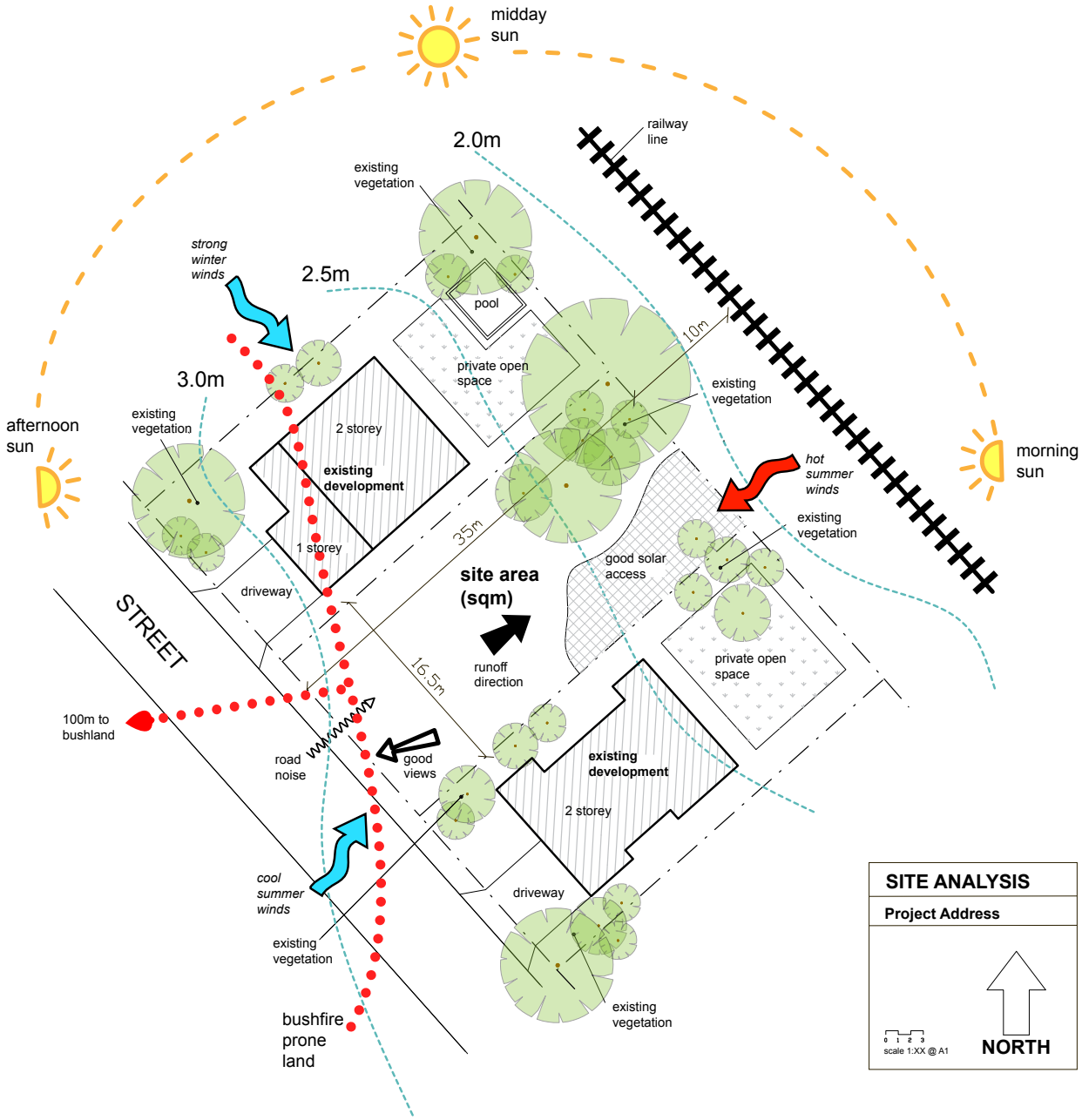

Figure 2.1-1
Sample of a simple site analysis diagram.

2.1 SITE ANALYSIS (continued)

Controls

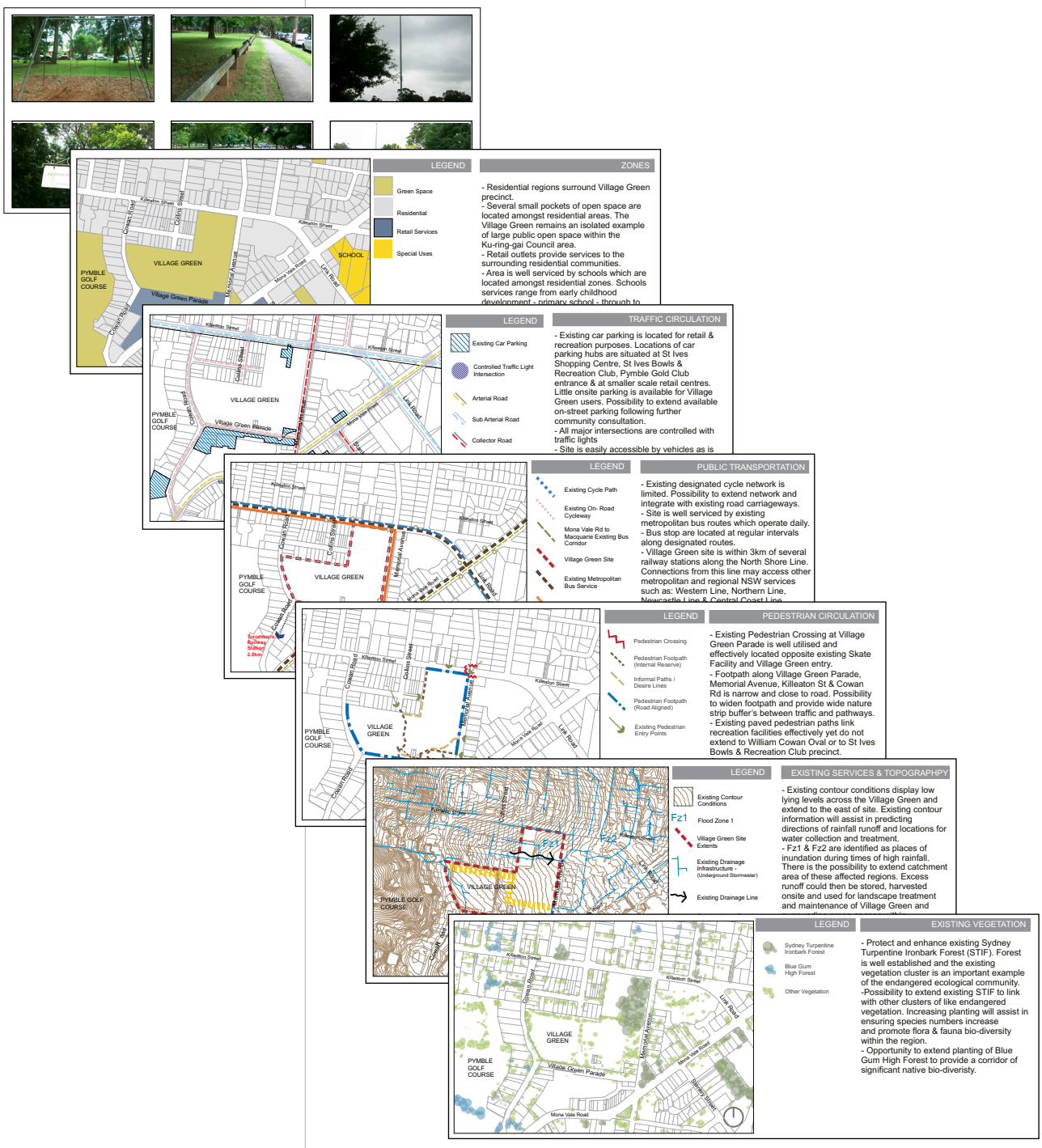

Figure 2.1-2
Sample of site diagrams required for large or more complex development, displaying some of the required elements and information of a site analysis. Refer to the controls for the relevant diagrams required.

PART 3

LAND CONSOLIDATION AND SUBDIVISION

Introduction

3A General Controls for Consolidation and Subdivision

3A.1 Lot Shape, Orientation and Design

3A.2 Minimum Lot Depth for Bush fire Prone Land

3A.3 Building Footprint

3A.4 Trees and Vegetation

3A.4 Access

3A.5 Infrastructure

3B Land Consolidation

3C Strata and Community Title Subdivision

3R References

3R.1 Minimum Lot Depth Maps

LAND CONSOLIDATION AND SUBDIVISION

INTRODUCTION

This part provides guidance on consolidation of multiple lots and subdivision of lots in order to meet the aims and objectives within the KLEP (Local Centres) 2012.

Part 3A outlines matters that need to be addressed for both consolidation and subdivision, and is to be read in conjunction with the Parts of Section B relevant to the site. It also includes guidance on infrastructure provision and design.

Part 3B provides guidance on land consolidation, in particular, when land consolidation is required.

Part 3C provides controls in relation to strata and community title subdivision.

PART 3A

GENERAL CONTROLS FOR CONSOLIDATION AND SUBDIVISION

3A General Controls for Consolidation and Subdivision

3A.1 Lot Shape, Orientation and Design

3A.2 Minimum Lot Depth for Bush fire Prone Land

3A.3 Building Footprint

3A.4 Trees and Vegetation

3A.4 Access

3A.5 Infrastructure

3A.1 LOT SHAPE, ORIENTATION AND DESIGN

Further controls that may apply		
	SECTION B **PART 19 -** Heritage Items and Heritage Conservation Areas	

Objectives

1 *To ensure consolidation and subdivision create usable and regularly shaped lots that relate to the site conditions and the context.*

2 *To limit the impact of new development on natural, environmental, cultural and historical significance of the site and the amenity of adjoining properties.*

3 *To ensure that any new lot created has sufficient area for private open space, drainage, utility services and vehicular access to and from the site.*

4 *To ensure subdivision patterns, building footprints and siting respect the characteristic street address rhythm and built form spacing of its locality.*

5 *To provide lots that are oriented to optimise solar access to facilitate micro-climate management and energy conservation.*

6 *To ensure management of risks, such as bush fire or flooding are considered early in the design phase.*

7 *To ensure development adjacent to urban bushland is sympathetic and safe.*

8 *To ensure the design of residential development encourages engagement with the surrounding community.*

Controls

1 The lot shape, orientation and design of consolidated and subdivided lots is to demonstrate the following:

i) Ability for the lot to support the land use permitted under the zoning;

ii) Protection of habitat and distinctive environmental features including:

- Cliffs and rock outcrops
- Remnant bushland and trees
- Tree hollows
- Natural watercourses

iii) Sharing of views;

iv) Avoiding the location of development on steep lands;

v) Protection and enhancement of the amenity, solar access, privacy, open space and views of the neighbouring lots;

vi) Minimisation of impacts of the development (including any asset protection zones required) on riparian or Greenweb lands;

Note: SEPP 19 Bushland in Urban Areas may also apply.

vii) Incorporation of the principles of water sensitive urban design;

viii) Easements and servicing requirements;

ix) Vehicular, pedestrian and bicycle access;

x) Respect for and conservation of cultural heritage including any Aboriginal place or site of heritage significance; and

Note: Refer to Part 20 for Subdivision and Consolidation for new development on a Heritage Item or a HCA.

xi) Minimisation of the need for bush fire hazard reduction, while protecting life and property.

Note: See Part 17 Bush fire Risk for example design scenarios.

2 The block width, dimension, orientation and layout are to consider the existing subdivision pattern of the locality.

3 New lot/s created are to be such that each lot with street frontage allows for the siting of a development which will address the street.

4 Gated communities will not be permitted.

3A.2 MINIMUM LOT DEPTH FOR BUSH FIRE PRONE LAND

Objectives

1 *Apply lot depths that allow for the creation of adequate bush fire setbacks within a lot.*

2 *Provision of adequate setbacks within subdivisions to reduce bush fire risk to life and property.*

3 *Ensure development facilitates lot depths that minimise impacts to the environment on private and public land.*

Controls

This part applies to the subdivision of land identified on the "Minimum Lot Depth Map" (Refer to maps in 3R.1 of this Part).

New lot/s created on land containing bush fire hazard

1 For any new lot/s created on land containing a bush fire hazard, where the effective slope is within the range identified in Figure 3A.2-1, the distance between the bush fire hazard and the furthest boundary must not be less than the distance specified within this Figure. See Figures 3A.2-2 and Figure 3A.2-3.

Effective Slope	Distance (m)
Upslope/flat to 5°	55
More than 5° to 10°	65
More than 10°	90

Figure 3A.2-1. Effective slope and the distance between bush fire hazard and boundary.

Note: Refer to Planning for Bush Fire Protection 2006 Appendix 2(b) and RFS Guidelines for Single Dwelling Development Applications Part C (*www.rfs.nsw.gov.au*) for more detail on how to determine effective slope.

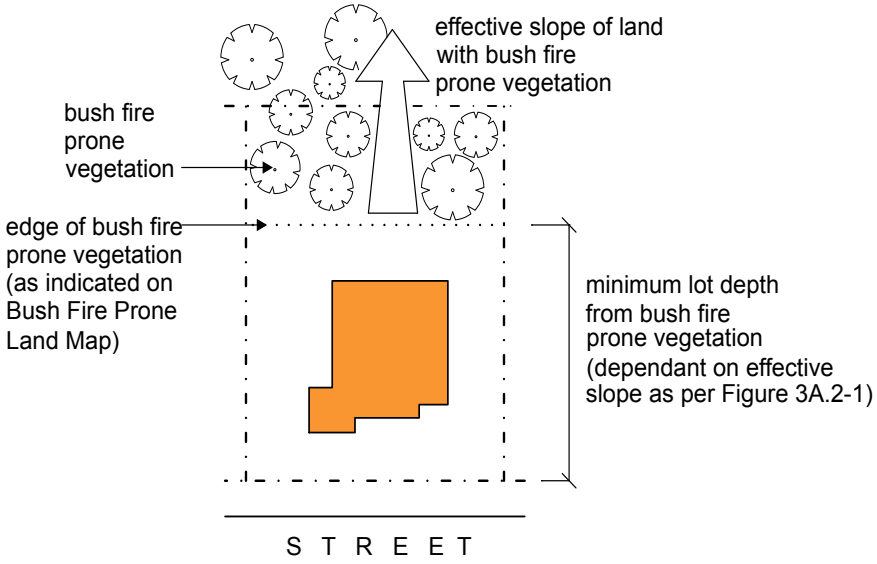

Figure 3A.2-2. Example of new lot on land containing bush fire prone vegetation.

3A.2 MINIMUM LOT DEPTH FOR BUSH FIRE PRONE LAND

Controls

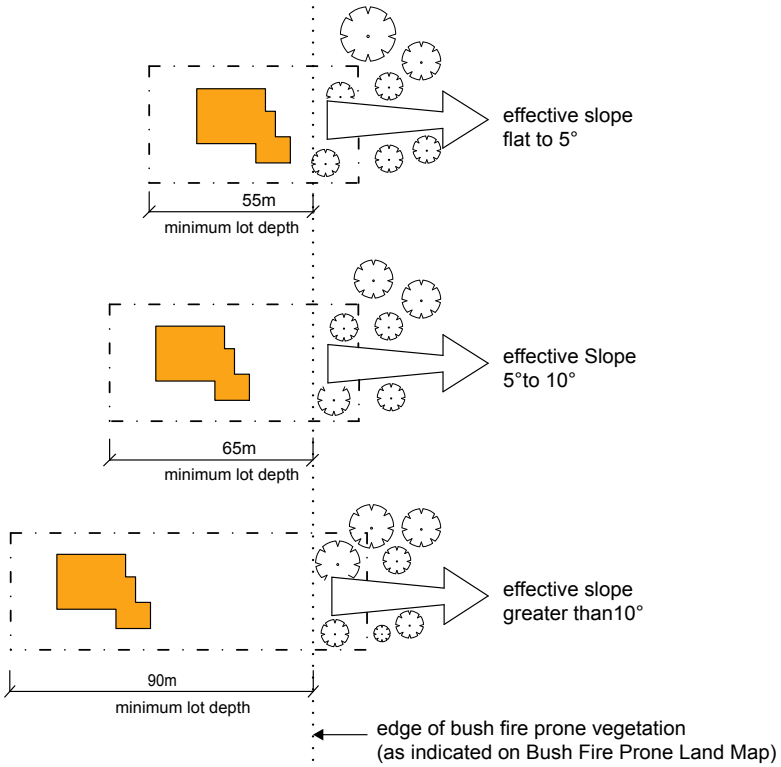

Figure 3A.2-3. Minimum lot depth related to effective slope.

New lot created on land that does not contain a bush fire hazard

2 For any new lot created on land that does not contain a bush fire hazard, where the effective slope is within the range identified in Figure 3A.2-1, the distance between the common or closest boundary of an intervening lot and the furthest boundary of the new lot must not be less than the distance specified within this Figure. See Figure 3A.2-4, Figure 3A.2-5 and Figure 3A.2-6.

Note: An intervening lot is deemed to be any lot that is located on the bush fire hazard side of the lot to be subdivided, and may be directly adjoining or separated by a public or private road, pathway, access handle to another lot or the like.

3 These controls do not apply to any lot comprising association property within the meaning of the *Community Land Development Act 1989.*

3A.2 MINIMUM LOT DEPTH FOR BUSH FIRE PRONE LAND

Controls

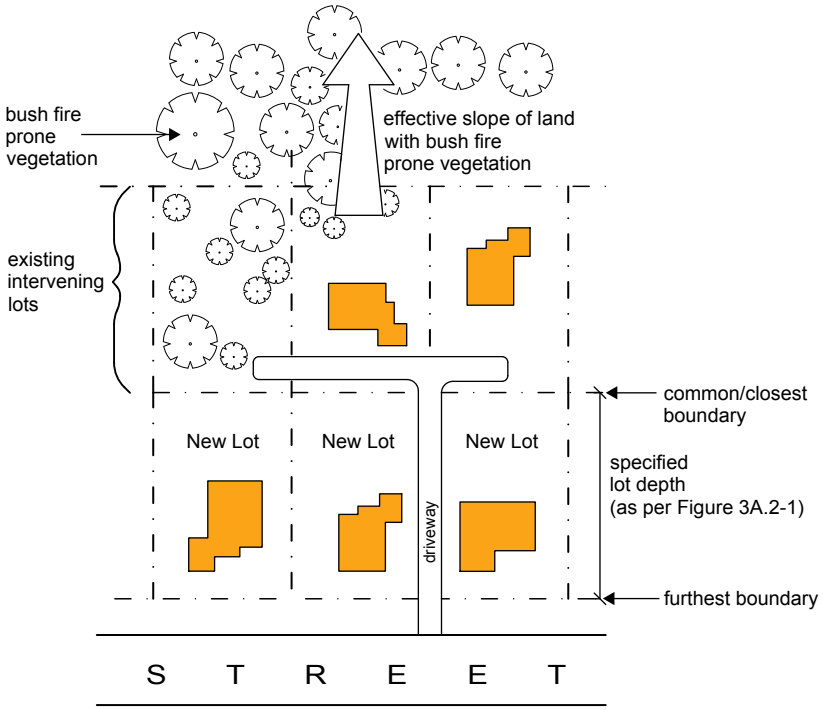

Figure 3A.2-4. Example of the recommended lot depth for new lots separated from bush fire prone vegetation by an existing intervening lot.

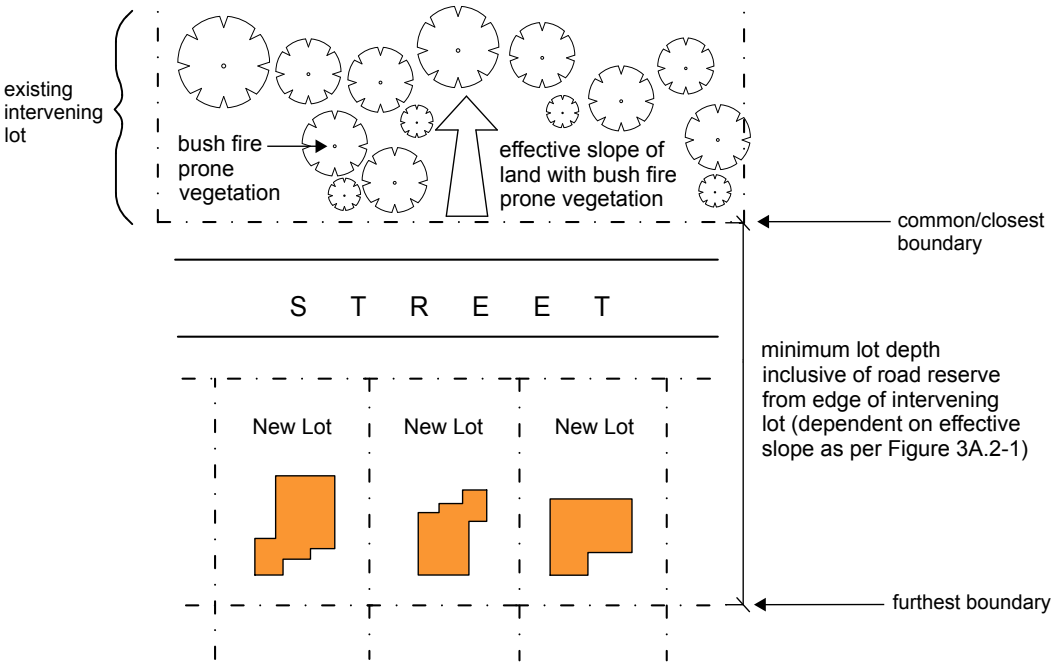

Figure 3A.2-5. Example of the recommended lot depth for new lots separated from bush fire prone vegetation by an existing road.

3A.2 MINIMUM LOT DEPTH FOR BUSH FIRE PRONE LAND

Controls

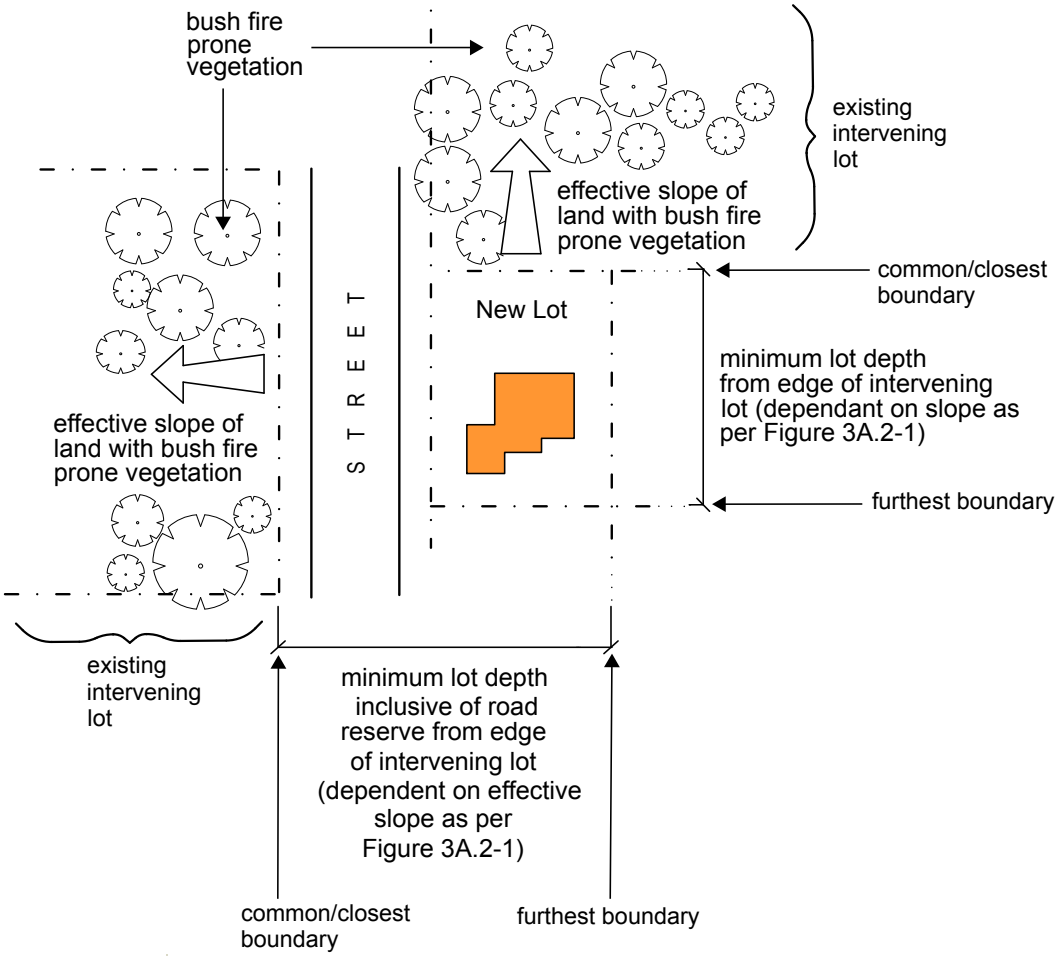

Figure 3A.2-6. Example of the recommended lot depth for new lots where bush fire prone vegetation is located along more than one edge.

3A.3 BUILDING FOOTPRINT

Further controls that may apply		
		SECTION C **PART 24-** Water Management

Objectives

1 *To ensure new allotments have a suitable area for proposed development, associated structures and open space.*

2 *To protect the amenity of adjoining properties.*

3 *To ensure development is suited to the site.*

4 *To minimise risks from landslip, flooding and bush fire.*

5 *To ensure building footprints have minimal impact on existing trees and areas of ecological or heritage significance.*

Controls

1 Potential building footprints are to be identified on the site plan of all consolidation and subdivisions.

2 Building footprints are to be located outside areas of ecological or heritage significance and to avoid the loss of trees.

3 The footprint is to be located in an accessible and practical location, preferably with relatively flat terrain, stable soil and geology.

Note: A geotechnical report may be required for steeper sites.

4 The building footprint must be located and designed so as to allow useable open space that satisfies the open space requirements of the particular development type.

5 The footprint is to be applied in accordance with the minimum building setbacks.

6 Practical and suitable access is to be provided from a public road to the building footprint.

7 The building footprint must be located in accordance with the requirements in Part 24 of this DCP.

3A.4 TREES AND VEGETATION

Objectives

1 *To protect established trees and vegetation on sites and road verges.*

2 *To protect the ecological, cultural and aesthetic values of the site and surrounds.*

3 *To ensure the appropriate planting of street trees in subdivisions involving new roads.*

4 *To ensure that street trees are located to minimise the impact on services.*

Controls

General

1 Any subdivision or consolidation proposal must demonstrate that the location and design of:

i) building footprints;

ii) access ways;

iii) roadways, including perimeter roads or trails;

iv) services;

v) inter-allotment drainage easements; and

vi) asset protection zones

maximises the retention of, and minimises impacts on existing significant trees and vegetation on or adjacent to the site.

2 For the purposes of 3A.4 (1) above, significant trees and vegetation includes but is not limited to cultural plantings, large and visually prominent trees, bushland and endangered ecological communities.

3 Where a site is particularly constrained a more detailed layout of the potential development may be required.

Street trees

4 Street trees are to be planted where new roads are proposed or where the likely location of driveway crossings will result in loss of existing street trees.

5 Trees are to be located:

i) to avoid conflict with the positioning of underground services;

ii) a minimum of 0.6m behind the kerbline to allow access to vehicles;

iii) no closer to street lights than the radius of the tree canopy at maturity. The location of trees in relation to street lights is to consider the height of the tree and the radius of the canopy at maturity to ensure that lighting is not obscured by the vegetation.

See Figures 3A.6-1 & 3A.6-2.

Note: In some circumstances, trees on one side of the road only may be acceptable, in order to meet the above controls.

6 The canopy is to be capable of being maintained at a minimum of 4.3 metres above the road surface to provide clearance for larger vehicles.

7 Species are to be selected to minimise leaf drop and to avoid blockage of drainage systems.

3A.5 ACCESS

Further controls that may apply		
		SECTION C **PART 24D -** Existing Drainage System **PART 24E -** Road and Trunk Drainage Design

Objectives

1 *To ensure adequate and safe vehicular access.*

2 *To ensure the pedestrian and bicycle needs of residents and visitors are considered with particular regard to access requirements, safety and security.*

3 *To ensure that public utilities and services can be provided without unnecessary visual clutter and with regard to the streetscape and character of the area.*

4 *To ensure all road works conform with Council's standard specifications.*

5 *To ensure all newly constructed roads are adequately designed for the scale of the development and the road hierarchy.*

6 *To protect life and property from bush fire risk.*

7 *To minimise the impacts on bushland from urban development.*

8 *To enable ease of access for service vehicles, including waste collection and removalist vehicles*

9 *To ensure adequate signage of roads.*

Controls

Vehicular Access

1 Each lot must provide access from a constructed or dedicated public road. Where access is proposed to a section of unconstructed public road, the newly created lot will need to provide lawful, constructed access to Council's satisfaction.

2 The minimum width of an access handle to a battle-axe allotment is 4.6 metres. This may be increased where length, number of lots and or topography necessitate. Access to multiple dwellings could require a wider access handle to accommodate passing bays.

Note: Australian Standard 2890.1 2004 Off Street Car Parking applies.

3 The maximum number of lots to be served by a single access handle connected to a public road is 3 lots.

4 Access for service vehicles, emergency vehicles and waste collection vehicles must be available.

Note: If access is to be provided from a main road it must be in compliance with the Roads and Maritime Services requirements.

Pedestrian and Bicycle Access

5 Movement areas are to incorporate convenient, obvious and safe pedestrian and bike links from the lot to public transport services and local facilities.

6 The design and location of footpaths and driveways are to provide opportunities for surveillance and allow safe movement of residents and visitors.

3A.5 ACCESS (continued)

Controls

Roads

7 Street and footpath design and on street car parking are to be provided and designed in accordance with AMCORD Guidelines: Element 2.1 Street Design and On-Street Car Parking.

8 Road design is to consider the incorporation of water sensitive urban design elements (see Figure 3A.5-2).

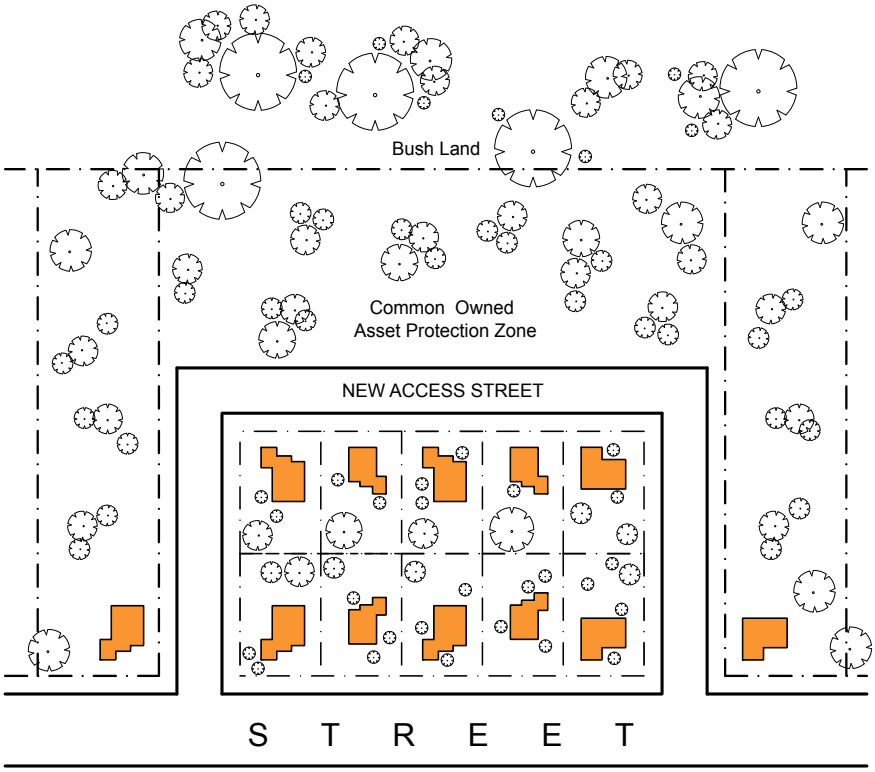

Figure 3A.5-1. Subdivision of lots, sharing access road between development and APZ

Road Grades

9 The desirable minimum gradient shall be 1.5% and only in exceptional circumstances will an absolute minimum of 1% be permitted, in which case adequate precautions must be taken to avoid silting of gutters and pavement flooding. Short sections in vertical curves may be below 1.5%, but must have a minimum crossfall of 3%.

Note: Drainage calculations will be required to check the water flow on the road.

10 The desirable maximum gradient shall be 12% on straight sections of road or on the inner edge of pavement on curves. Under exceptional circumstances, an absolute maximum of 20% may be considered for a distance not exceeding 75 metres.

3A.5 ACCESS (continued)

Controls

Note: Use of grades over 15% between horizontal curves to meet this clause will not be accepted.

Note: The absolute maximum grade for heavy vehicles, (waste trucks). is 15%. Grades over 15% on straight sections of road must provide a waste bin pick-up area, where the truck is not required to use the 15% grade.

Note: If the road grade is over 12%, the applicant must demonstrate that driveway grades between the kerb and boundary will not exceed 5%.

Turning circles

11 Turning circles are to meet the following minimum requirements:

i) road diameter minimum 21 metres kerb to kerb;

ii) a 28 metre diameter is required from boundary to boundary, or 7m larger than kerb to kerb, where the road is wider than 21 metres;

iii) central island – 6 metres diameter kerb to kerb; and

iv) maximum crossfall of 5%.

Note: Topographical and alignment constraints may require additional verge width. Consultation with Council at the pre-development application stage may be required.

Names of Roads

12 Names of new roads are to be selected by the applicant and submitted to Council for approval. Street name plates shall be constructed in accordance with Council's standards and erected at each intersection.



Figure 3A.5-2. Raingarden retrofit to roadway - Mentone, Melbourne (www.wsud.org)

Location and design of roads

13 Where four or more lots adjoin bushland or parkland, a perimeter road is to be built separating the subdivision from the bushland or parkland and no dwelling house or business premises will be permitted to be built on the side of the perimeter road where it adjoins bushland or parkland.

14 Any fire trails, perimeter and access roads on bush fire prone lands are to be located between the urban development and bush fire prone vegetation. These accessways encourage passive recreation provide bushland views and support the provision of a defendable space. Managed Asset Protection Zones (APZ) must be located to the bush fire prone vegetation side of these access ways. Refer to Figure 3A.5-1.

15 Subdivision is not to interfere with an existing fire trail. Fire trails are to be kept clear of obstruction and vehicular access should be maintained at all times.

16 Where perimeter roads are constructed at the edge of bushland and riparian lands they are to incorporate water sensitive urban design to minimise negative impacts of stormwater run-off.

3A.6 INFRASTRUCTURE

Objectives

1 *To ensure that services are provided to new lots.*

2 *To encourage the undergrounding of electrical transmission and communication wires in Bush Fire Prone lands and when a new road is constructed.*

3 *To ensure any required street lighting is provided according to Council's specifications.*

4 *To ensure that street trees are located to minimise the impact on services.*

Controls

Services

1 All lots shall be provided services such as electricity, gas, town water supply, sewerage and communications. Such services must be located underground where new road construction occurs, and in bush fire prone lands. Services are to be located in accordance with Figures 3A.6-1 & 3A.6-2.

Note: In Bush fire Prone Lands, services are to be provided in accordance with the requirements of Planning for Bush Fire Protection (PBP).

2 Existing or planned allocation of services and street trees must be identified on the plan.

3 Street lighting is to be provided in accordance with luminance levels found in AS 1158 - Lighting for Roads and Public Spaces.

4 Street lighting is to be located at intervals of 80 – 100 metres on straight sections of road or every second pole where there is existing overhead power supply. Where power is located underground, street lighting is to be located as required to meet the minimum lighting requirements.

5 Street lighting is to comply with Ausgrid standards. The lighting plan is to be prepared by a suitably qualified and experienced lighting designer accredited with Ausgrid.

Note: Ongoing responsibility for the supply, depreciation and maintenance of street lights which do not comply with Ausgrid standards will lie with the landowner or as agreed at the time of approval and installation.

6 Water management facilities, such as:

i) interallotment draingage for low level lots;

ii) on site detention for new roads and driveways;

iii) raingardens or bioretention basins are to be provided as required by Part 24 of this DCP.

3A.6 INFRASTRUCTURE (continued)

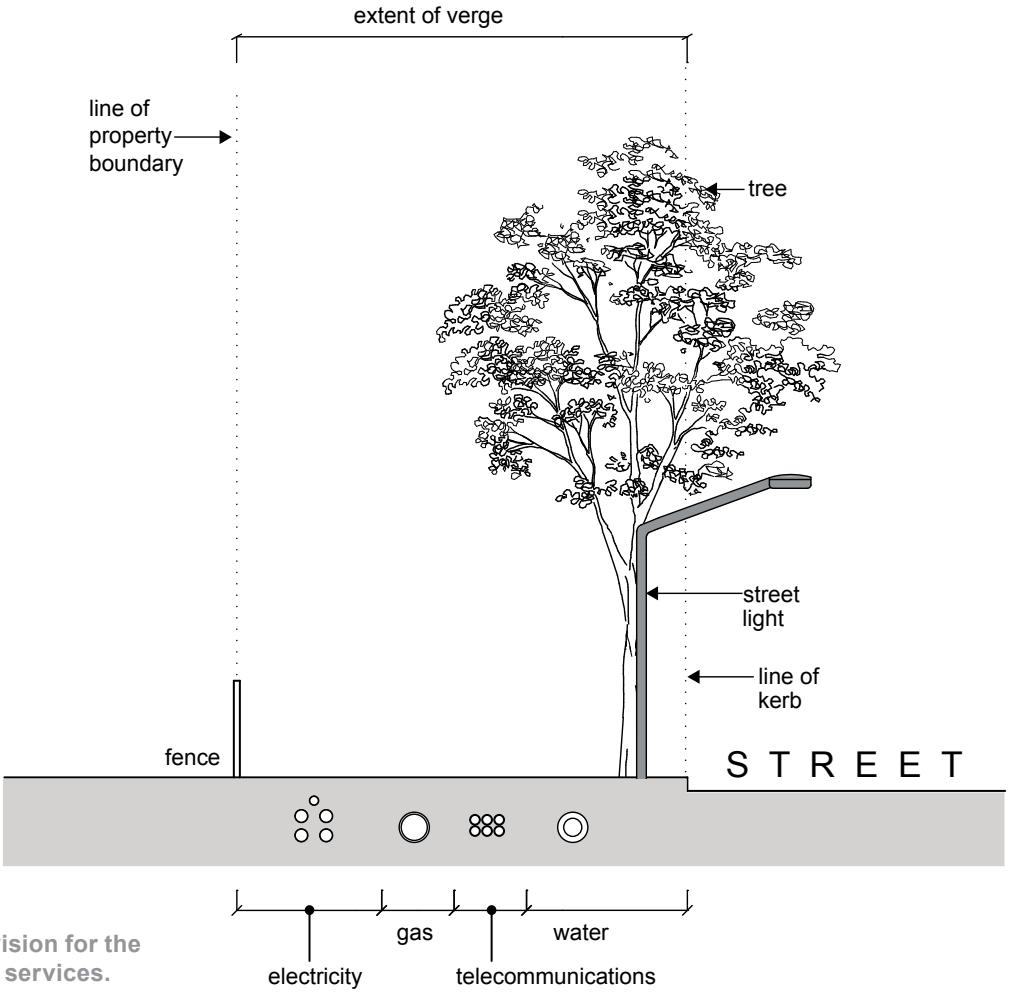

Figure. 3A.6-1 Provision for the undergrounding of services.

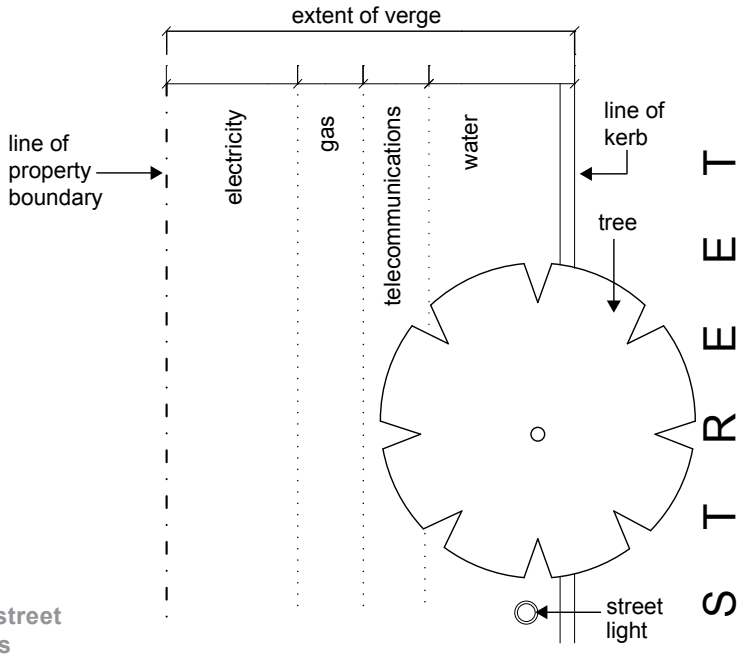

Figure. 3A.6-2 Spacing of street lighting, trees and services

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3B Land Consolidation

3B LAND CONSOLIDATION

Objectives

1 *To encourage lot size and shape that supports a practical and efficient layout to meet the intended use.*

2 *To ensure consolidation patterns create usable allotments which relate to the site conditions and allow for development which is suited to the site, its context and strategic intent.*

3 *To achieve orderly and economic development.*

4 *To prevent sites from becoming isolated and unable to be developed in accordance with KLEP (Local Centres) 2012.*

5 *To encourage consolidation of sites to enable efficiency through shared facilities and services, such as car parking, recycling and waste collection.*

6 *To consolidate corner lots into sites large enough to create corner buildings with a cohesive built form.*

7 *To provide workable building footprints that allow future development that meets the requirements of this plan.*

Controls

1 Land consolidation is to increase the width of the street frontage and avoid irregular lot configuration.

2 Where development is proposed to cross lot boundaries, consolidation of the subject lots will be required.

3 Within a Business zone, Medium density and High density residential zone, sites are to be consolidated to avoid isolating an adjoining site or sites. In particular potential redevelopment of the adjoining site or sites in accordance with its zoning must not be compromised.

4 Lot consolidation is to avoid creating:

i) a primary street frontage less than that required by KLEP (Local Centres) 2012;

ii) a lot size less than that required by KLEP (Local Centres) 2012; and/or

iii) a highly constrained site.

Note: 4 (i) and (ii) only apply to some zones and development types.

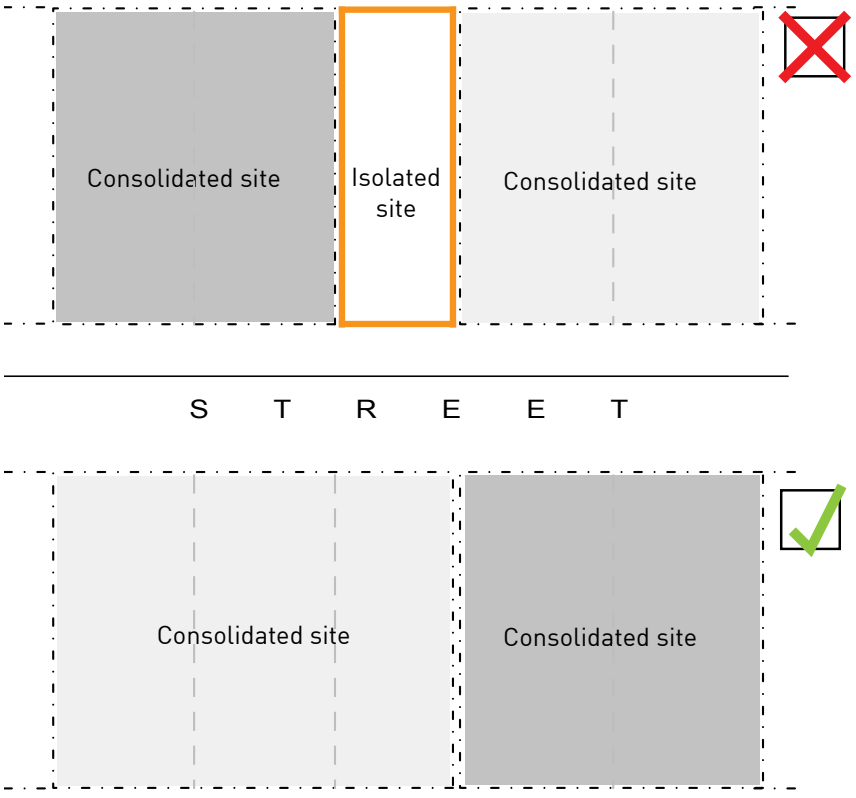

Figure 3B-1
Lot consolidation must avoid isolating small sites.

3B LAND CONSOLIDATION (continued)

Controls

5 For the purposes of this section, a 'highly constrained site' is a lot or lots where heritage, riparian or biodiversity values significantly reduce the development potential of the lot or lots.

6 Where a development proposal results in an isolated site, as described in 4 above, the applicant must demonstrate that:

i) Negotiations between the owners of the lots have commenced prior to the lodgement of the development proposal. Where a satisfactory result cannot be achieved the development proposal should include details of the negotiations, demonstrating that a reasonable offer has been made to the owner of the isolated site: and

ii) Both the isolated site and the development site can be orderly and economically developed in accordance with the provisions of KLEP (Local Centres) 2012 and this DCP, including:

- achieving an appropriate urban form for the location, and
- having an acceptable level of amenity.

Note: A reasonable offer, for the purposes of determining the development application and addressing the planning implications of an isolated lot, is to be based on at least one recent independent valuation and may include other reasonable expenses likely to be incurred by the owner of the isolated property in the sale of the property. To assist in this assessment, applicants are to submit details and diagrams of development for the isolated site, that is of appropriate urban form and amenity. The diagram is to indicate height, setbacks and resultant footprint (both building and basement). This should be schematic but of sufficient detail to understand the relationship between the subject application and the isolated site and the likely impacts of the developments. Important considerations include solar access, deep soil landscaping, privacy impacts for residential development and the traffic impacts of separate driveways if the development is on a main road. The application may need to include a setback greater than the minimum requirement in the relevant planning controls. Or the development potential of both sites may need to be reduced

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3C Strata And Community Title Subdivision

3C STRATA AND COMMUNITY TITLE SUBDIVISION

1 To ensure essential amenities and services are provided for in any strata subdivision and community title.

2 To ensure that the provision of shared facilities such as communal open space, allocated car parking, recycling and waste collection are all situated on common property.

1 Any subdivision must retain the relationship between the building and/or dwelling and its associated:

i) communal open space(s);

ii) parking spaces (visitor and allocated);

iii) water management devices; and

iv) waste and recycling facilities.

2 Any buildings included in a subdivision must comply with the relevant fire safety provisions for that building in relation to each relevant lot proposed within the development.

PART 3R

REFERENCES

3R References

3R.1 Minium Lot Depth Maps

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Draft Ku-ring-gai Development Control Plan

Minimum Lot Depth Map - Sheet 001

Minumum Lot Depth for Bushfire Prone Land

Refer to clause 3A.2

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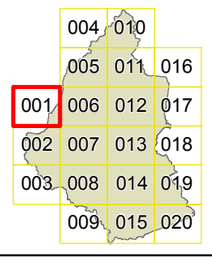

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MGA Zone 56

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HORNSBY LGA

WAHROONGA

Draft Ku-ring-gai Development Control Plan

Minimum Lot Depth Map - Sheet 002

Minumum Lot Depth for Bushfire Prone Land

Refer to clause 3A.2

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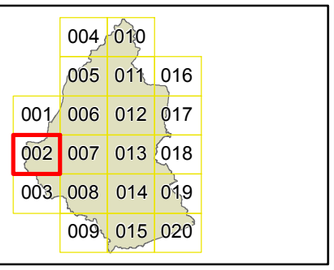

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WAHROONGA

WARRAWEE

TURRAMURRA

SOUTH TURRAMURRA

Draft Ku-ring-gai Development Control Plan

Minimum Lot Depth Map - Sheet 003

Minumum Lot Depth for Bushfire Prone Land

Refer to clause 3A.2

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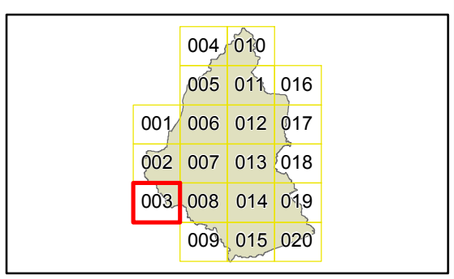

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HORNSBY LGA

TURRAMURRA

SOUTH TURRAMURRA

RYDE LGA

Draft Ku-ring-gai Development Control Plan

Minimum Lot Depth Map - Sheet 004

Minumum Lot Depth for Bushfire Prone Land

Refer to clause 3A.2

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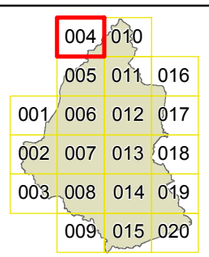

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HORNSBY LGA

NORTH TURRAMURRA

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Minimum Lot Depth Map - Sheet 005

Minumum Lot Depth for Bushfire Prone Land

Refer to clause 3A.2

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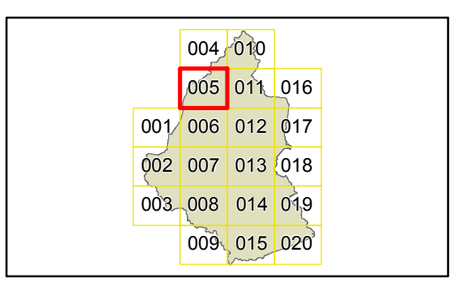

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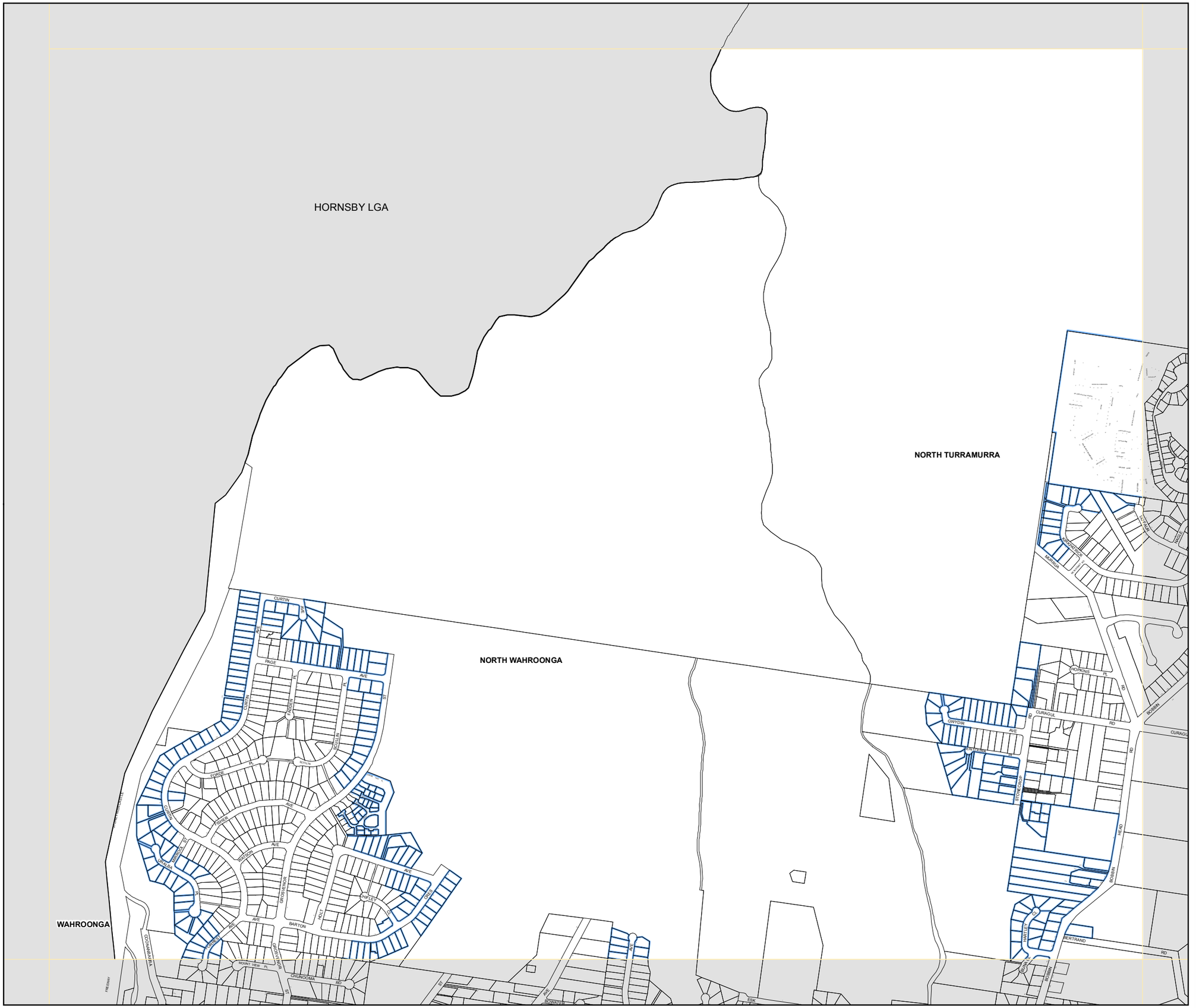

Draft Ku-ring-gai Development Control Plan

Minimum Lot Depth Map - Sheet 006

Minumum Lot Depth for Bushfire Prone Land

Refer to clause 3A.2

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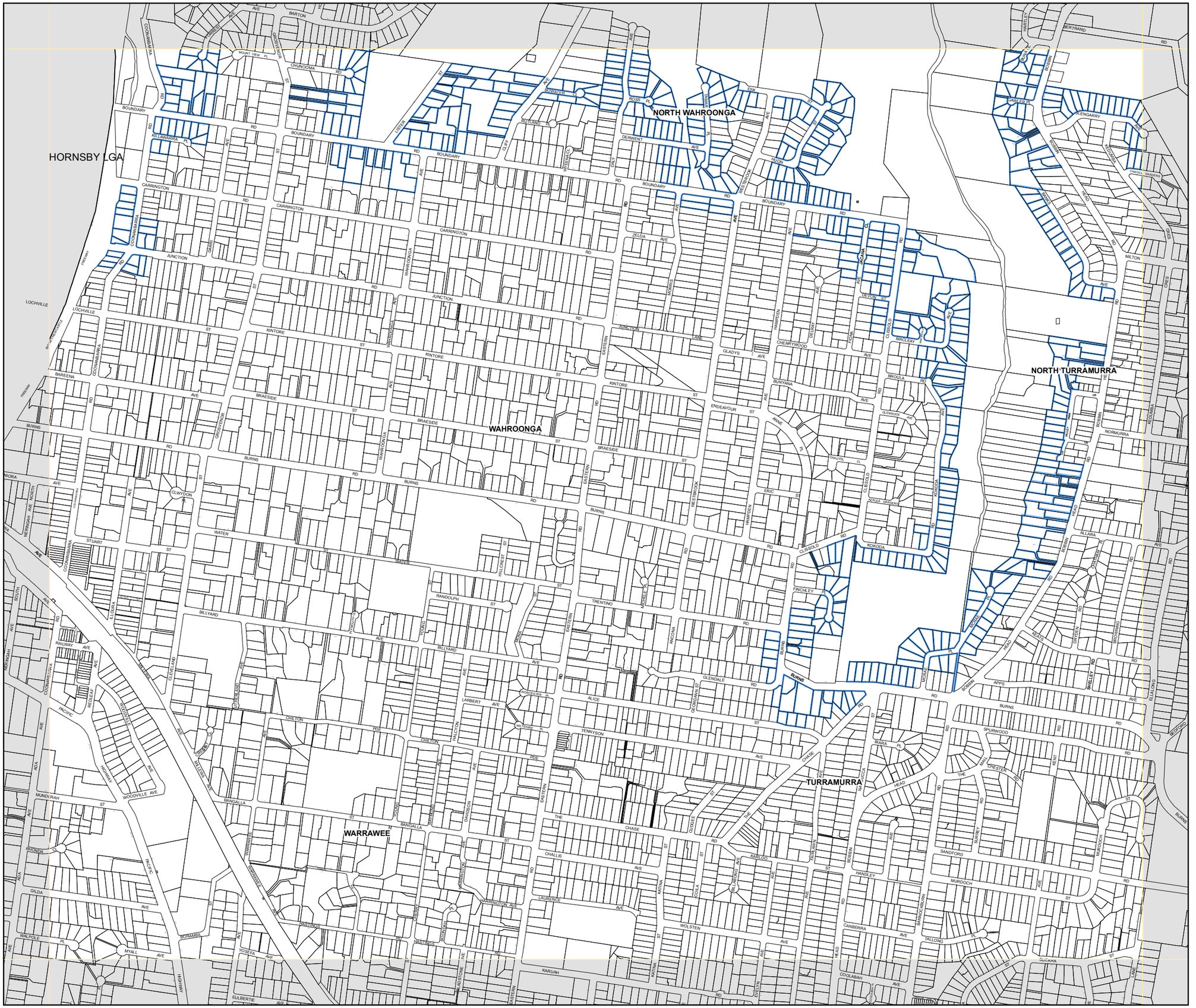
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BURNS RD
WATER ST
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Draft Ku-ring-gai Development Control Plan

Minimum Lot Depth Map - Sheet 007

Minumum Lot Depth for Bushfire Prone Land

Refer to clause 3A.2

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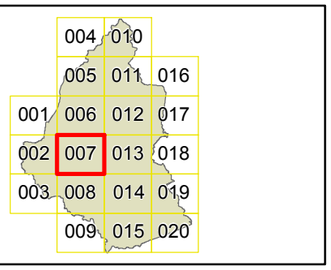

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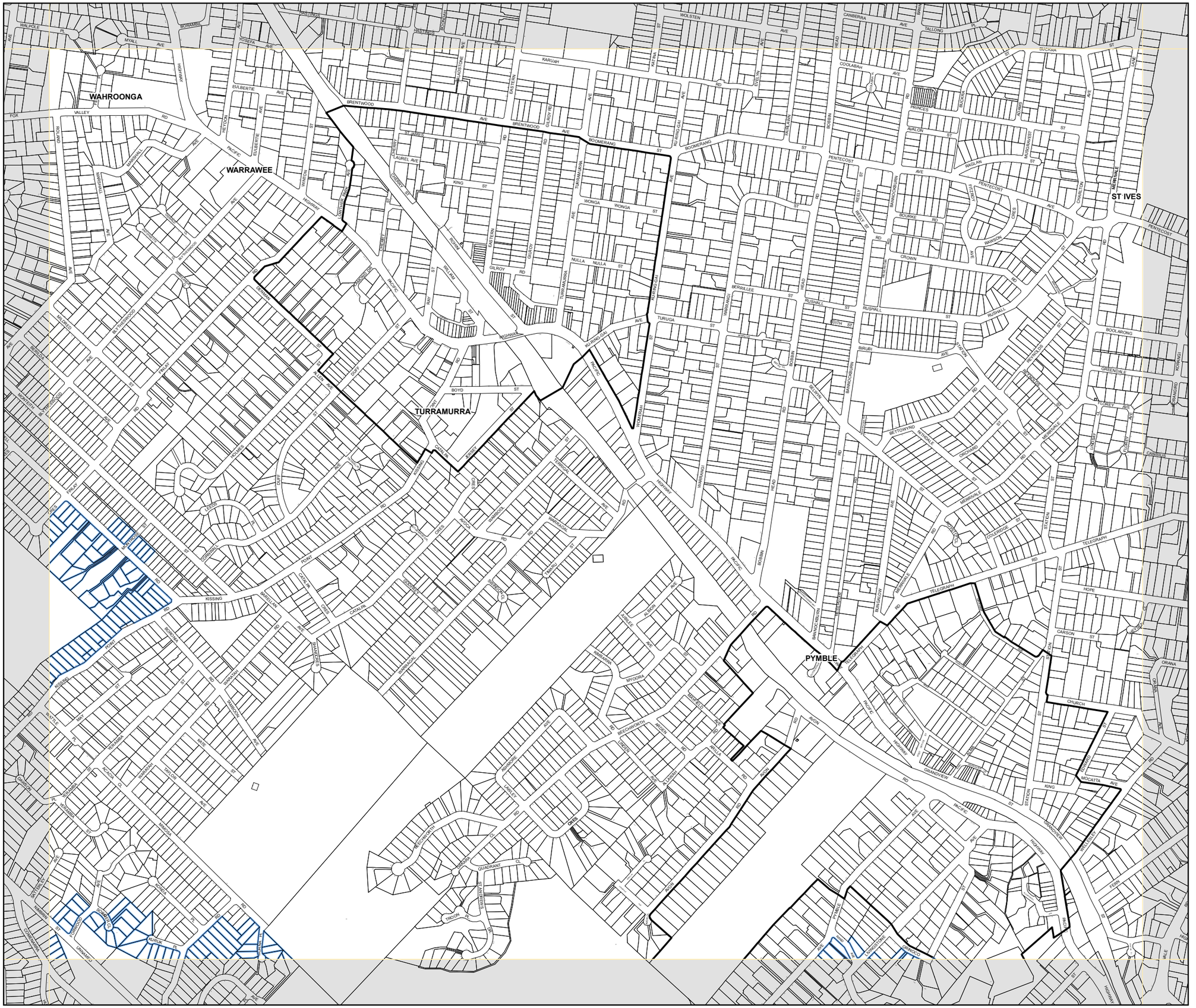
Projection: GDA 1994
MGA Zone 56

Scale: 1:10,000 @ A3

Map identification number: 4500_COM_MLD_ 007_010_20160310



Draft Ku-ring-gai Development Control Plan

Minimum Lot Depth Map - Sheet 008

Minumum Lot Depth for Bushfire Prone Land

Refer to clause 3A.2

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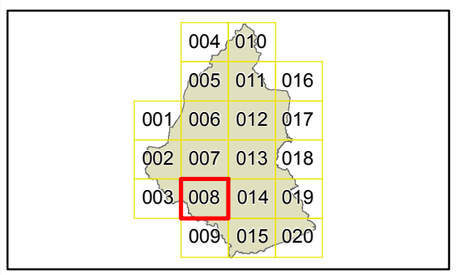

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Projection: GDA 1994
MGA Zone 56

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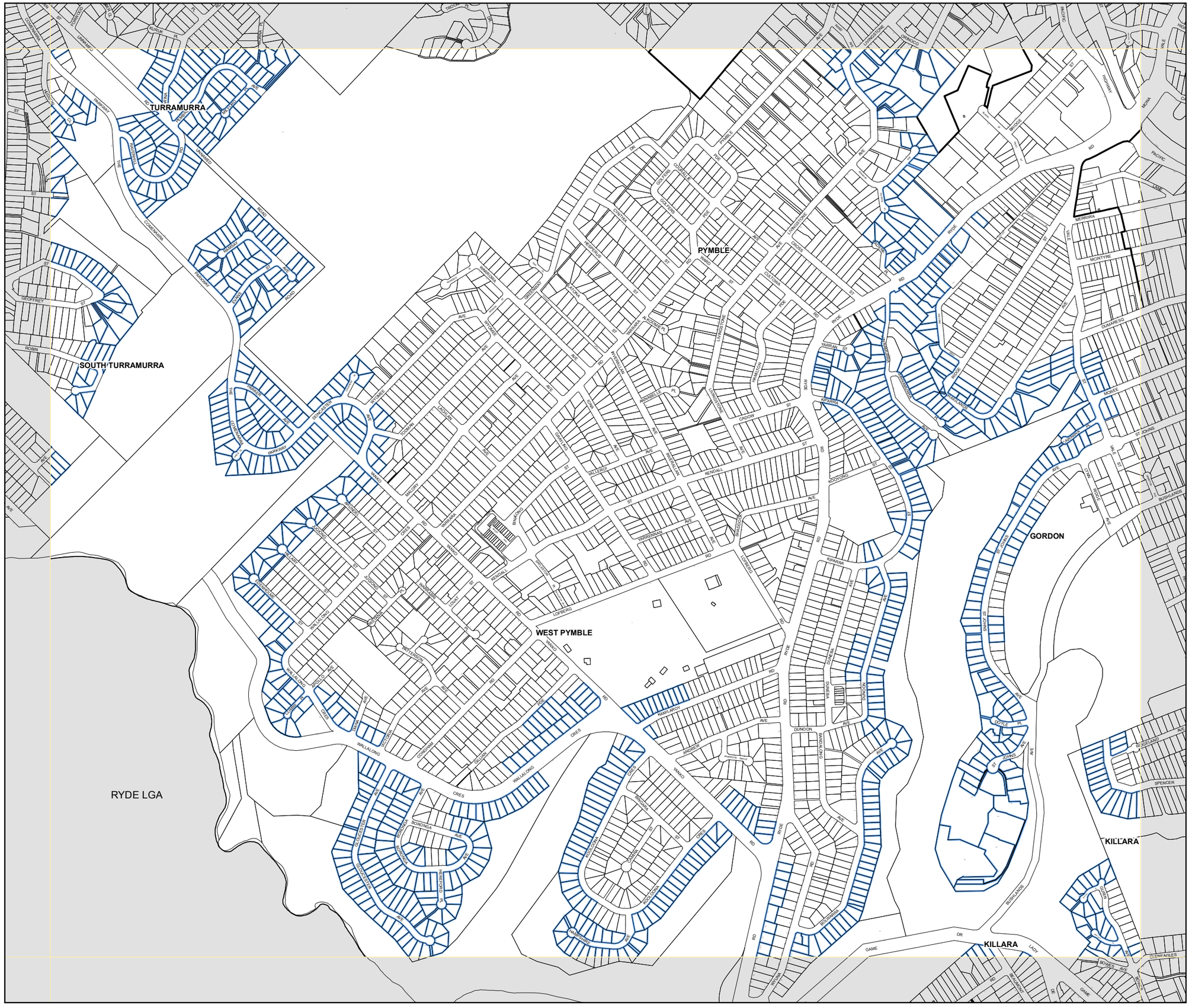

Draft Ku-ring-gai Development Control Plan

Minimum Lot Depth Map - Sheet 009

Minumum Lot Depth for Bushfire Prone Land

Refer to clause 3A.2

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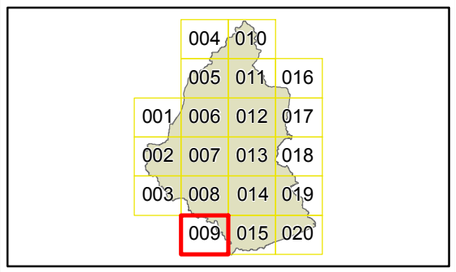

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Projection: GDA 1994
MGA Zone 56

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Scale: 1:10,000 @ A3

Map identification number: 4500_COM_MLD_ 009_010_20160310

RYDE LGA

WEST PYMBLE

GORDON

KILLARA

LINDFIELD

Draft Ku-ring-gai Development Control Plan

Minimum Lot Depth Map - Sheet 010

Minumum Lot Depth for Bushfire Prone Land

Refer to clause 3A.2

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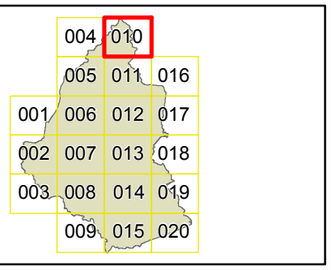

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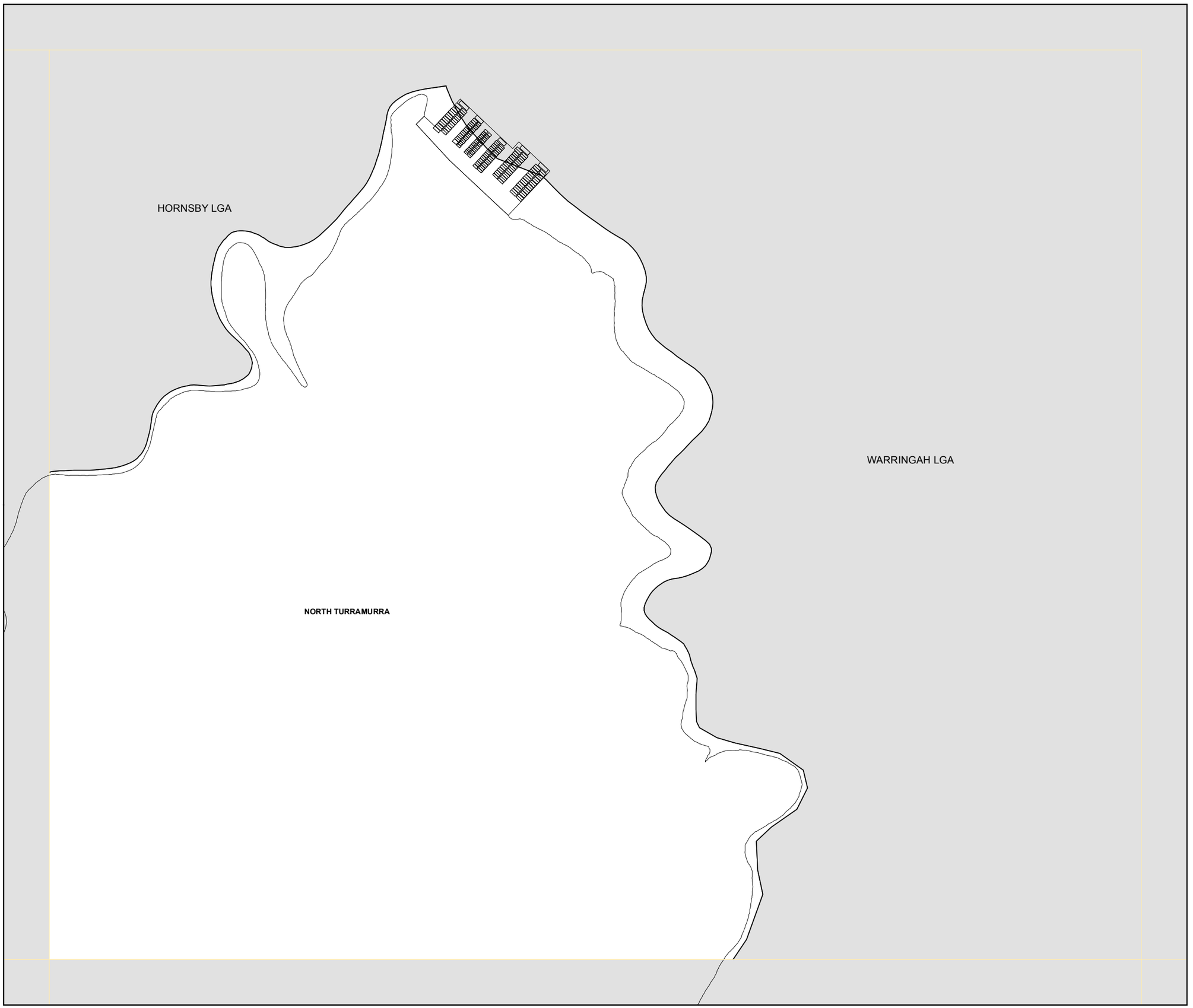
Scale: 1:10,000 @ A3

Projection: GDA 1994
MGA Zone 56

Map identification number: 4500_COM_MLD_ 010_010_20160310



Draft Ku-ring-gai Development Control Plan

Minimum Lot Depth Map - Sheet 011

Minumum Lot Depth for Bushfire Prone Land

Refer to clause 3A.2

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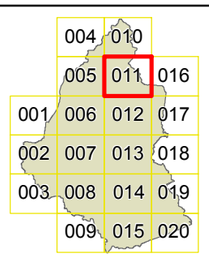

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Projection: GDA 1994
MGA Zone 56

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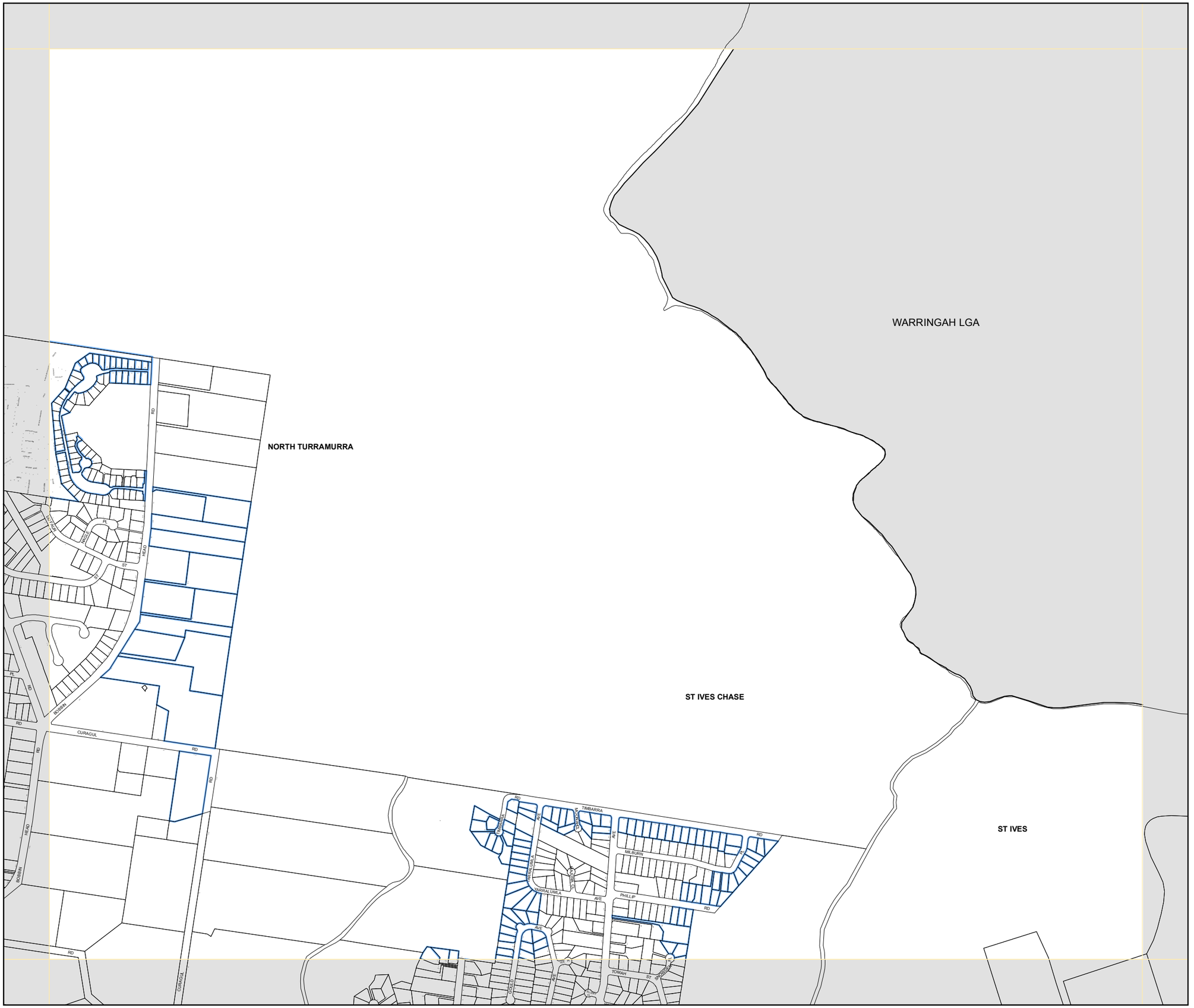
Map identification number: 4500_COM_MLD_ 011_010_20160310



Draft Ku-ring-gai Development Control Plan

Minimum Lot Depth Map - Sheet 012

Minumum Lot Depth for Bushfire Prone Land

Refer to clause 3A.2

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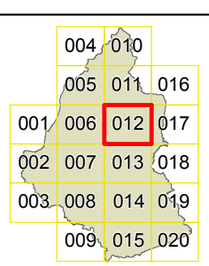

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Projection: GDA 1994
MGA Zone 56

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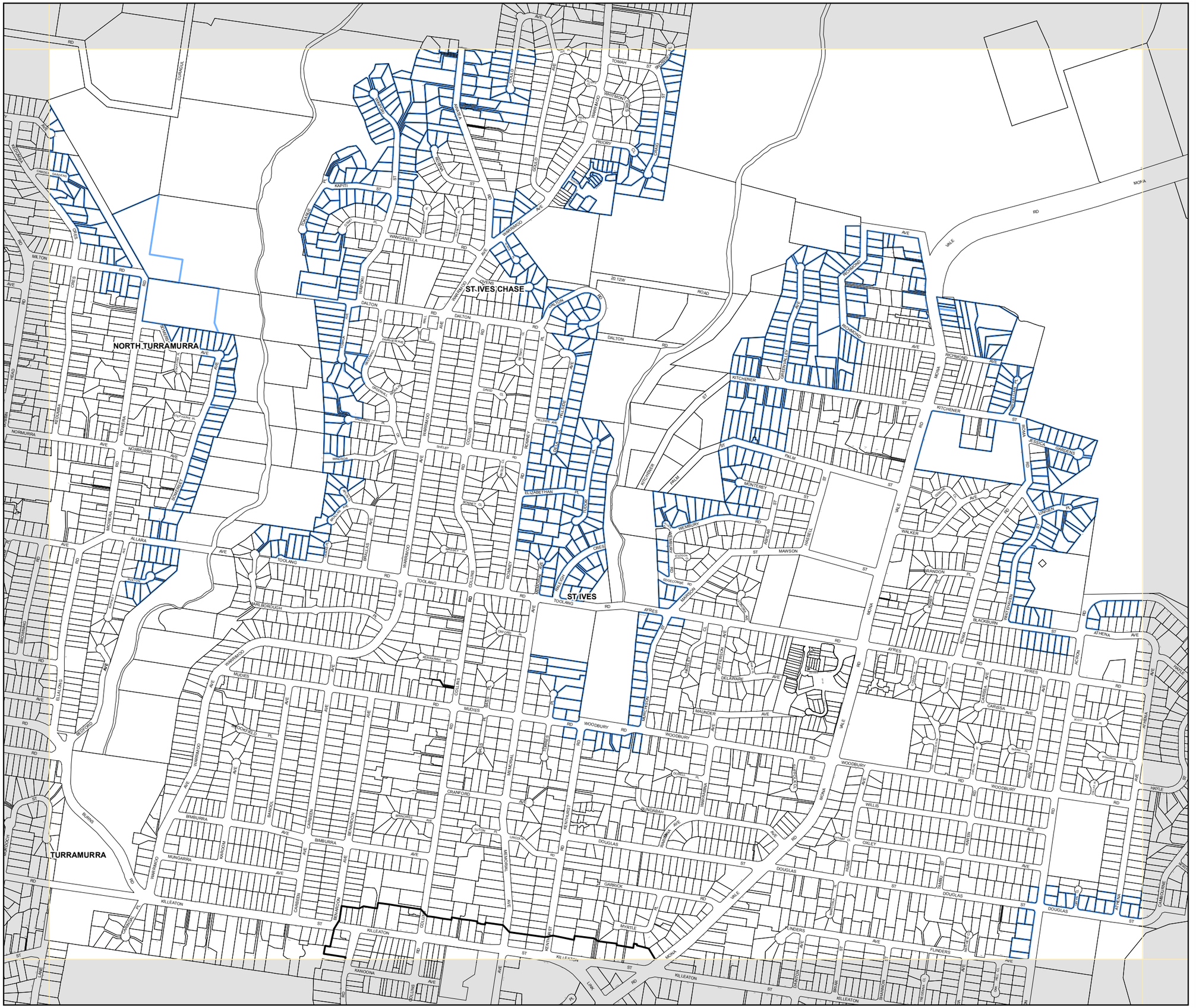
Scale: 1:10,000 @ A3

Map identification number: 4500_COM_MLD_ 012_010_20160310



Draft Ku-ring-gai Development Control Plan

Minimum Lot Depth Map - Sheet 013

Minumum Lot Depth for Bushfire Prone Land

Refer to clause 3A.2

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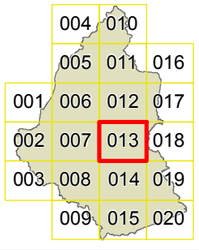

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Projection: GDA 1994
MGA Zone 56

Scale: 1:10,000 @ A3

Map identification number: 4500_COM_MLD_ 013_010_20160310

TURRAMURRA
PYMBLE
GORDON
ST IVES
WARRINGAH LGA
EAST KILLARA

Draft Ku-ring-gai Development Control Plan

Minimum Lot Depth Map - Sheet 014

Minumum Lot Depth for Bushfire Prone Land

Refer to clause 3A.2

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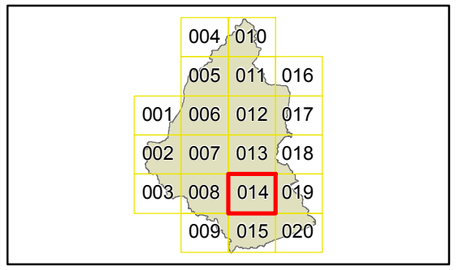

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MGA Zone 56

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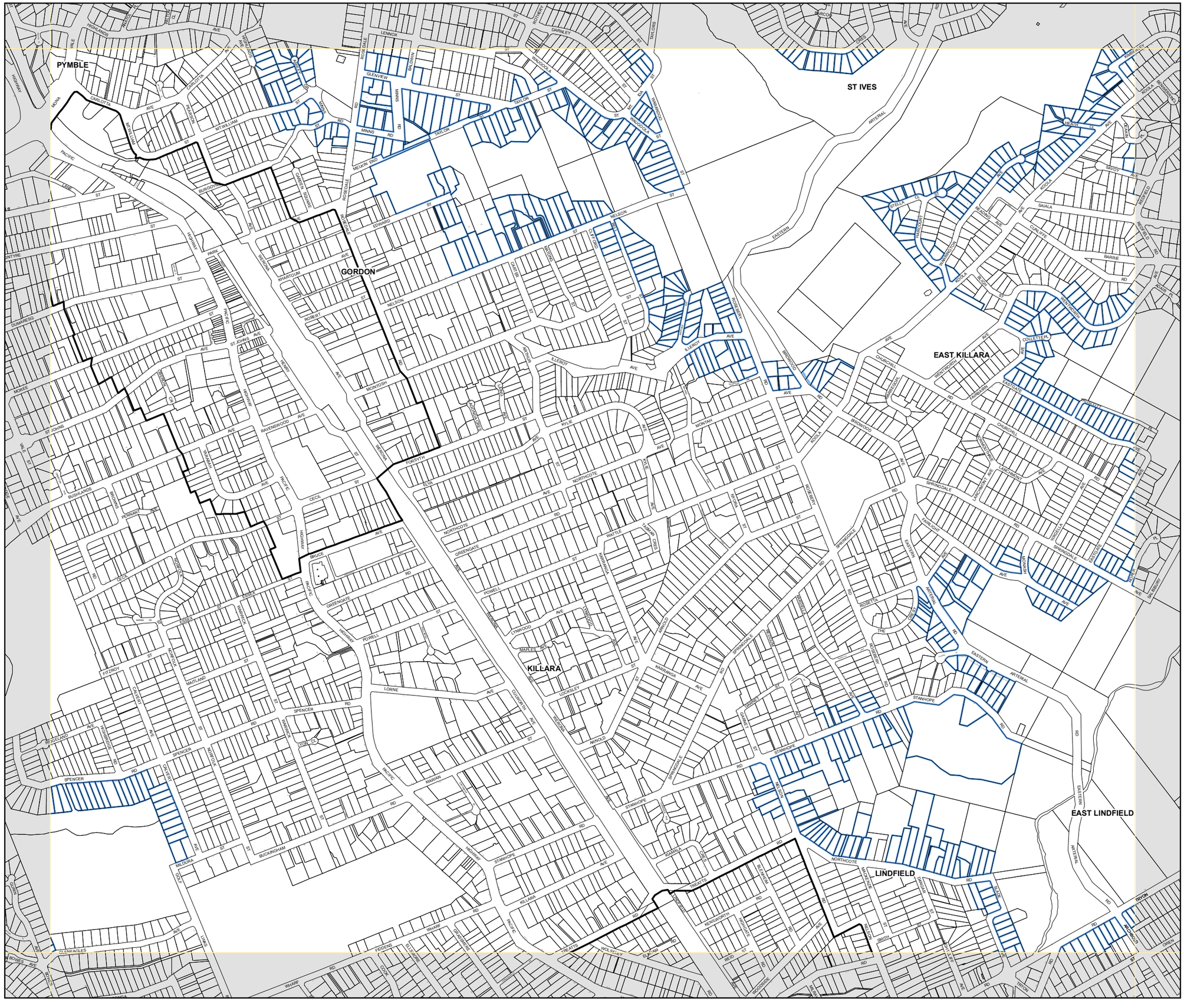
Map identification number: 4500_COM_MLD_ 014_010_20160310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LINDFIELD
PACIFIC
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ARTERIAL
EASTERN
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WARWICK
WARATAH
WARRANGI
WARREGA
WARRAWEE
WARRIEWOOD
WARRINGAH
WARRAMBI
WARRANDYTE
WARRIMA
WARRAWONG
WARRAWEE
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Draft Ku-ring-gai Development Control Plan

Minimum Lot Depth Map - Sheet 015

Minumum Lot Depth for Bushfire Prone Land

Refer to clause 3A.2

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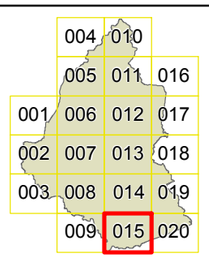

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Projection: GDA 1994
MGA Zone 56

Scale: 1:10,000 @ A3

Map identification number: 4500_COM_MLD_ 015_010_20160310

KILLARA

LINDFIELD

ROSEVILLE

RYDE LGA

RYDE LGA

WILLOUGHBY LGA

Draft Ku-ring-gai Development Control Plan

Minimum Lot Depth Map - Sheet 016

Minumum Lot Depth for Bushfire Prone Land

Refer to clause 3A.2

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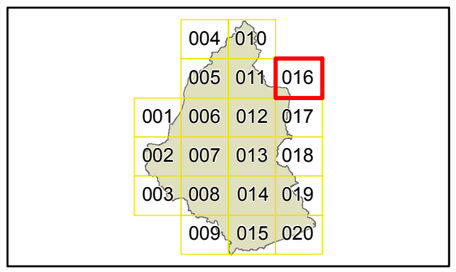

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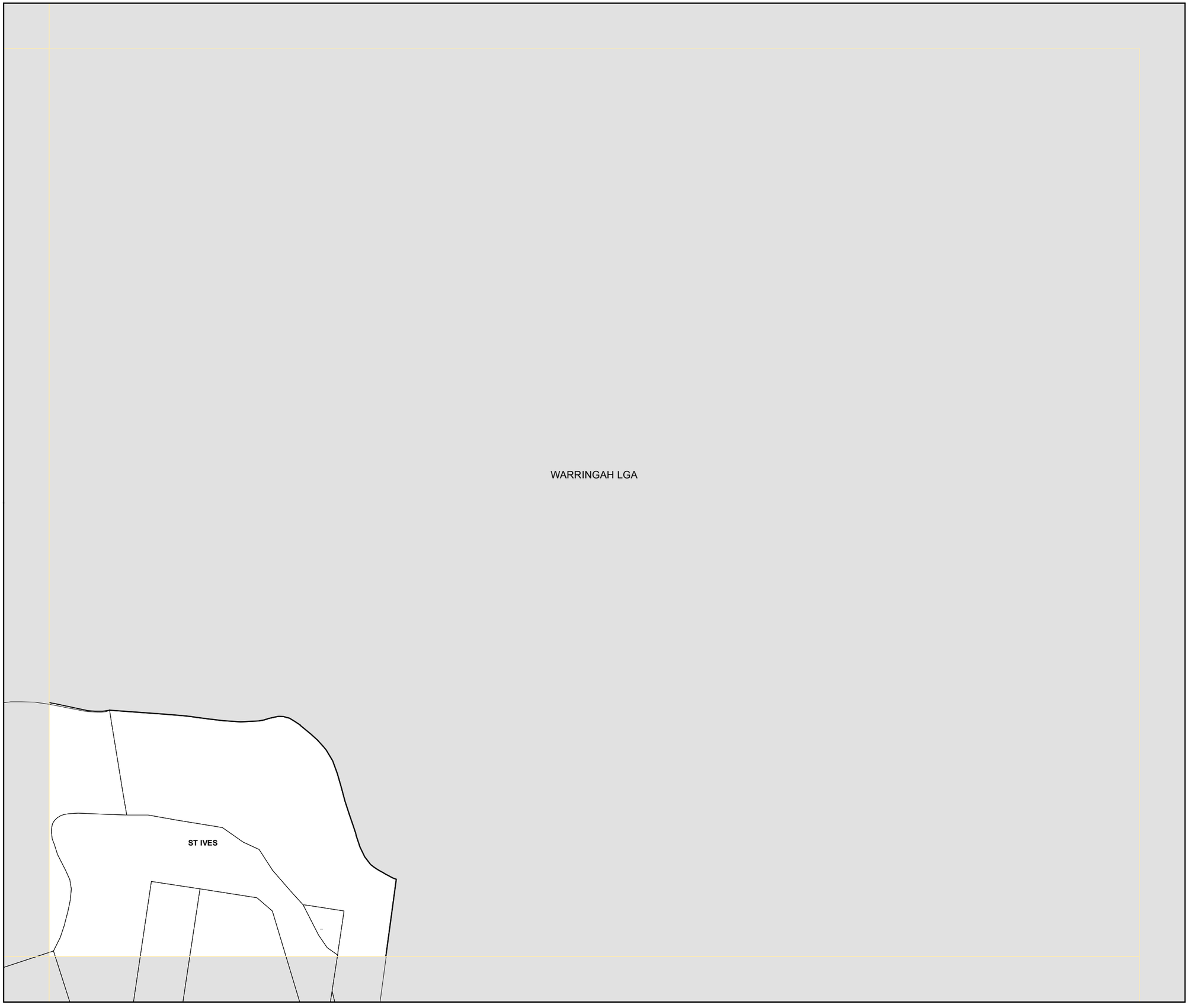

Draft Ku-ring-gai Development Control Plan

Minimum Lot Depth Map - Sheet 017

Minumum Lot Depth for Bushfire Prone Land

Refer to clause 3A.2

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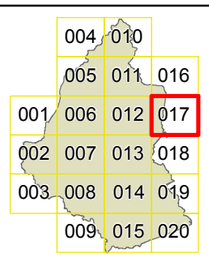

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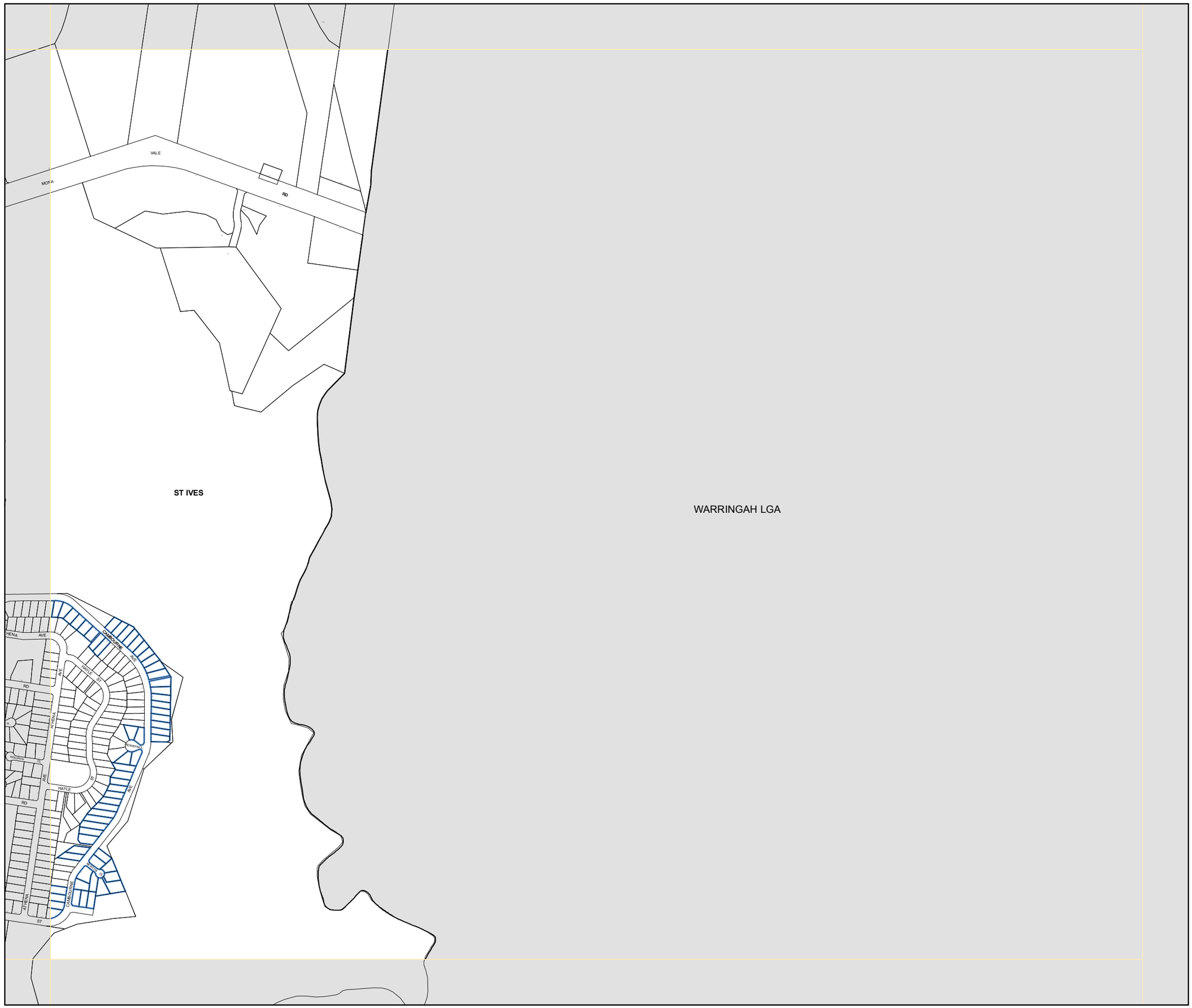

Draft Ku-ring-gai Development Control Plan

Minimum Lot Depth Map - Sheet 018

Minumum Lot Depth for Bushfire Prone Land

Refer to clause 3A.2

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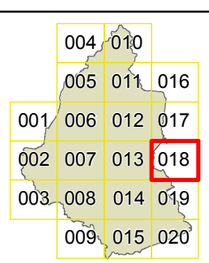

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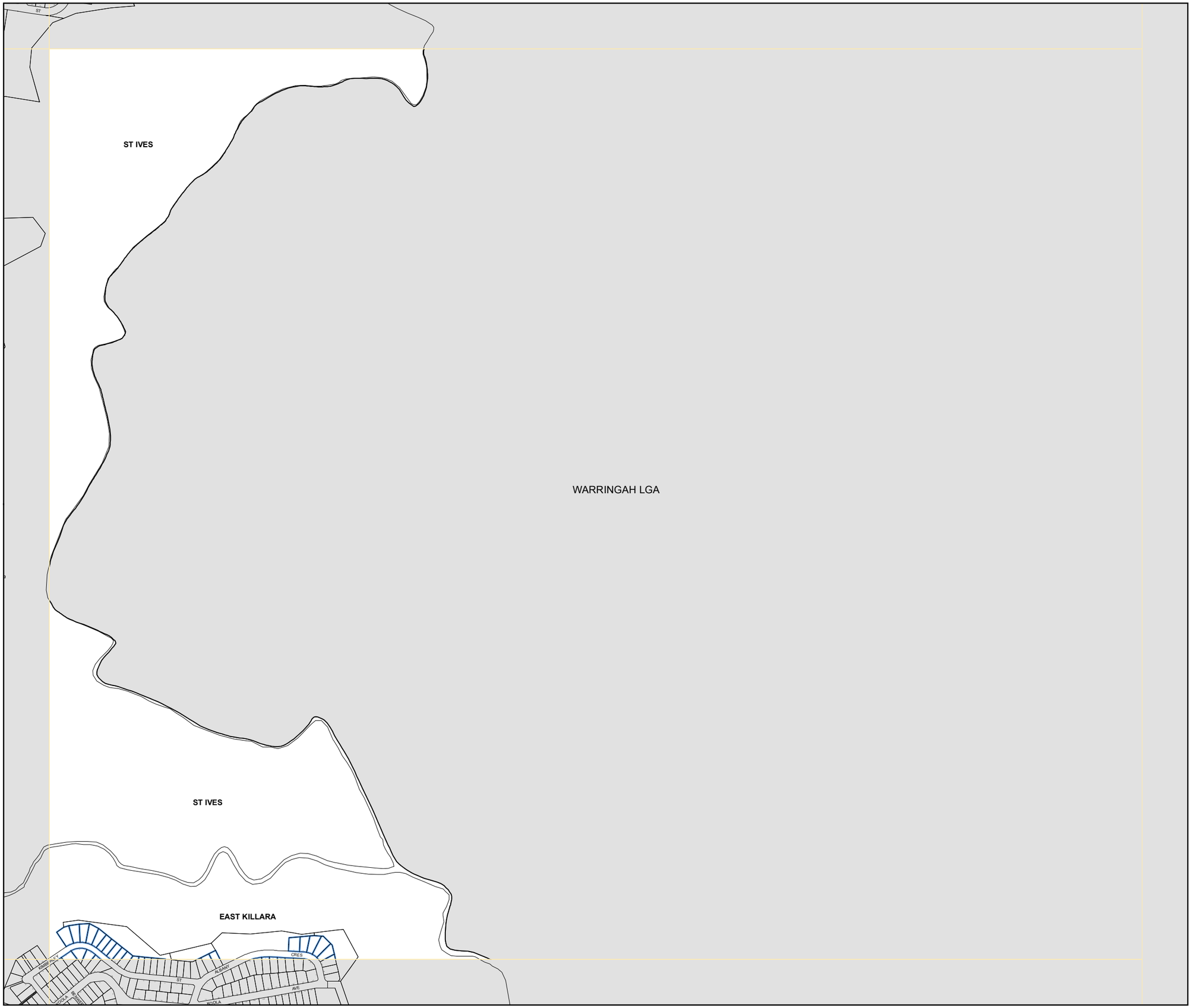
Projection: GDA 1994
MGA Zone 56

Scale: 1:10,000 @ A3

Map identification number: 4500_COM_MLD_ 018_010_20160310



Draft Ku-ring-gai Development Control Plan

Minimum Lot Depth Map - Sheet 019

Minumum Lot Depth for Bushfire Prone Land

Refer to clause 3A.2

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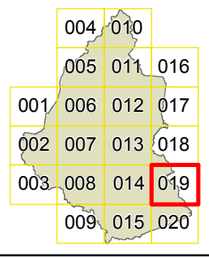

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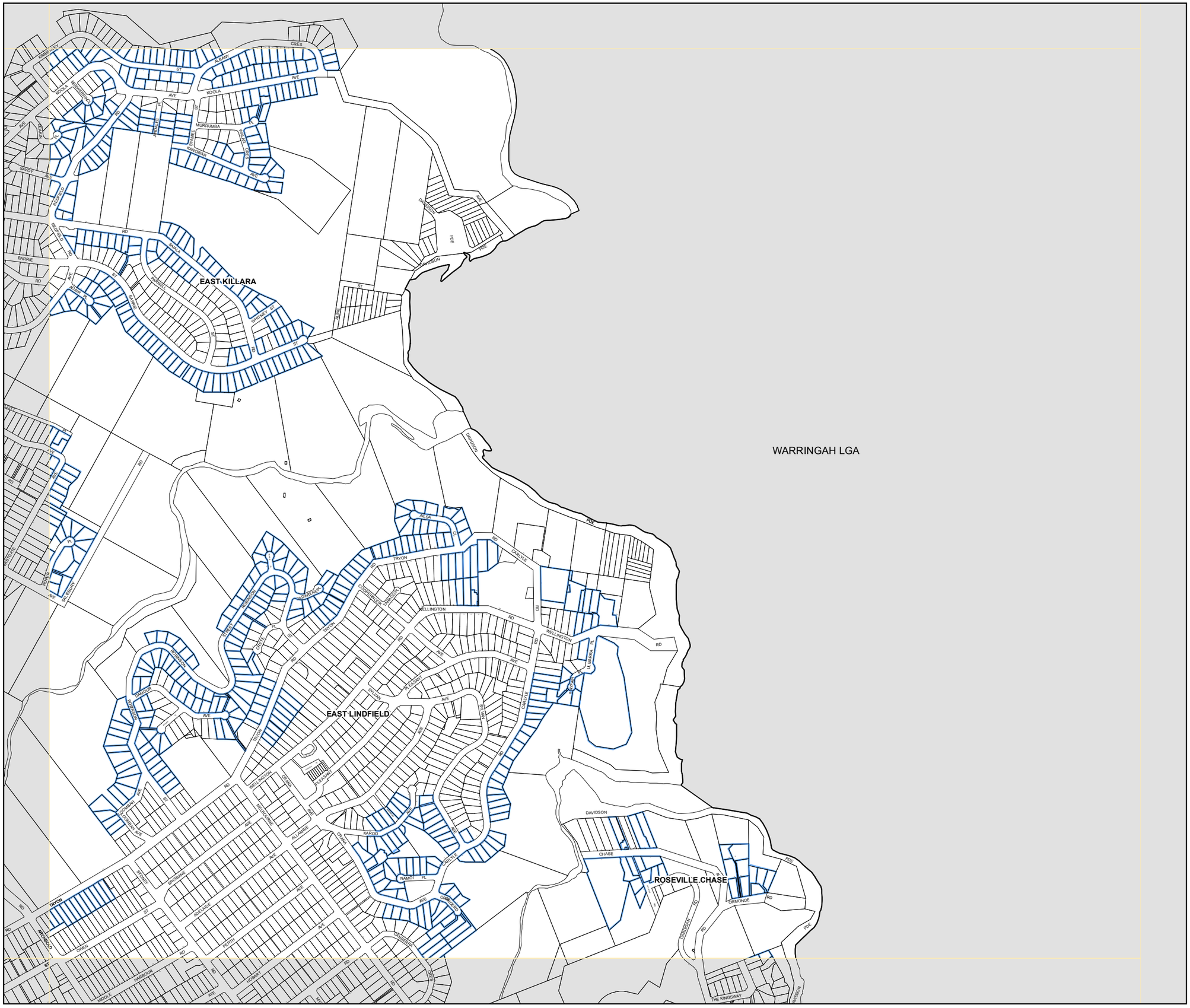

Draft Ku-ring-gai Development Control Plan

Minimum Lot Depth Map - Sheet 020

Minumum Lot Depth for Bushfire Prone Land

Refer to clause 3A.2

Cadastre

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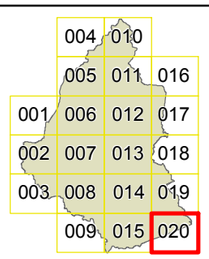

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Projection: GDA 1994
MGA Zone 56

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PART 4

DWELLING HOUSES

Introduction

4A Site Design

4A.1 Local Character and Streetscape

4A.2 Building Setbacks

4A.3 Built-Upon Area

4A.4 Landscaping

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4C Building Design and Sustainability

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4C.4 Private Open Space

4C.5 Solar Access

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4C.9 Waste Management

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INTRODUCTION

This Part applies to development for a detached dwelling house and development ancillary to a dwelling house. This Part guides development for dwelling houses to be consistent with the aims and objectives within KLEP (Local Centres) 2012. This Part also guides dual occupancy development permitted under Schedule 1 of KLEP (Local Centres) 2012.

The aims of this Part are to:

i) Encourage development which does not dominate, but harmonises with and contributes to the treed landscape and is sympathetic to the street and locality in which it is proposed.

ii) Ensure that with each development sufficient landscaping is provided to contribute to the conservation and replenishment of the tree canopy of Ku-ring-gai, including locally occurring native tree species suited to the site.

iii) Protect and minimise the impact of development on adjoining properties

iv) Protect and minimise the impact of development on the natural environment

v) Ensure development that minimises the depletion of raw materials and non-renewable resources

vi) Ensure that development meets the needs of the present without compromising the ability of future generations to meet their own needs

vii) Encourage housing of the highest possible architectural, environmental and amenity standards.

viii) Manage residential development in a way that embraces innovative design and contemporary lifestyles

ix) Ensure that there are more certain outcomes for applicants and the community.

x) Ensure that, where permitted, dual occupancy development is in keeping with the garden character of Ku-ring-gai and is consistent with the built form of the low density area and streetscape it is located within.

4A Site Design

4A.1 Local Character and Streetscape
4A.2 Building Setbacks
4A.3 Built-Upon Area
4A.4 Landscaping

READ WITH
SECTION A **PART 1 –** Site Analysis
SECTION B **PART 15 –** Land Contamination **PART 16 –** Bushfire Risk **PART 17 –** Riparian Land Controls **PART 18 –** Biodiversity Controls **PART 19 –** Heritage and Conservation Areas **PART 20 –** Development Near Road or Rail Noise
SECTION C **PART 21** – General Site Design 21.2: Landscape Design **PART 24** – Water Management

4A.1 LOCAL CHARACTER AND STREETSCAPE

Further controls that may apply:		
SECTION A **PART 2 –** Site Analysis	**SECTION B** **PART 19–** Heritage items and Heritage Conservation Areas	**SECTION C** **PART 21 –** General Site Design

Objectives

1 *To ensure the development is sensitive to the landscape setting, environmental conditions and established character of the street and locality.*

2 *To ensure the development conserves and enhances the visual character of the street with particular reference to integration of:*

- i) *architectural themes;*
- ii) *building scale and setbacks;*
- iii) *landscape themes; and*
- iv) *fencing styles.*

Controls

Visual Character

1 Design components of new development are to be based on the existing predominant and high quality visual character of the local neighbourhood.

2 The appearance of the dwelling is to maintain the local visual character by considering the following elements:

- i) visibility of on-site development when viewed from the street, public reserves and adjacent properties; and
- ii) relationship to the scale, layout and character of the tree dominated streetscape of Ku-ring-gai.

3 The prominent and high quality characteristics of the neighbourhood are to be identified and considered as part of the site analysis.

Note: Visual character or streetscape is created by many features including: lot sizes, fencing, kerbs, setbacks, building separation and spaces between buildings, separation, access arrangements, street tree planting, tall tree canopy backdrop to the horizon, native vegetation and private gardens, as well the architecture of individual residences and their associated structures.

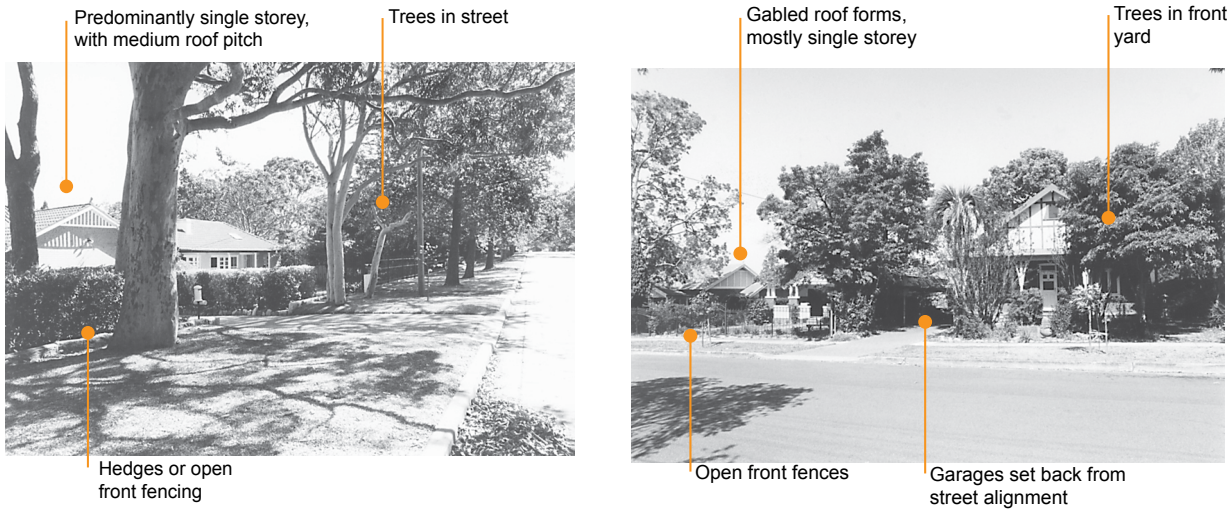


Figure 4A.1-1:
Qualities of visual character.

4A.1 LOCAL CHARACTER AND STREETSCAPE (continued)

Controls



Figure 4A.1-2:
Qualities of visual character.

3 To ensure development provides a positive contribution to the public domain and all areas shared by the community.

4 To enure that the visual, scenic and environmental qualities on visually prominent sites are maintained.

Public Domain and Communal Space

4 Development is to integrate with surrounding sites by:

i) being of an appropriate scale retaining consistency with the surrounds when viewed from the street, public domain or adjoining development and not exceeding two storeys;

ii) minimising overshadowing; and

iii) integrating built form and soft landscaping (gardens and trees) within the tree canopy that links the public and private domain throughout Ku-ring-gai.

Visually Prominent Sites

Note: Visually prominent sites are situated in highly visible locations and include ridge top sites, escarpments, environmentally sensitive sites on sloping land, elevated corner allotments, road bends, vista end points, and any site that has the potential to dominate and impact visual amenity.

5. Development on visually prominent sites is to:

i) be integrated into the existing landscape through the site planning process and avoid tall and bulky structures;

ii) have a selection of external colours and finishes that are sensitive to the site and locality;

iii) retain significant landscape and vegetation elements;

iv) consider views to the site as well as those from the site; and

v) soften visual impact by extensive landscaping including larger trees and shrubs.

6 Colours of materials used in sites adjoining or in close proximity to bushland areas and conservation areas must be in harmony with the built and natural landscape elements of the area.

4A.2 BUILDING SETBACKS

Further controls that may apply:		
	SECTION B **PART 16 –** Bush fire Risk **PART 17 –** Riparian Lands	

Objectives

1 *To ensure that the appearance of new development is of a high visual quality, enhances the streetscape and complements good quality surrounding development.*

2 *To ensure development is appropriately located on site and*

- i) *maintains streetscape character;*
- ii) *ensures the amenity of neighbouring properties is maintained or enhanced;*
- iii) *allows for the provision of landscaping and provide room for additional tree plantings to grow to maturity;*
- iv) *facilitates solar access, daylight access and ventilation;*
- v) *protects significant vegetation;*
- vi) *facilitates efficient use of the site; and*
- vii) *minimises bush fire hazard by preserving a "fuel free" zone (where development is adjacent to high bush fire hazard areas).*

3 *To enable landscaping to be provided between neighbouring buildings, particularly where there are two storey structures.*

Controls

Building Line (Front Setback)

1 The location of development on the site is to demonstrate its consideration of

- i) the existing setback of adjoining properties;
- ii) the setback pattern of its street block; and
- iii) Council's minimum and average setback requirements.

2 Minimum and average front setbacks are to be provided in accordance with the following table and illustrated in *Figure 4A.2-1*.

Single Storey:	
Street	*Minimum*
Low side	9 metres
High side	12 metres

Two Storey:		
Street	*Minimum*	*Average*
Low side	9 metres	11 metres
High side	12 metres	14 metres

Note: Refer to Part 1B Dictionary for definitions of Low side and High side.

3 Reduced setbacks may be considered on the low side of the street where gradients averaged over the front setback exceed 20 degrees.

4 Buildings are to be located so that at least 75% of the front elevation of the building is set back not less than the specified average setbacks, and the balance of the building frontage (not more than 25%) may be located up to the minimum setback.

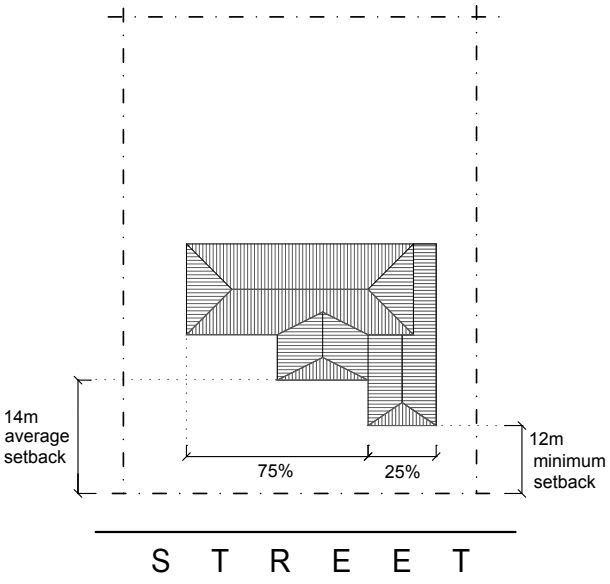


Figure 4A.2-1: Average and minimum front setbacks for two storey dwellings on high side of street

4A.2 BUILDING SETBACKS (continued)

Objectives

4 *To provide privacy and soften the visual appearance when viewed from the street and from the neighbouring property.*

5 *To maintain visual amenity and solar access of private open space.*

6 *To ensure that side setbacks provide adequate solar access and day light access.*

7 *To ensure dwellings on battle-axe lots are sited to have minimum impact on the amenity of private open spaces and living areas on neighbouring properties.*

8 *To ensure adequate privacy and amenity for each dual occupancy dwelling.*

Controls

5 Dual occupancy dwellings are to meet the controls 4A.2-1 to 4A.2-8.

6 Where a dual occupancy development involves a corner allotment, the second dwelling or dwelling furthest from the primary street frontage is to have a minimum building line setback of 7m for 75% of the building frontage and a minimum building line setback of 5m for not more than 25% of the front elevation of the building.

7 Where dual occupancy is permitted under Schedule 1 of KLEP (Local Centres) 2012, separation between detached dual occupancy dwellings is to be a minimum of 7m.

Building Line (Rear Setbacks)

8 For sites with a depth greater than 48m, a minimum 12m rear setback is to be provided.

9 Where sites have a depth of less than 48m, a minimum rear setback of 25% of the average site depth is to be provided.

Building Line (Side Setbacks)

10 The minimum distances to a side boundary are as per the following table and illustrated in Figure 4A.2-2 to 4A.2-3:

Site Width	Single Storey Building Setback - including single storey elements of two storey buildings	Two Storey Building Setback - including any upper level
Less than 20m	1.5m	2m
20m or more	9% of site width	12% of site width

11 Side setbacks are to accommodate a pathway and at least 0.6m of landscaping width for single storey buildings, and 1.1m for 2 storey houses. Where sites are of greater widths (over 20m) larger side setbacks should be progressively provided.

12 Side setbacks are to accommodate shrubs to a height of 3-4m for two storey houses, and 2-3m for single storey houses.

4A.2 BUILDING SETBACKS (continued)

Controls

Figure 4A.2-2: Side setbacks – Single Storey dwellings for sites less than 20m width

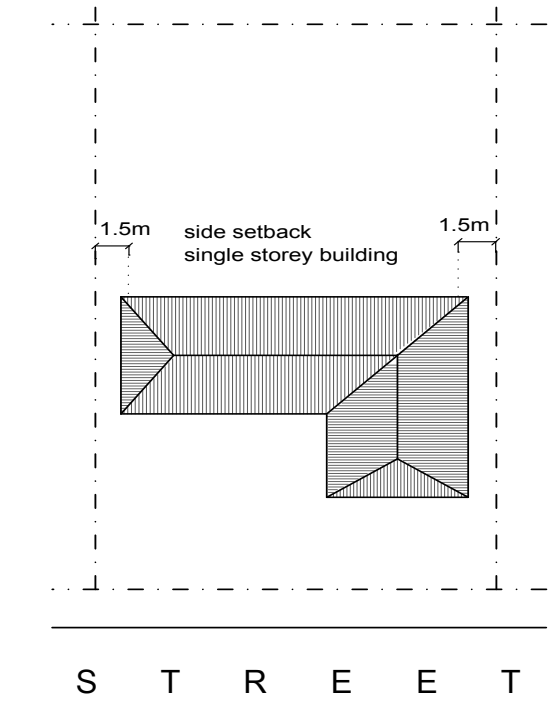
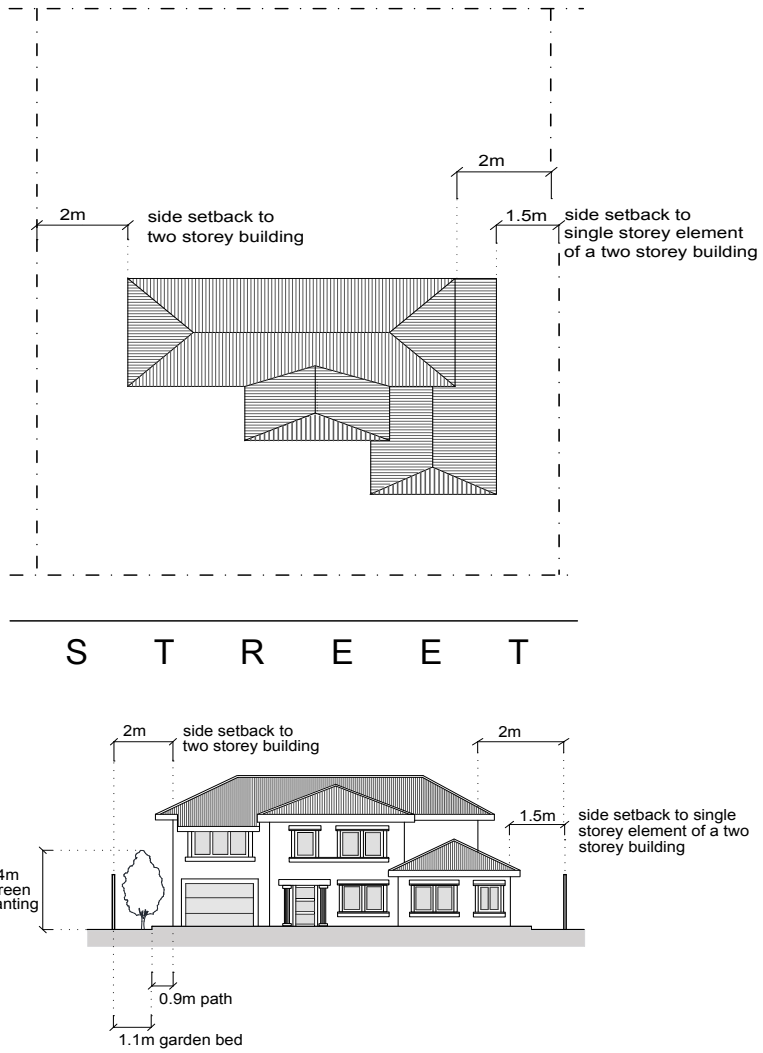


Figure 4A.2-3: Side setbacks – Two Storey dwellings for sites less than 20m width



4A.2 BUILDING SETBACKS (continued)

Controls

Corner and Dual Frontage Sites Setbacks

13 For building sites with a corner frontage, the front and rear boundary setbacks apply to the Primary street frontage as illustrated in Figure 4A.2-6.

14 Where a development seeks to change the secondary frontage into the primary frontage then the new primary frontage is to provide all setbacks in accordance with section 4A.2 Building Line (front setback).

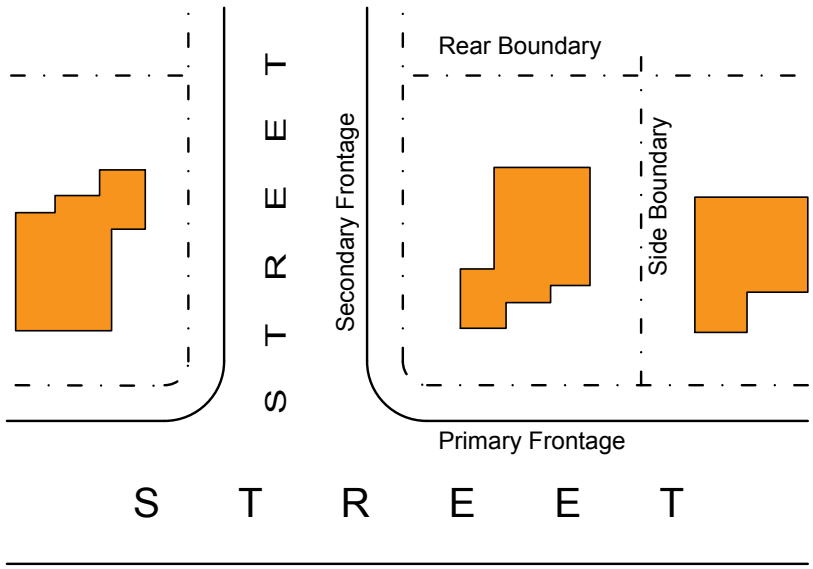


Figure 4A.2-6: Primary and Secondary Street Frontages

15 The minimum and average setbacks to the secondary street frontage on corner sites are as per the following table and illustrated in Figure 4A.2-7

	Minimum	Average
Setback	3.8m	4.5m

16 On secondary street frontages, buildings are to be located so that not more than 50% of the secondary front elevation of the building is set back not less than 3.8m, and at least 50% of the secondary front elevation of the building is to be located to average a 4.5m setback.

17 Setbacks to side and rear boundaries shall be in accordance with the minimum setbacks applying to dwellings which are not on corner lots.

4A.2 BUILDING SETBACKS (continued)

Controls

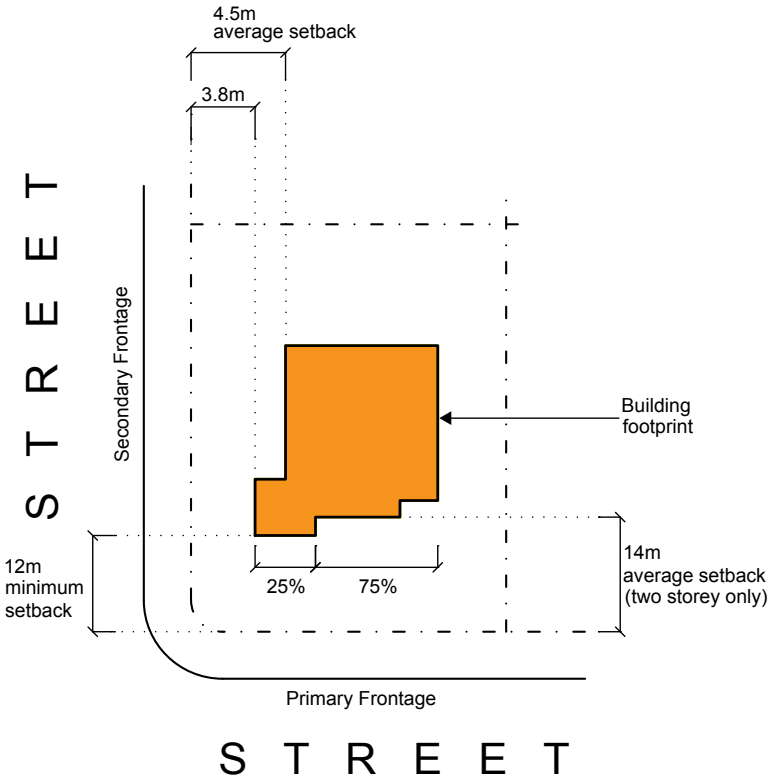


Figure 4A.2-7: Setback for corner sites of a two story house on the high side of the street

4A.2 BUILDING SETBACKS

Controls

Battle-Axe Lots

18 Rectangular battle-axe blocks (excluding the access handle) are to provide the following minimum setback as illustrated 4A2.8:

i) the setbacks from the two long boundaries is to be a minimum of 15% of the site width or 3m, whichever is the greater.

ii) the setback from any boundary excluding the two long boundaries, is to be a minimum of 12m for sites with a depth greater than 48m. Where sites have a depth of less than 48m, a minimum setback of 25% of the average site depth is to be provided.

Note: For irregular blocks or particularly narrow blocks, or in special cases (e.g. the dwelling is single storey) Council may vary these figures, provided it can be shown that the objectives have been met.

Note: Where there is potential conflict with uses on neighbouring lots, greater side setbacks are to be provided.

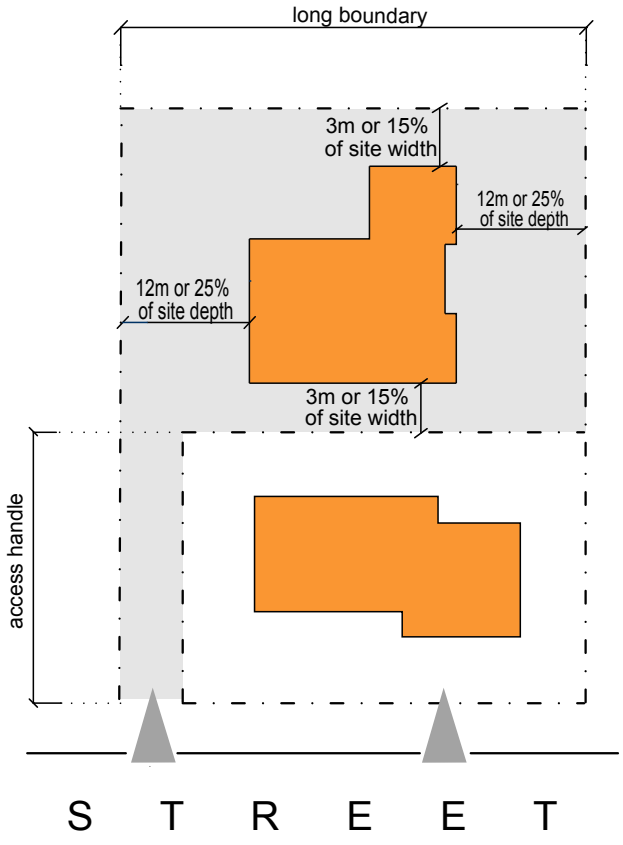


Figure 4A.2-8 Setback battle-axe lots

4A.3 BUILT-UPON AREA

Further controls that may apply:		
	SECTION B **PART 15 –** Land Contamination	**SECTION C** **PART 24–** Water Management

Objectives

1 *To ensure that development is consistent with the local built and landscape character.*

2 *Ensure the built form is in scale with the tree canopy.*

3 *To provide sufficient soft landscaped area for the planting and retention of large canopy trees.*

4 *To provide an appropriate balance between the natural and built elements of the site.*

5 *To retain areas for habitat, connectivity and locally occurring native vegetation.*

6 *To minimise impervious surfaces generating storm water runoff.*

7 *To provide useable high quality open space.*

8 *To provide adequate space for screen planting between buildings.*

Controls

1 All sites, except those within the E4 Environmental Living zone and dual occupancy permitted under Schedule 1 of KLEP (Local Centres) 2012, are to meet the following standards:

i) sites with the following sizes shall have a maximum built-upon area (BUA) as follows:

Site Area m^2	Maximum Built-upon Area %	
	Single storey	Two storey
Less than $800m^2$	60	58
$800\text{-}899m^2$	58	56
$900\text{-}999m^2$	56	54
$1000\text{-}1199m^2$	54	52
$1200\text{ -}1500m^2$	52	50
Greater than $1500m^2$	50	50

ii) for alterations and additions, on sites where the existing BUA is greater than that listed above, the maximum BUA is the existing BUA, however, a reduction in BUA is desirable.

iii) the proposal is to include a reasonable provision of built elements, normally associated with a residential property, such as pathways, and show consideration of these elements at an early stage of the design process

2 Sites zoned E4 Environmental Living are to meet the following standards:

i) sites with the following sizes shall have a maximum built-upon area (BUA) as follows:

Site Area m2	Maximum Built-upon Area %
Less than 850m2	Site Area x 0.5
850m2 or greater	Site Area x [0.5 -(SA-850)/6,500]

Example: The built upon area for a $1100m^2$ lot is as follows: 1100 x [0.5 - (1100 - 850)/6500]
= 1100 x [0.5 - (250)/6500]
= 1100 x [0.5 - 0.038]
= 1100 x 0.467
= 508 m^2

4A.3 BUILT-UPON AREA (continued)

Controls

ii) for alterations and additions on sites where the existing BUA is greater than that listed above, the maximum BUA is the existing BUA, however, a reduction in BUA is desirable.

iii) the proposal is to include a reasonable provision of built elements, normally associated with a residential property, such as pathways, and show consideration of these elements at an early stage of the design process.

3 Where dual occupancy is permitted under Schedule 1 of KLEP (Local Centres) 2012 the following standards are to be met:

i) sites with the following development type shall have a maximum built-upon area (BUA) as follows:

Development Type (Applies to both attached and detached dual occupancy development)	Maximum Built-upon Area
2 x 1 storey dwellings	50% of site area
1 x 1 storey and 1 x 2 storey dwellings	45% of site area
2 x 2 storey dwellings	40% of site area

Note: Applicants should make reasonable provisions for built elements such as pathways normally associated with a residential property as part of the built upon area. Council will also include elevated pathways as structures and built upon areas

4 The front setback for any development for a dwelling house is to have a maximum BUA of 30%.

4A.4 LANDSCAPING

Further controls that may apply:		
	SECTION B **PART 18 –** Biodiversity **PART 20 –** Development Near Road or Rail Noise	**SECTION C** **PART 21.2 –** Landscape Design

Objectives

1 *To protect and enhance the tree canopy of Ku-ring-gai.*

2 *To ensure that the built form does not dominate views from adjacent streets, parks and neighbouring properties.*

3 *To provide habitat and connectivity for locally occurring native plants and animals and contribute to biodiversity.*

4 *To provide sustainable landscaped areas with high quality and amenity.*

Controls

Tree retention

1 Landscape proposals are to retain existing trees, where possible. This may be achieved by:

i) minimising changes to existing ground levels;

ii) confining building works where appropriate to pre-existing building footprints.

Tree replenishment and planting

2 Landscaping is to include tall trees, small trees, shrubs and ground covers.

3 Landscape designs are to reflect the prevailing landscape character of the area and relate to the existing streetscape in terms of scale and planting style.

4 All lots are to support a minimum number of trees capable of attaining a minimum height of 13m on shale and transitional soils and 10m on sandstone derived soils as per the table below. Council may in special circumstances, consider the reduction of this standard.

Lot size	Number of trees
Less than 850m2	3
850m2 to 1,000m2	5
1,001 m2 to 1,500m2	7
Over 1,500m2	10 or as directed

Note: A list of trees which attain the required height, suitable for a variety of locations is available from Council and on Council's website (www.kmc.nsw.gov.au).

(Refer to *Part 19* (if applicable) and *Part 21.2* of this DCP, for the proportion of trees required to consist of locally occurring native species, and other planting controls)

4B Access and Parking

4B.1 Vehicle Access

4B.2 Car Parking Provision

4B.3 Carports and Garages

READ WITH
SECTION B **PART 19-** Heritage Items and Heritage Conservation Areas
SECTION C **PART 22 -** General Access and Parking 22.2: General Vehicle Access **PART 24 -** Water Management

4B.1 VEHICLE ACCESS

Further controls that may apply:		
	SECTION B **PART 19-** Heritage Items and Heritage Conservation Areas	**SECTION C** **PART 22.2 -** General Vehicle Access **PART 24 -** Water Management

Objectives

1 *To encourage the integrated design of vehicle access and functional car parking facilities to minimise adverse visual and environmental impacts on the streetscape.*

2 *To minimise stormwater run-off from driveway surfaces.*

3 *To minimise the extent of hard surfaces forward of the building line.*

4 *To reduce potential conflict with street traffic and pedestrians and optimise safety of vehicular movement.*

5 *To create functional, safe driveways that*

- i) *minimise hard surface run off from the site;*
- ii) *are not visually intrusive on the existing streetscape; and*
- iii) *have minimal impact on existing trees.*

Controls

Vehicular Access

1 Wherever possible, driveways must be located so that driver and pedestrian sight lines are clear.

2 The driveway must be designed so that vehicles may exit the property in a forward direction where:

- i) the access is located on a major roadway; or
- ii) the property is a battle-axe allotment; or
- iii) sight lines are restricted (such as at curves or crests).

Driveways

3 Not more than one driveway is to be provided on any property with a street frontage width of less than 18m.

4 A maximum of two driveways may be provided on any property with a street frontage more than 18m.

5 The maximum crossing width for any driveway, as measured at the front site boundary, is 3.5m. Council may allow a narrower width where trees may be adversely affected. Council may allow a wider width if site conditions require car parking accommodation to be provided close to the street boundary.

6 The location and construction of driveways and driveway crossings are to avoid disturbance (including altered soil level) to the root zones beneath the canopy of trees protected by Clause 5.9 KLEP (Local Centres) 2012.

7 Where long driveways are proposed, consideration is to be given to curving the entrance to the street.

8 Measures that reduce water runoff on driveways are encouraged. These can include:

- i) porous driveways;
- ii) directing runoff from driveways onto vegetated areas;
- iii) use of planting strips down the centre of the driveway.

9 Driveways within the property are to be designed in accordance with *AS 2890.1 (2004) Off Street Car Parking*.

4B.2 CAR PARKING PROVISION

Objectives

1 *To encourage the provision of functional car parking facilities.*

2 *To minimise adverse visual and environmental impacts on the streetscape.*

3 *To ensure car spaces are of sufficient size to accommodate a standard vehicle.*

Controls

Number of car spaces

1 The number of on-site parking spaces provided should be in accordance with *Section C Part 22R of this DCP*.

2 Single occupancy dwellings are to provide 2 spaces on-site as determined by *Section A Part 4B.3(5)*

3 Provision of more than 2 car spaces is discouraged in locations where there is availability of public transport.

4 Where more than 2 car spaces are proposed, triple (or greater width) garage openings within the front elevation are not permitted.

5 The minimum dimensions of a residential parking space to be as follows and as illustrated in Figure 4B.2-1

i) open carport 2.7 x 5.4 m

ii) unobstructed single garage 3.0 x 5.4 m

Note: The area of garages in excess of 31m^2 is included in floor space calculations.

Note: Where there is any inconsistency between this Part and *Part 22 of this DCP* in relation to vehicular access, car parking or garages, this section prevails to the extent of the inconsistency.

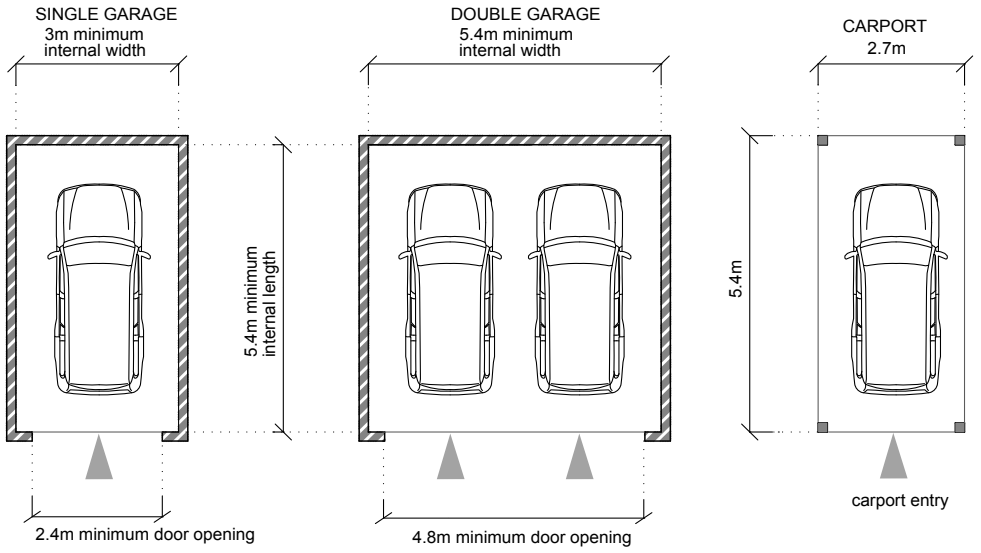


Figure 4B.2-1 Minimum dimensions for unobstructed garage and open carport (AS 2890.1)

4B.3 CARPORTS AND GARAGES

Further controls that may apply:		
		SECTION C **PART 22 -** General Access and Parking

Objectives

1 *To encourage the design of functional car parking facilities that are integrated with the built form of the dwelling.*

2 *Carports and garages are to present as complementary and sympathetic visual elements within the streetscape.*

3 *To ensure the garages and carports are not the primary built form when viewing the dwelling from the street or public domain.*

4 *To ensure the location of carports and garages considers existing trees, structures on adjacent sites, streetscape and visual character.*

Controls

Design of Carports and Garages

1 The car parking spaces, whether covered or uncovered, are to be located at or behind the required front setback as specified in Part 4A.2(3) of this DCP, or behind the front building line defined by the existing dwelling where the dwelling is being retained, whichever is the lesser.

2 The scale and design of carport and garage structures are:

i) to be sympathetic to existing development on-site;

ii) to consider adjacent buildings;

iii) to consider proximity to drainage systems;

iv) to be integrated into the building design; and

v) not to dominate the site, dwelling and landscape, or the streetscape.

3 Alterations and additions should not prevent the future ability of the site to accommodate two car spaces behind the building line.

4 Council may consider a reduced setback for parking spaces on steeply sloping sites.

5 Where it is not possible to locate the parking structure space behind the minimum permissible setback or the building line due to topographical constraints or side setback space of less than 3m, structure is to comply with the following:

i) the structure is to be open sided;

ii) the structure is to be located at the maximum possible distance from the front property boundary; and

iii) the design of the structure is be of a scale and form that is compatible with the streetscape character.

6 The width of any detached or attached carport/garage visible from the street is not to be greater than 6m, as measured to the outer face of the exterior walls/column/posts (refer to Fig 4B.3-1).

4B.3 CARPORTS AND GARAGES (continued)

Controls

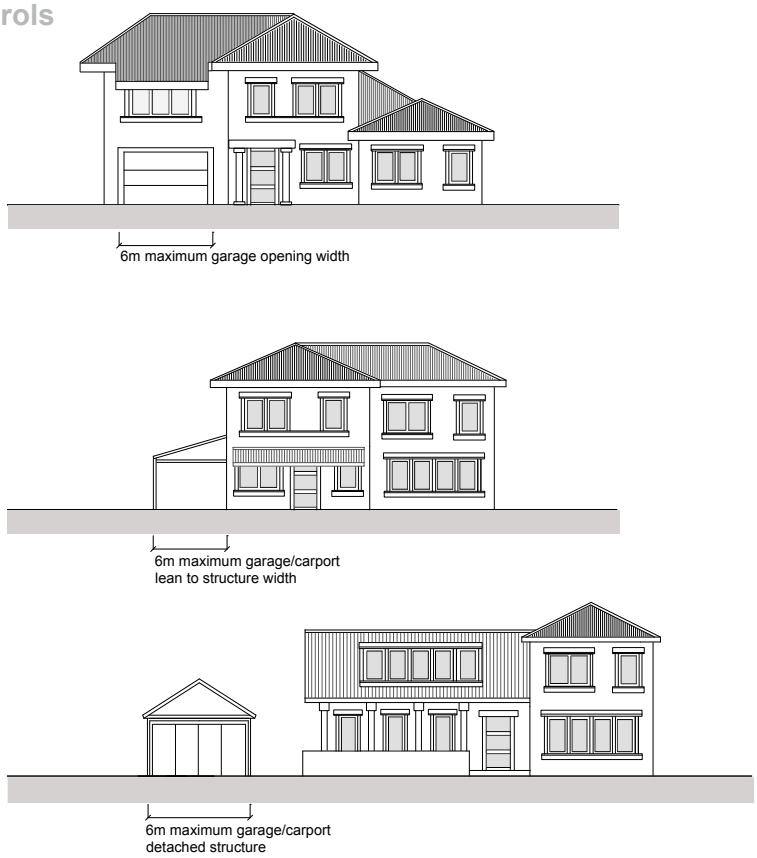


Figure 4B.3-1- Maximum widths of garages and carports

Location of Parking Structures

7 Location of all new driveways and services are to enable preservation of existing site or street trees to which Part 13 of this DCP applies.

8 Where a site has a frontage to more than one road and/or service lane, access is to be obtained from:

i) the road or service lane that is lower on the road hierarchy, and/ or

ii) the road or service lane that carries the lower volume of traffic.

Note: Road hierarchy and traffic volumes will be determined by Council at its discretion.

Detached Carports and Garages

9 Detached garages are to be single storey and set back 1.5m minimum from side and rear boundaries.

10 Detached carports are to be single storey and set back 0.6m minimum from side and rear boundaries.

Note: Where there is any inconsistency between this Part and Part 22 of this DCP in relation to vehicular access, car parking or garages, this section prevails to the extent of the inconsistency.

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4C Building Design and Sustainability

4C.1 Building Envelopes

4C.2 Building Facades

4C.3 First Floor Design and Roof Forms

4C.4 Private Open Space

4C.5 Solar Access

4C.6 Natural Ventilation

4C.7 Ancillary Facilities

4C.8 Fencing

4C.9 Waste Management

4C.10 Materials and Finishes

READ WITH

SECTION C
PART 21 – General Site Design
21.1: Earthworks and Slope
21.2: Landscape Design
PART 23 – General Building Design and Sustainability
23.8: Acoustic Privacy
23.9: Visual Privacy
23.3: Sustainability of Building Materials
PART 24 – Water Management
24C: On-site Stormwater Management
24D.5: Tennis Courts and Other Sporting Surfaces
24D.7: Swimming Pools and Spas
24F: Onsite Wastewater Management

4C.1 BUILDING ENVELOPES

Further controls that may apply:		
		SECTION C **PART 23.8-** General Acoustic Privacy **PART 23.9-** General Visual Privacy

Objectives

1 *To limit the height and bulk of buildings so that they do not dominate the natural landscape or the tree canopy.*

2 *To ensure that buildings are responsive to the site.*

3 *To maintain the integrity of the existing streetscape.*

4 *To provide for quality interior spaces while considering the external building form requirements.*

5 *To limit the extent of visual and noise intrusion on the private spaces of neighbouring properties.*

6 *To allow adequate daylight, sunlight and ventilation to habitable rooms and private open spaces for new and neighbouring dwellings of the site and of neighbouring sites.*

7 *To ensure that significant views from neighbouring dwellings and public reserves are not adversely impacted.*

Controls

1 The maximum height of a dwelling is 9.5m (including any garage, basement or the like) and present as a 2 storey dwelling house as illustrated in Figure 4C.1-1

Note: Standards (in metres) for the external height of the building are set within KLEP (Local Centres) 2012.

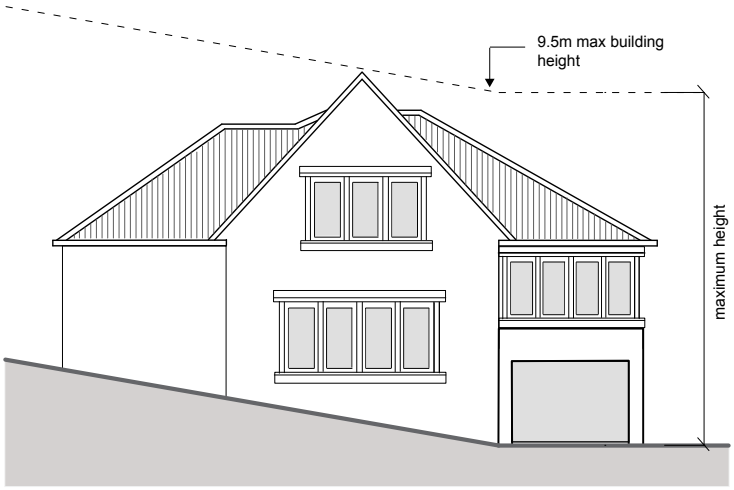


Figure 4C.1-1: Maximum height of dwelling

2 The following matters are to be considered with regard to the potential impact on neighbouring properties and local character:

i) opportunities to minimise overshadowing of living and private open space areas and solar panels;

ii) opportunities to minimise overlooking of living and private open space areas;

iii) opportunities to minimise adverse impacts on any significant bushland, or distant views;

iv) the relationship with the streetscape.

3 Development is to avoid the creation of an overbearing effect upon adjoining development by:

i) ensuring appropriate side setbacks and landscaping are incorporated in the design;

ii) ensuring all built structures are within the building height plane as illustrated in Figure 4C.1-2;

iii) the relationship with the streetscape.

4C.1 BUILDING ENVELOPES (continued)

Controls

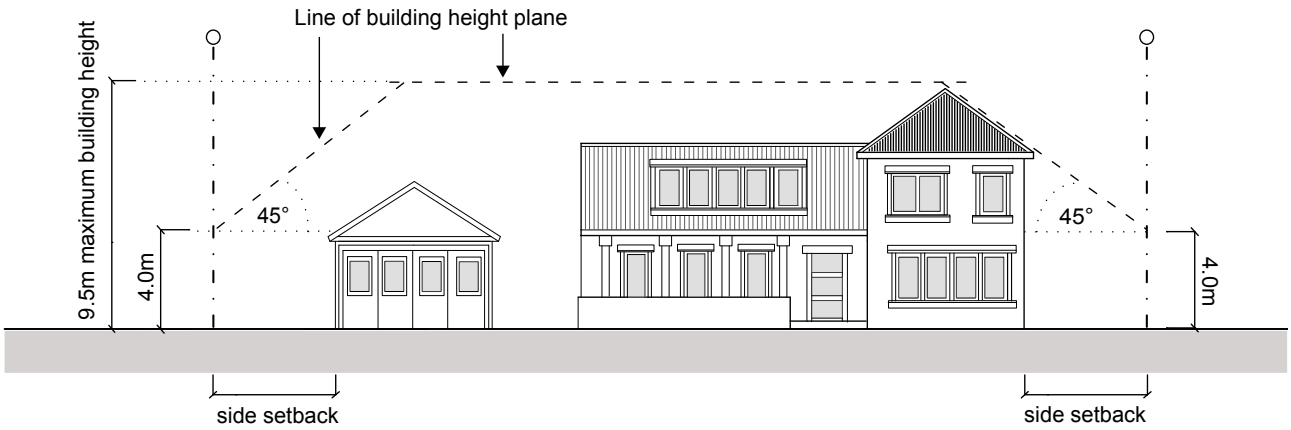


Figure 4C.1-2: Building height plane.

4C.2 BUILDING FACADES

Further controls that may apply:		
		SECTION C **PART 23.3 -** Sustainability of Building Materials

Objectives

1 *To encourage well designed, attractive and site responsive buildings.*

2 *To minimise the bulk and scale of the built form.*

3 *To avoid massive and unrelieved walls to side boundaries*

Controls

1 Extensive blank or unarticulated walls to street frontages will not be permitted.

2 All external facades are to be articulated to reduce the apparent building mass and present a human scale. This may be achieved through the use of bay window openings, window awnings, chimney and alcove features, verandas, pergolas, balconies, entry porches, staggered wall planes, a combination of materials and finishes, decorative architectural elements including brick corbelling, banding and recesses.

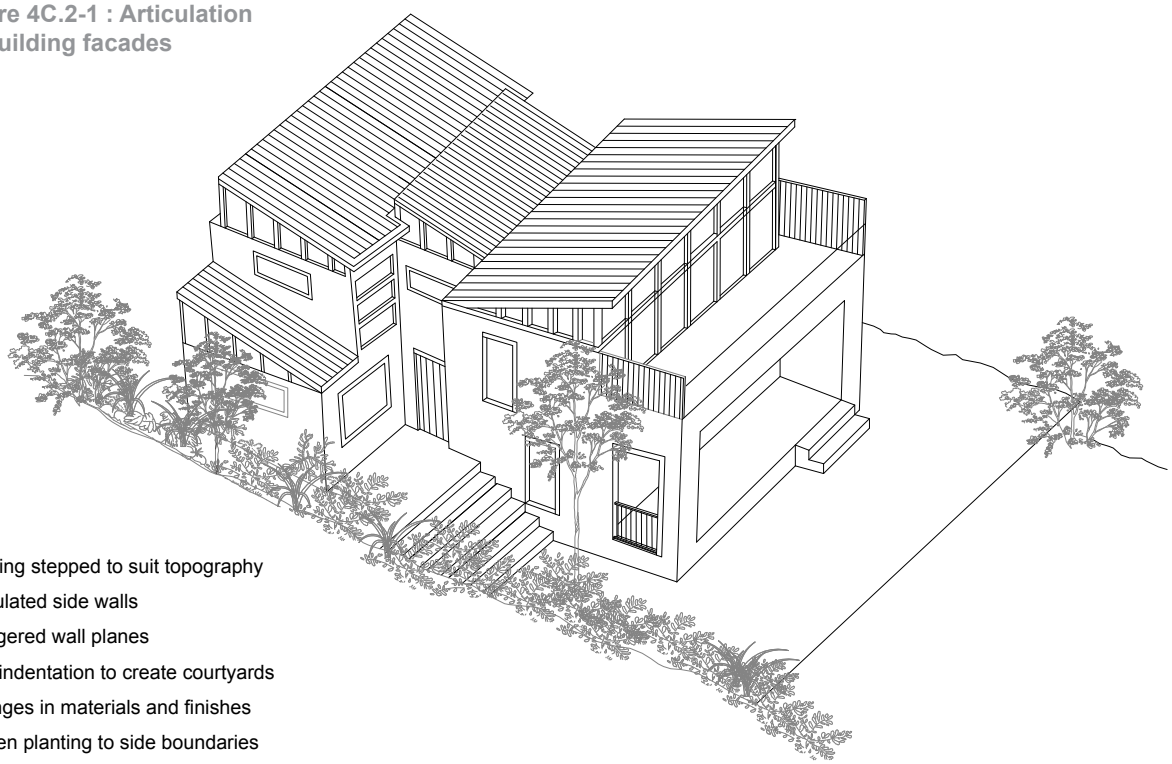
3 The maximum length for an unrelieved wall is 12m. Where walls exceed 4m in height, the maximum length for an unrelieved wall is 8m.

4 Side elevations are to avoid unrelieved walls. This may be achieved by:

i) dividing walls into sections, bays or modules;

ii) separating wall sections with recesses or courtyards.

Figure 4C.2-1 : Articulation of building facades



- Building stepped to suit topography
- Articulated side walls
- Staggered wall planes
- Wall indentation to create courtyards
- Changes in materials and finishes
- Screen planting to side boundaries

4C.2 BUILDING FACADES (continued)

Objectives

4 To ensure the integration of alterations and additions into an existing building so that the building continues to appear as a single dwelling.

Controls

5 Alterations and additions to an existing dwelling are to be:

i) designed so that they are integrated into the existing building;

ii) result in the new and old structures appearing as one building from the street. This may be achieved through the choice of materials, detailing, building proportion and configuration.

6 Building design is to integrate soft landscaping and natural site features and make provision for tall shrub plantings.

Corner Sites

7 Corner sites are to address both primary and secondary street frontages using building and landscaping elements such as feature windows, or other treatments to wall surfaces.

Note: Refer to 4A.1 (5-6) and 4A.2 of this Part.

4C.3 FIRST FLOOR DESIGN AND ROOF FORMS

Objectives

1 *To integrate the first floor of dwellings into the design of the development.*

2 *To avoid an overbearing bulk and scale relationship with neighbouring properties, particularly on sloping sites.*

3 *To allow adequate daylight, sunlight and ventilation to living area and private open spaces of new and neighbouring dwellings.*

4 *To encourage view sharing.*

5 *To encourage use of attic rooms within the roof space for habitable purposes as an alternative to a second storey, particularly in neighbourhoods that are predominantly single storey dwellings.*

Controls

First Floor Design

1 Dwelling design is to avoid an overbearing bulk/scale relationship with neighbouring properties. Consideration is to be given to avoiding large vertical wall surfaces by stepping back upper levels and containing within the existing/proposed roof space.

2 The placement of windows in first floor walls facing side boundaries are to respect the privacy of neighbouring properties.

Attic Rooms

3 Attic room designs are to avoid:

i) increasing the bulk of the building;

ii) causing undue overshadowing of adjacent properties and open spaces;

iii) causing loss of significant views from adjacent properties; or

iv) being excessive in scale and bulk relative to the rest of the building.

4 The form and placement of any windows is to respect the privacy of neighbouring properties.

5 Attic rooms are to be located within the existing roof forms and retain the streetscape appearance of the existing buildings. In some cases depending on location of building and shape of roof, higher roof forms for attics may be considered.

Roof Line

6 Roof structures are to be designed to minimise bulk and overshadowing of neighbouring buildings and open spaces by:

i) considered selection of material, colour and pitch;

ii) use of low-angled pitched roofs providing that they are compatible with existing development and the streetscape character; or

iii) inclusion of habitable rooms within the roof space.

Gables

7 Unless otherwise consistent with the form of development within the immediate locality, gables are:

i) to be positioned a minimum of 0.2m below the main roof ridge height;

ii) not to occupy any more than 40% of the face of any gable wall and not occupy more than 20% of the face of any roof or slope for a gable window;

iii) not extend beyond the external wall of the dwelling.

4C.3 FIRST FLOOR DESIGN AND ROOF FORMS (continued)

Controls

Dormers

8 Dormer windows are to be located and have a size, bulk and scale that do not dominate the roof form or add excessively to the bulk of the building.

9 Dormer windows may only be provided on buildings with an architectural character or style that is suitable for dormer features.

10 Unless otherwise consistent with the form of development within the immediate locality, the configuration of dormer windows must satisfy the following:

i) be positioned a minimum of 0.2m below the main roof ridge height;

ii) not to extend beyond the external wall of the dwelling;

iii) be set back from the sides of the roof by a minimum of 500mm.

11 Dormers occurring in the same roof plane must be similarly sized and configured, and arranged symmetrically.

Clerestory Windows and Skylights

12 The location, size, configuration and layout of clerestory windows and skylights must be sympathetic to the overall design of the dwelling and the streetscape.

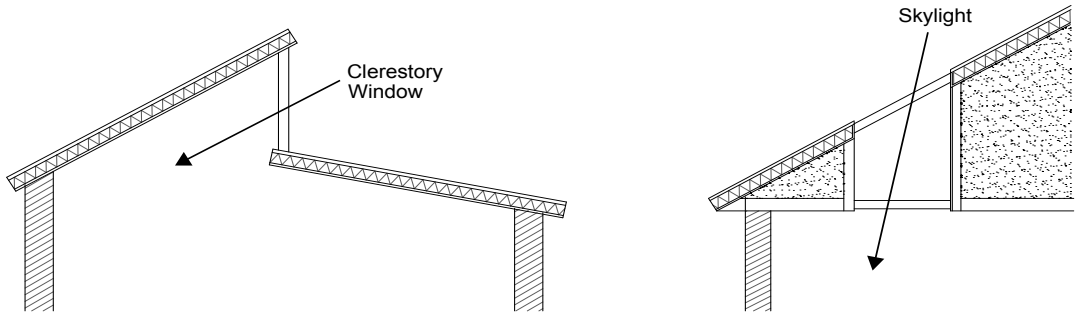


Figure 4C.3-1 Clerestory window and skylight

Mechanical Equipment

13 Plant and equipment is to be integrated into the overall design of the roof and be contained within the roof form or screened behind parapet walls. These elements include lift overruns, plant equipment and air conditioning.

4C.4 PRIVATE OPEN SPACE

Further controls that may apply:		
		SECTION C **PART 21.2** – Landscape Design **PART 23.9** – General Visual Privacy

Objectives

1 To ensure landscape development proposals provide useable outdoor recreation spaces as part of the overall design.

Controls

1 At least one area of useable private open space which has a minimum depth of 5m and a minimum area of 50m^2 is to be provided on each site. On steep sites Council may consider a reduction in the minimum depth requirement.

2 On constrained sites (biodiversity, riparian, steep topography) Council may consider decks as open space.

3 Landscape areas are to provide functional outdoor areas that:

i) are useable and relate well to indoor living areas;

ii) have a character that is consistent with or enhances the landscape character of the area;

iii) are located in consideration of noise, temperature, shade and screening;

iv) are not dominated by adjoining development (in terms of overshadowing and overlooking);

4 Private open space is to constitute at least one north facing area providing adequate solar access. Refer to 4C.5 of this Part.

4C.5 SOLAR ACCESS

Objectives

1 *To ensure the design and siting of new development maintains a reasonable level of daylight and sunlight to habitable rooms, private open space, and solar collectors of new and neighbouring development.*

Controls

1 Solar access to habitable areas, recreational space and solar collectors on the site and on neighbouring sites is to be preserved by:

i) consideration of siting and orientation of buildings;

ii) use of setbacks which increase with building heights;

iii) landscape design and location of vegetation including deciduous or high canopy trees;

iv) consideration of window locations and size.

2 A building is to be designed and sited to maintain solar access to adjoining properties of at least 4 hours between 9am and 3pm on 21st June to north facing windows and all living areas (family rooms, rumpus, lounge and kitchen) and the principal private open space recreational areas, such as swimming pools and patios.

3 Dwelling design and orientation is to provide at least 4 hours between 9am and 3pm on 21st June to north facing windows and all living areas (family rooms, rumpus, lounge and kitchen) and the principal private open space including swimming pools and patios, to the proposed dwelling.

4 Where shadows cast by existing buildings preclude satisfying the above requirements, sunlight during winter solstice (21st June) should not be reduced by more than 20%.

5 Development is to consider the use of sun protection devices that preserve internal amenity. These can include window shades and awnings, roof and eave overhangs, use of pergolas and landscaping for shading of openings.

6 Professionally prepared Shadow Diagrams must accompany all applications for new dwellings and alterations/additions exceeding one storey. Refer to Council's DA Guide.

Note: See Council's website for DA guide at www.kmc.nsw.gov.au

4C.6 NATURAL VENTILATION

Objectives

1 To ensure a high level of internal amenity for all occupants with direct access to fresh air for all habitable rooms.

2 To create a breeze path to let in fresh air and flush out stale air.

3 To enable areas of the dwelling to be closed off to reduce areas requiring heating and cooling.

Controls

1 Building design is to incorporate measures for natural cross ventilation. This may be achieved by:

i) locating openings such as windows, sky lights, doors in opposite walls;

ii) include open plan living areas;

iii) include doors that can section off heating and cooling living areas;

iv) include vents above or in internal doors to facilitate cross ventilation;

v) elevate the house so that air can circulate beneath it;

vi) positioning of opening to control air flow, for example, use clerestory windows, rood ventilators and vents in ridges, eaves and ceilings to create convection currents; and

vii) carports and garages should be placed so that they do not block ventilation into the house.

4C.7 ANCILLARY FACILITIES

Further controls that may apply:		
		SECTION C **PART 21 -** General Site Design 21.1: Earthworks and Slope 21.2: Landscape Design **PART 24 -** Water Management 24C: On-site Stormwater Management 24D.5: Tennis Courts and Other Sporting Surfaces 24D.7: Swimming Pools and Spas

Objectives

1 *To ensure that ancillary facilities are integrated into the landscape and are unobtrusive to neighbours and the public domain.*

2 *To ensure ancillary facilities are adequate, and well designed and located.*

3 *To ensure reasonable provision is made on site and within the site plan for the provision of ancillary facilities.*

Controls

Swimming Pools, Spas, Equipment & Fences

1 The swimming pool/spa and/or enclosure is to consider the location, design, finish and colour to minimise the impact on the landform when viewed from adjacent public domain and private property.

2 The swimming pool/spa and/or enclosure is to be designed and located so that there is sufficient area adjacent to the property boundary for substantial landscape planting to:

i) minimise potentially adverse impacts such as noise, glare, and visual intrusion;

ii) minimise the impact on existing trees both on site and on adjoining properties.

3 The swimming pool/spa coping is to be sited a minimum of 2m from a property boundary and not be more than 0.5m above existing ground level at any point. On steeply sloping sites, levels greater than 0.5m will be considered subject to increased setbacks and landscaping to protect the amenity and privacy of neighbouring properties.

4 Pool excavation should not be beneath the canopy of trees protected by Part 13 of this DCP.

5 The swimming pool/spa is to be sited and designed to ensure that pool waters do not discharge to stormwater drains, natural waterways, natural bushland, or neighbouring private property by using the following methods:

i) connecting backwash to the sewer;

ii) installing a surface drain to collect overflow stormwater; or

iii) ensure the immediate pool surrounds slope toward the pool; or

iv) other acceptable design solutions approved by Council.

Note: Refer Part 24D.7 Swimming Pools and Spas of this DCP.

Note: Refer to Council's Policy Swimming Pool Safety (new pools or existing pools).

4C.7 ANCILLARY FACILITIES (continued)

Objectives

Controls

6 Pool/spa motor enclosures and filters, pumps and the like are to be located in a sound-proofed enclosure to ensure there is no noise reading exceeding 5dBA above background noise level when measured at the any residential property boundary.

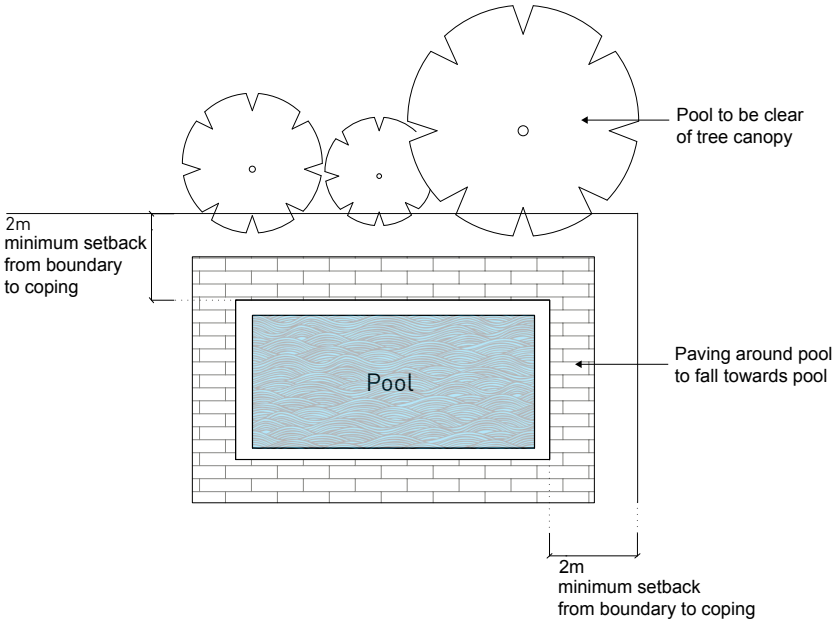


Figure 4C.7-1: Swimming pool controls.

Tennis Courts

4 To ensure tennis court are located with sufficient area between the court and the property boundary to:

- i) *Minimise adverse impacts such as noise, overlooking and visual intrusion.*
- ii) *Provide sufficient area for appropriate landscaping.*

7 Tennis courts are to be located at the rear of properties. For corner allotments, or where the property has two street frontages, the location of tennis court is not to be in the primary frontage.

8 Noise and overlooking to neighbouring properties is to be minimised by:

- i) ensuring a distance of at least 3m between the court and the property boundary;
- ii) ensuring the finished tennis court level is not more than 1m above existing ground level at any point; and
- iii) planting trees and tall shrubs between the tennis court and the property boundary.

9 On steeply sloping sites, tennis courts with a finished court level higher than 1m above existing ground level will be considered subject to increased setbacks and landscaping to protect the amenity and privacy of neighbouring properties.

10 The increase of runoff associated with tennis courts is to be avoided by ensuring that an on-site stormwater detention system is provided, and utilising WSUD and filtration pits.

11 Earthworks associated with the construction of a tennis court are not to unreasonably alter the natural topography of the land or alter the natural groundwater table. (Refer to Part 21.1 Earthworks and Slope of this DCP.)

4C.7 ANCILLARY FACILITIES (continued)

Objectives

Controls

12 The materials used in the construction of a tennis court, including the type and colour of court surfaces, are to be carefully selected to complement natural bushlands and any adjacent Heritage Item.

13 Tennis courts are to be sited having regard to the location of habitable rooms both on-site and on adjoining properties, and to the maintenance of appropriate private open space areas. This is to be achieved by maintaining a minimum distance of 5m between the tennis court fence boundary and habitable rooms of any dwelling.

5 To maintain amenity of surrounding properties in terms of noise, particularly at night.

14 Lighting of tennis courts for night tennis will not be permitted.

15 Tennis hit-up walls will not be permitted.

16 The tennis court is to be sited to minimise the visual impact of the structure when viewed from the adjacent public domain and private property, and minimise the impact on the landform.

17 Conversions of grass tennis courts to impervious surfaces are to consider impact to built-upon area, water management and existing trees.

Note: Refer to Council's Tennis Court Policy

Outbuildings

18 Outbuildings including studios, hobby rooms, storage structures, cubby houses or cabanas, are to be located on the site having regard to the relationship with existing development on-site and on adjoining properties.

19 Consideration is to be given to the position of windows associated with habitable rooms and the potential impact of noise, fumes, loss of light, and ventilation.

6 To ensure outbuildings and utility areas are sympathetically positioned on the site and do not detract from the visual quality of the area.

20 Out-buildings are not to exceed a single storey. All out-buildings will be included in both floor space ratio calculations and built upon area calculations.

21 A minimum setback of 2m from boundaries is to apply for any outbuilding with a wall height exceeding 2m relative to the ground level at the boundary.

Note: For detached garages see part 4B.3

4C.7 ANCILLARY FACILITIES (continued)

Controls

Other Site Facilities

22 The location and design of facilities such as mail boxes, utility poles, bin storage and enclosures, clothes drying areas are to be an integrated and sympathetically designed as part of the site design and development. This may be achieved by:

i) the undergrounding of utilities;

ii) ensuring that clothes lines are not visible from the street; and

iii) provision of bin enclosures.

23 Air conditioning enclosures are to ensure that noise levels do not exceed 5 dBA above the background noise level when measured at the nearest residential property boundary.

4C.8 FENCING

Objectives

1 *Front fences are to maintain the streetscape character by being consistent with the established pattern of fences.*



Figure 4C.8-1:
Combination of hedges, metal picket and solid masonry.

Controls

Front Fences

1 Fences are to:

i) restrict visually solid forms (such as masonry, lapped and capped timber or brushwood) to 0.9m in height above existing ground level;

ii) restrict the height of visually transparent fences (such as metal grille or timber picket) to 1.2m. (a transparent fence has an open to solid ratio of not less than 1:3);

2 Front fences in excess of 1.2m will only be permitted in areas where they are compatible and consistent with the streetscape. All such fences are to be set back at least 1m from the street boundary with provision of low maintenance screen planting in the setback area.

3 Front fencing is not encouraged in areas where it does not form part of the overall streetscape. In such areas, the front boundary can be defined by low hob walls, by garden beds or planting.

4 Front fencing is to enable outlook from dwellings to the street for safety and surveillance and should be generally low and visually permeable.

5 High hedges along the entire front boundary are not encouraged, although shrub plantings are desirable.

6 The footings of a fence within the structural root zone of a tree is not to adversely affect the health of the tree.

Side and rear fences

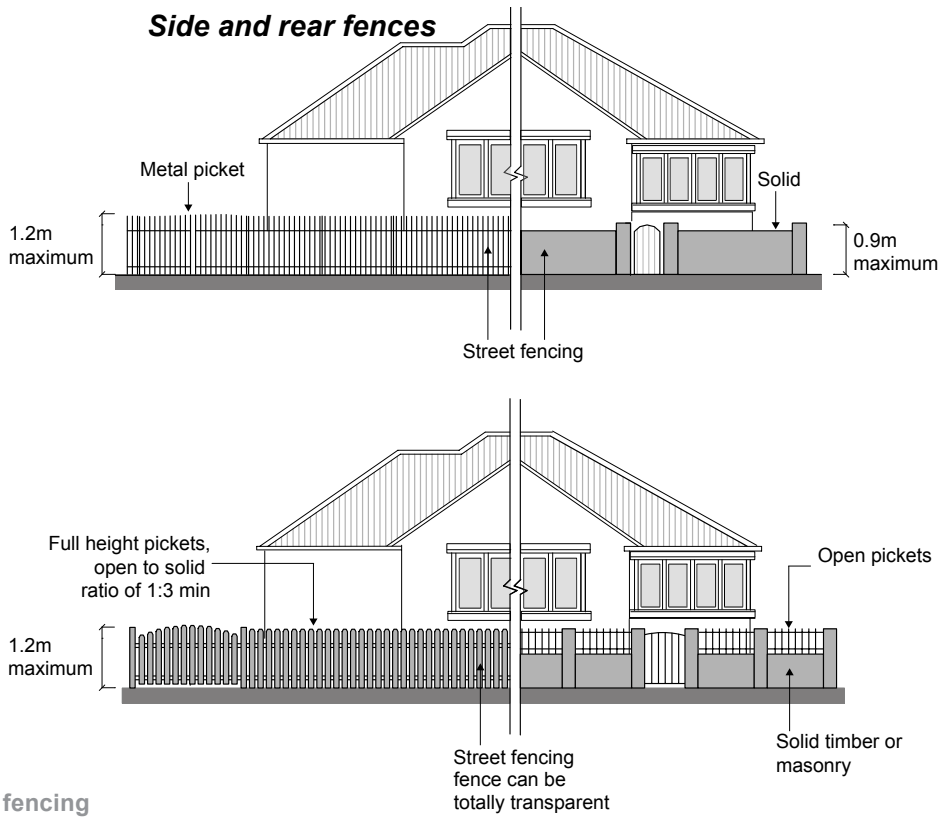


Figure 4C.8-2:
Types of street fencing

4C.8 FENCING (continued)

Controls

7 Side fences forward of the front building line are to be unobtrusive and allow for continuity of landscape vista between adjoining properties. Where this character predominates it must be respected in new developments.

8 Side fences on corner sites are to be designed and located so as to:

i) maintain the streetscape character;

ii) be consistent with the established pattern of fences;

iii) ensure an adequate amount of useable private open space; and

9 Side fences forward of the front building line should be compatible with the established front fencing in the street.

Note: The provisions of the Dividing Fences Act 1991 also apply.

Note: Common boundary fencing proposals require the consent of the adjoining land owner.

10 The footings of a fence within the structural root zone of a tree is not to adversely affect the health of the tree.

Hedges

11 Hedges near boundaries are not to create an amenity loss to adjoining properties by either blocking significant district, bushland or water views of neighbouring properties or unreasonably shading neighbours' private open space or living areas in winter.

12 This should be achieved by ensuring appropriate species planted near boundaries do not grow to excessive height and can be readily maintained at a height below 2m unless taller hedges are a feature of the locality and there are no adverse impacts on solar access or views.

Fences adjoining bushland

13 Fences adjoining bushland should protect the bushland from domestic animals, blend harmoniously with the bushland setting, and allow movement of small fauna species where appropriate.

4C.9 WASTE MANAGEMENT

Further controls that may apply:		
		SECTION C **PART 23.3**- Sustainability of Building Materials **PART 24F** - On-site Wastewater Management

Objectives

1 *To enable efficient, effective and sustainable waste management practices.*

2 *To ensure waste collection and storage within the site that does not affect the amenity of residents with regard to odour, visual appearance or noise disturbance.*

3 *To ensure waste and recycling storage areas are designed and constructed to meet the requirements of the building's use and its occupants.*

4 *To ensure design and management of waste and recycling facilities protect public health and the local environment.*

5 *To ensure the design of the development incorporates effective waste minimisation principle.*

Controls

General

1 During the design of the development, construction waste is to be minimised by:

i) using recycled materials, selecting materials that reduce waste or do not require disposal, or can be reused or recycled in the future;

ii) designing with minimal site disturbance by avoiding unnecessary excavation or fill.

2 Council's standard waste and recycling service is:

Waste Type	Bin Type
Waste (garbage)	1 x 120L
Co-mingled recycling (glass, steel and aluminium cans and plastic)	1 x 240L
Recycling of paper and cardboard	1 x 240L
Green waste	1 x 360L

3 Developments is to allocate, within each property boundary, an area for storing Council specified waste and recycling bins, preferably located at the rear of the premises to minimise visual clutter. The storage area is to be a minimum of 3m from openable windows and integrated with the landscaping. Refer to 23R.5 of this Part for bin characteristics.

4 An on-site area for composting of green and food waste is to be allocated and indicated in the development application plan.

4C.10 MATERIALS AND FINISHES

Further controls that may apply:		
		SECTION C **PART 23.3 -** Sustainability of Building Materials

Objectives

1 *To reflect and reinforce the local character of Ku-ring-gai.*

2 *To complement the streetscape and natural environment.*

3 *To promote the use of high quality materials, finishes and colours for building facade articulation design and visual interest.*

4 *To ensure the use of materials, finishes and colours creates well proportioned facades and minimises the visual bulk.*

5 *To encourage the use of a subdued palette of colours and limited range of hues for building consistency across the LGA.*

Controls

1 External walls must be constructed of high quality and durable materials and finishes.

Note: Material and finishes selection is to be made in accordance with objectives and controls as stated in Part 23.4 of this DCP to ensure low environmental impact.

2 Reuse or recycling of existing local materials such as sandstone and brick is encouraged.

3 Large, unbroken expanses of any single material and finish (rendered or not) to building facades must be avoided.

Note: Refer to Parts 6-10 of this DCP for relevant building facade articulation controls.

4 New development is to avoid extensive use of highly reflective or gloss materials on the exterior of buildings.

5 The exterior finish material (e.g. sandstone or brick) must be integral to the overall building façade design and must not appear to be cosmetic.

6 Where louvres are used, they are to be an integral element in the building façade design.

7 Where additions and alterations are proposed, external materials and finishes must complement the existing building.

Colours

8 The selection of a colour scheme for new development and in the restoration of existing facades is to comply with the following guidelines:

i) base colours for major areas of building façade are to be light in tone (e.g. earth tone) with minimal colour intensity (or hue) e.g. off white or grey colours. Larger expanses of bold colour, black and white must be avoided, as these detract from the prominence of other façade details. Contrasting tints, tones and shades are to be restricted to small areas.

ii) highlight colours to window and door mouldings, string courses, parapet details and the like, are to be in sufficient contrast to the base colour. Strong colours to large sections of the building must be avoided. Details should be finished in a matt to semi-gloss range.

9 Natural earth tones are to be used on building facades in close proximity to bushland.

10 When repainting existing buildings, colours should generally be representative of the era of the building.

PART 5

SECONDARY DWELLINGS

Introduction

5A Site Design

5A.1 General

5A.2 Site Layout

5A.3 Building Setbacks and Separation

5B Access and Parking

5B.1 Access

5B.2 Car Parking Provision

5C Building Design and Sustainability

5C.1 Solar Access

5C.2 Private Open Space

5C.3 Building Envelopes

5C.4 Building and Room Sizes

5C.5 Building Appearance

5C.6 Building Services

5C.7 Visual and Acoustic Privacy

5C.8 Storage and Utility Areas

INTRODUCTION

Under KLEP (Local Centres) 2012, secondary dwellings may only be proposed within R2 and E4 zones. Secondary dwellings, as defined in KLEP (Local Centres) 2012, provide for an alternate housing choice within the Ku-ring-gai region.

This housing type caters for changing population demographics, particularly extended families, ageing parents and older children remaining at home. Secondary dwellings also give families the opportunity to use the accommodation as a source of secondary income in a changing economy. Secondary dwellings will provide an affordable housing type that is compatible with the surrounding residential character.

This Part provides guidance for development of secondary dwellings to meet the aims and objectives within the KLEP (Local Centres) 2012. It aims to provide a high residential amenity for occupants of secondary dwellings, while protecting the amenity of occupants of principal dwellings and neighbouring dwellings. All secondary dwellings are to be integrated into the existing single dwelling neighbourhood character through their location and appearance, and are required to be sympathetic to the principal dwelling in design and materials.

The contents within this Part do not, in any way, alter the need for the principal dwelling to comply with *Part 4 Dwelling Houses*.

5A Site Design

5A.1 General

5A.2 Site Layout

5A.3 Building Setbacks

READ WITH
SECTION A **PART 4 -** Dwelling Houses 4A.2: Building Setbacks 4A.3: Built-Upon Area 4A.4: Landscaping
SECTION B **PART 19 -** Heritage Items and Heritage Conservation Areas
SECTION C **PART 21 -** General Site Design

5A.1 GENERAL

Further controls that may apply		
SECTION A **PART 4A.3 -** Built-Upon Area **PART 4A.4 -** Landscaping	**SECTION B** **PART 19D.5 -** Secondary Dwellings within HCAs	

Objectives

1 *To ensure that secondary dwellings preserve the amenity and livability of the principal and neighbouring dwellings.*

2 *To maintain the character of the streetscape.*

3 *To ensure the secondary dwelling does not confuse the interpretation of a heritage place.*

Controls

1 Only one principal dwelling and one secondary dwelling is permitted in a single lot.

2 The installation of a secondary dwelling is not to compromise the controls stated for the principal dwelling within Part 4 of this DCP. Parts 4A.3 and 4A.4 continue to apply to the site as a whole, and include all development on the site (the principal dwelling, secondary dwelling and any ancillary development).

3 All secondary dwellings are to be of a single level whether they are detached, integrated with the principal dwelling, or above an existing garage.

4 Where a secondary dwelling is proposed on a heritage property or in a Heritage Conservation Area it is to comply with the requirement of Part 19D.5 and Part 19 in general.

Note: All secondary dwelling developments are to comply with BASIX.

Note: All secondary dwelling developments are to comply with the stormwater requirements of the principal dwelling.

5A.2 SITE LAYOUT

Further controls that may apply		
		SECTION C **PART 21 -** General Site Design

Objectives

1 *To ensure the secondary dwelling has easy access and provides good amenity for occupants.*

2 *To retain the existing Ku-ring-gai landscape and neighbourhood character of a single dwelling in a garden setting.*

3 *To ensure that the secondary dwelling does not adversely impact the liveability and amenity of the principal dwelling.*

4 *To ensure that the secondary dwelling does not visually dominate the principal dwelling.*

Controls

1 A secondary dwelling may be detached from the principal dwelling in the form of:

i) a single storey separate structure located at ground level, within the land belonging to the principal dwelling and behind the front building line of the principal dwelling, refer *Figure 5A.2-1* or;

ii) a structure located above a detached garage associated with the principal dwelling and where the garage is behind the front building line, refer *Figure 5A.2-2*.

2 A secondary dwelling may be attached to the principal dwelling in the form of:

i) a single storey addition to the principal dwelling. Refer *Figure 5A.2-3*;

ii) incorporated within the principal dwelling in the form of internal modifications to the principal dwelling on the ground floor or first floor. Refer *Figures 5A.2-4* and *5A.2-5*.

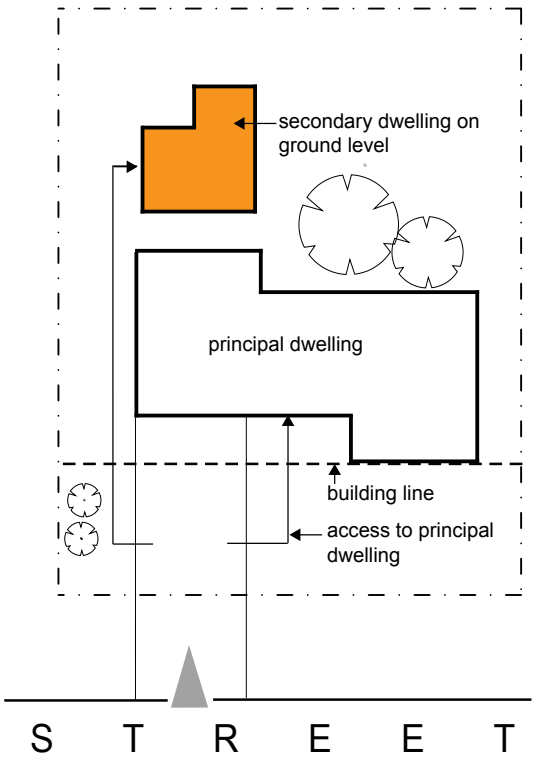


Figure 5A.2-1:
Detached secondary dwelling within the principal dwelling site.

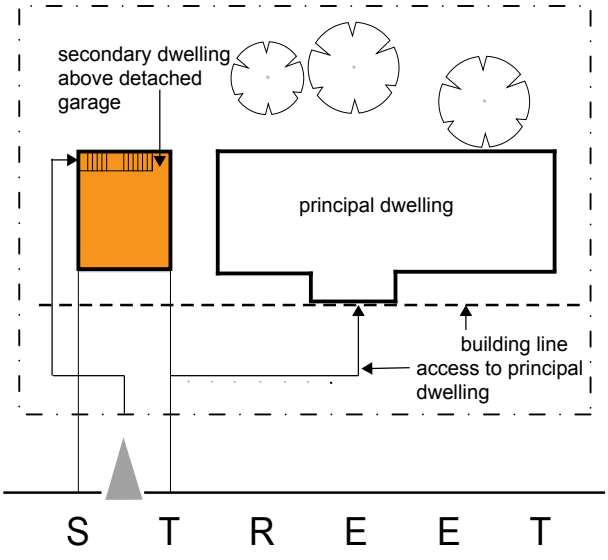


Figure 5A.2-2:
Detached secondary dwelling above a detached garage.

5A.2 SITE LAYOUT (continued)

Controls

3 A secondary dwelling may be allowed at the front of the principal dwelling only where it is attached to and integrated into the built form of the principal dwelling and does not read as a separate building or dwelling.

Note: In all cases, the secondary dwelling is to meet the set requirements.

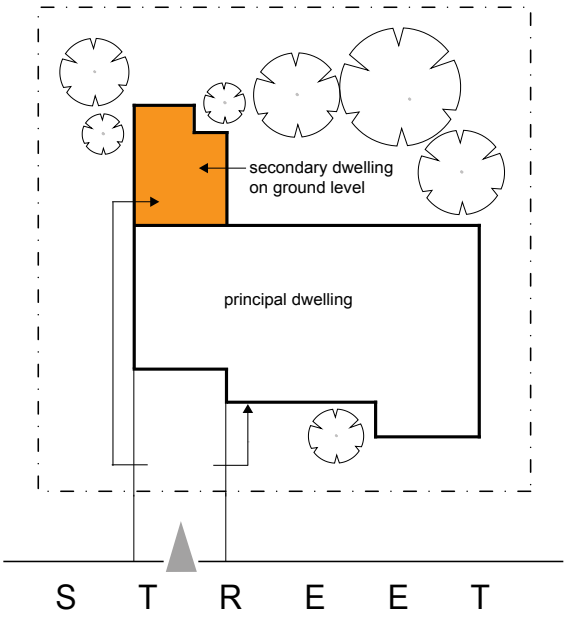


Figure 5A.2-3:
Attached secondary dwellings as an extension.

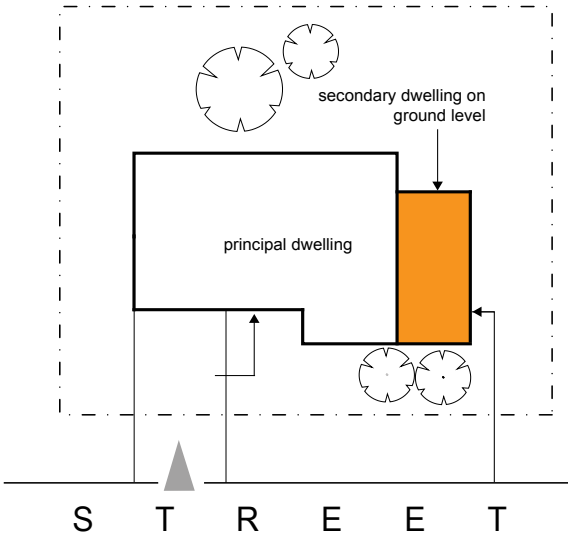


Figure 5A.2-4:
Attached secondary dwelling incorporated within the principal dwelling on ground floor.

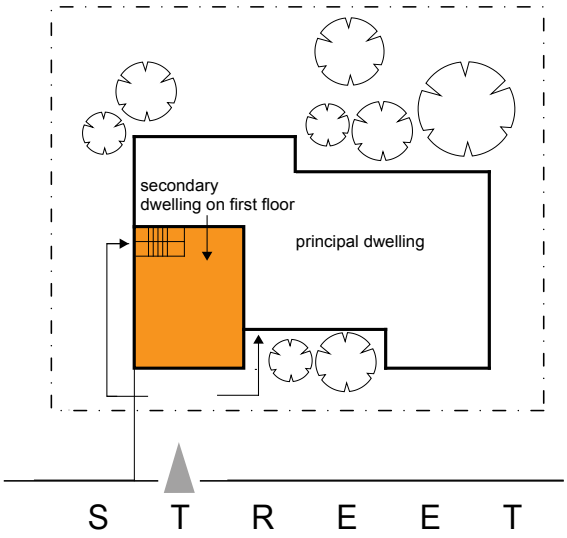


Figure 5A.2-5:
Attached secondary dwelling incorporated within the principal dwelling on first floor.

5A.3 BUILDING SETBACKS AND SEPARATION

Further controls that may apply		
SECTION A **PART 4A.2 -** Building Setbacks		

Objectives

1 *To protect the amenity of the occupants of the principal dwelling, the secondary dwelling and of neighbouring properties.*

2 *To ensure the secondary dwelling is ancillary to the principal dwelling.*

3 *To ensure the combined building works (principal and secondary dwelling) will not adversely impact the streetscape.*

4 *To ensure that setbacks provide sufficient area for access and planting.*

Controls

1 Street and side setbacks for secondary dwellings are to comply with the street and side setbacks applicable to the principal dwelling as stated within *Part 4A.2*. Refer *Figure 5A.3-1*.

2 Rear setbacks for secondary dwellings are to be a minimum of 6m from the rear boundary. Refer *Figure 5A.3-1 and Figure 5A.3-2.*

3 Where there is a rear laneway or a rear street, setbacks to the lane or street are to be consistent with the setback pattern in the lane or street and

i) consider opportunities for surveillance; and

ii) consider amenity of the adjoining occupants.

4 The minimum building separation between a ground floor detached secondary dwelling and the principal dwelling is 4.0m. Refer to Figure 5A.3-2:

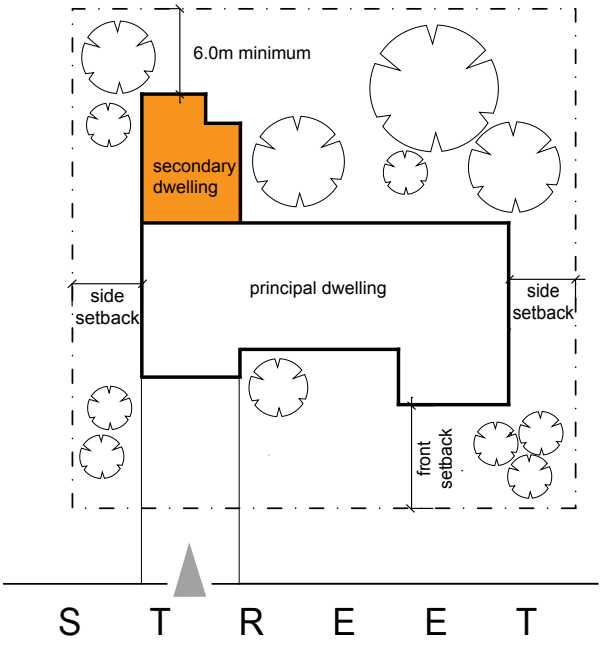


Figure 5A.3-1:
Setback controls for attached secondary dwellings.

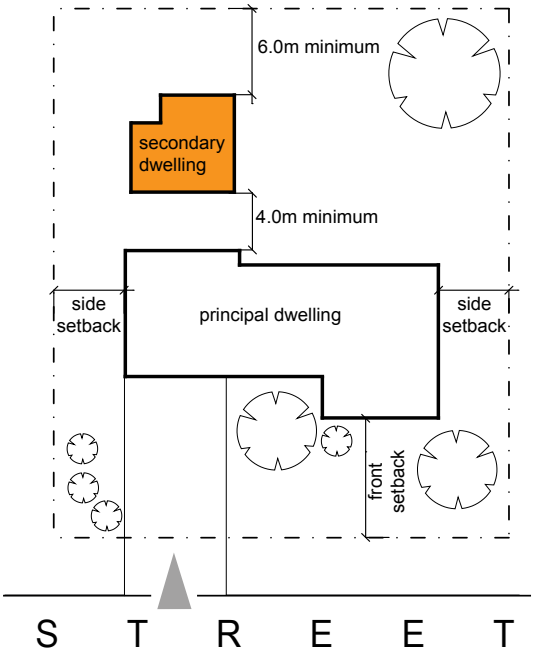


Figure 5A.3-2:
Setback controls for ground floor detached secondary dwellings.

5A.3 BUILDING SETBACKS AND SEPARATION (continued)

Controls

5 To ensure secondary dwelling above garages do not dominate or detract from the streetscape character.

5 Secondary dwellings will only be permitted above a detached garage accessed from a primary or secondary street where the side setback to the garage is 2.0m minimum from the adjoining property boundary and where the front setback of the garage is not forward of the principal dwelling building line. Refer *Figure 5A.3-3 and Figure 5A.3-4*.

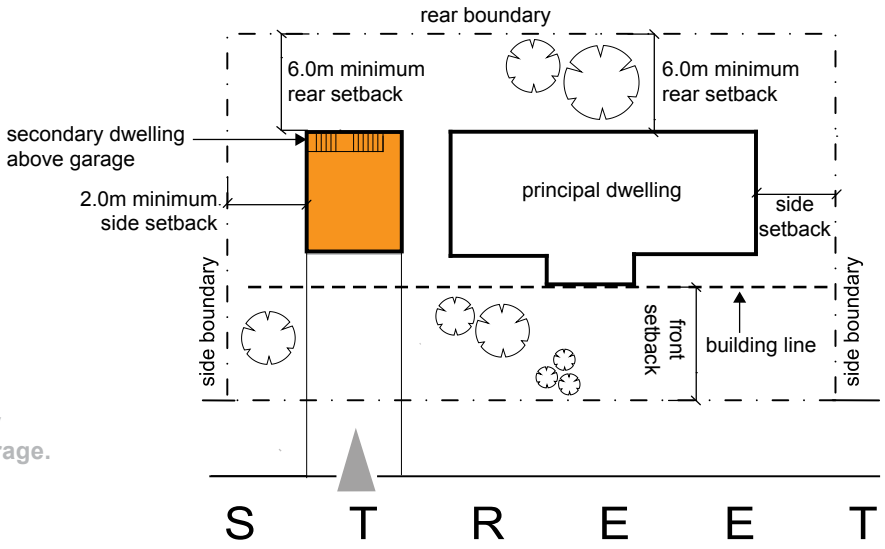


Figure 5A.3-3:
Setback controls for secondary dwellings above a detached garage.

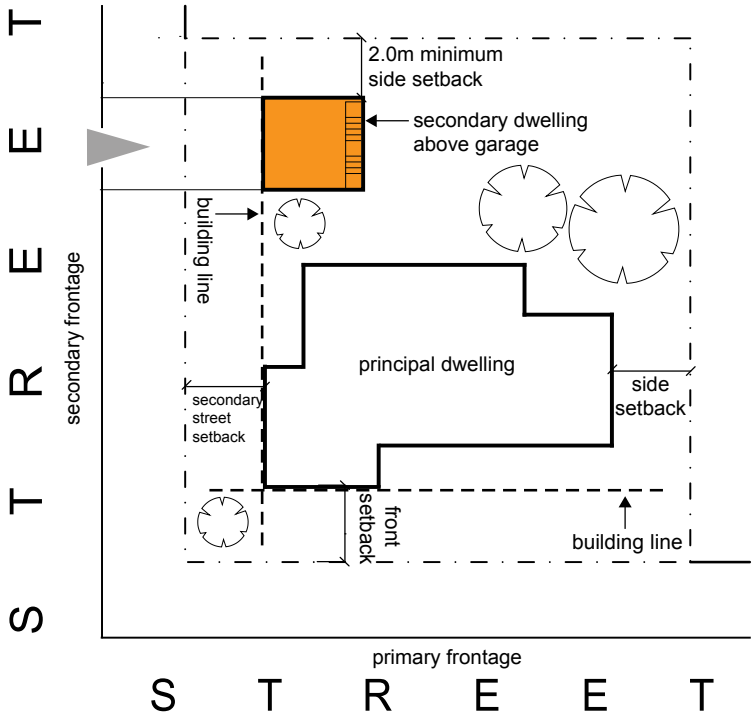


Figure 5A.3-4:
Setback controls for secondary dwellings above a detached garage accessible from a secondary street.

5A.3 BUILDING SETBACKS AND SEPARATION (continued)

Controls

6 Secondary dwellings will only be permitted above a detached garage where the rear setback to the garage is 6.0m minimum from the adjoining property rear boundary. Refer *Figure 5A.3-3.*

7 Secondary dwellings above detached garages fronting a rear lane or street are to be integrated with the existing rear line or street character and not present as a 2 storey wall to the rear lane or street. This may be acheived by:

i) incorporating the secondary dwelling into the garage roof form.

ii) providing a step back to the secondary dwelling above the garage so that the garage reads as a single storey structure facing the rear lane or street.

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5B Access and Parking

5B.1 Access

5B.2 Car Parking Provision

READ WITH

SECTION C
PART 22 - General Access and Parking
22.2: General Vehicle Access

5B.1 ACCESS

Further controls that may apply		
		SECTION C **PART 22 -** General Access and Parking **PART 22.2 -** General Vehicle Access

Objectives

1 *To ensure safe and direct access is provided to the secondary dwelling from the street.*

2 *To allow easily identified street access points to the secondary dwelling and principal dwelling.*

3 *To maximise landscaping opportunities.*

4 *To minimise the impact on the neighbourhood character.*

Controls

1 The secondary dwelling is to have its own independent front door entry. Refer to *Figure 5B.1-1.*

2 Any access doorway into a secondary dwelling from within the principal dwelling is to adhere to fire and acoustic separation requirements stipulated in the relevant Australian Standards.

3 Secondary dwellings are to share the principal dwelling vehicular street entry point. No additional vehicular crossing will be permitted to the primary street frontage.

4 Access to parking spaces for both the secondary dwelling and principal dwelling is to be via a common or shared driveway.

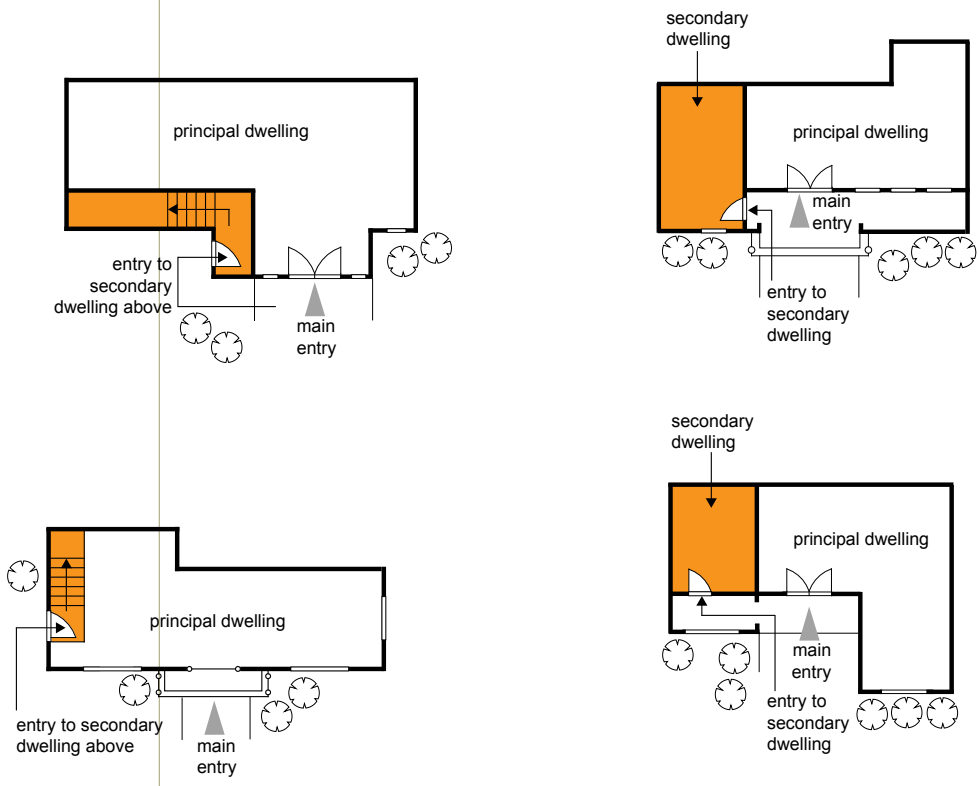

Figure 5B.1-1:
Secondary dwellings entries are subservient to the entry to the principal dwelling.

5B.1 ACCESS (continued)

Controls

5 Where the principal dwelling has a secondary street frontage, a second vehicular access for the secondary dwelling may be considered. Refer to *Figure 5B.1-2.*

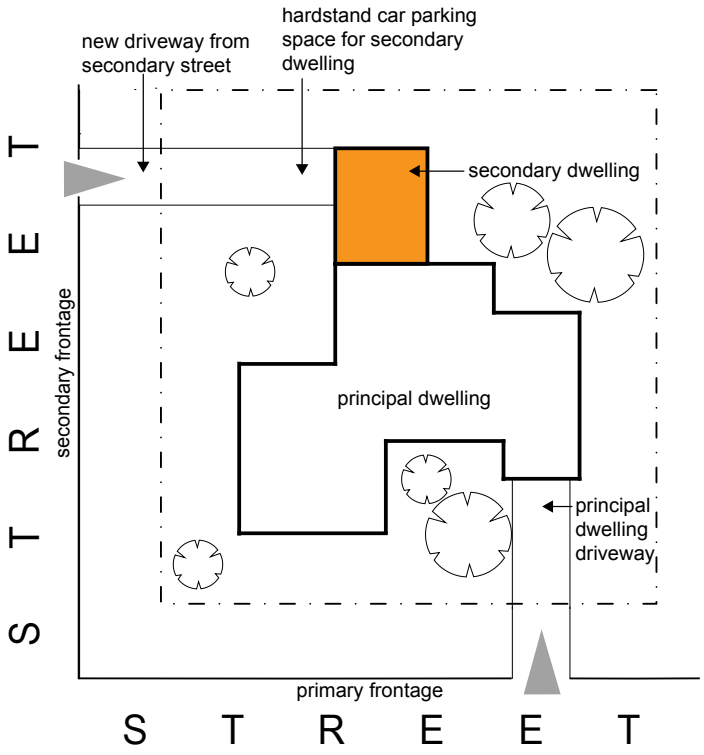

Figure 5B.1-2:
Separate vehicle access for secondary dwelling from a secondary street.

5B.2 CAR PARKING PROVISION

Objectives

1 *To minimise the impact of additional parking on the streetscape.*

2 *To enable functional off street car parking spaces for the principal and secondary dwelling.*

Controls

1 Car parking for secondary dwellings is to be limited to an open hardstand area only (the car parking hardstand space is to be a minimum of 2.5m wide x 5.4m long). No garage or carport structure will be permitted.

2 Where possible, hardstand area for the secondary dwelling is to be screened by landscaping.

3 The parking space for the secondary dwelling is to have direct access that will not obstruct the driveway of the principal dwelling. Stacked car parking will not be permitted.

4 The following car parking rates are applicable for secondary dwellings:

Secondary dwelling accommodation	Min. car parking spaces required	Max. car parking spaces required
Studio/bedsit	0	1
1 bedroom	0	1
2 bedrooms	1 Or 0 - if within 400m walking distance of a railway station or a bus stop within a strategic bus corridor.	1

Note: Secondary dwelling parking requirements are in addition to the requirements for the principal dwelling.

5C Building Design and Sustainability
5C.1 Solar Access
5C.2 Private Open Space
5C.3 Building Envelopes
5C.4 Building and Room Sizes
5C.5 Building Appearance
5C.6 Building Services
5C.7 Visual and Acoustic Privacy
5C.8 Storage and Utility Areas

READ WITH
SECTION A **PART 4 -** Dwelling Houses 4C.1: Building Envelopes
SECTION C **PART 23 General Building Design and Sustainability** 23.5: General Acoustic Privacy 23.6: General Visual Privacy

5C.1 SOLAR ACCESS

Objectives

1 *To ensure secondary dwellings have good internal amenity with direct access to daylight in all habitable rooms.*

2 *To ensure secondary dwellings do not negatively impact on solar access to the living areas or private open space of neighbouring properties.*

3 *To minimise the impact of new buildings and works on solar collection devices.*

Controls

1 All habitable rooms of secondary dwellings are to have a window. The use of skylights or highlight windows as the primary source of daylight and ventilation is prohibited.

2 The secondary dwelling is to achieve at least 3 hours solar access between 9am and 3pm on 21st June to living areas and private open space unless no practicable alternative is available.

3 Secondary dwellings are to maintain at least 3 hours solar access between 9am and 3pm on the 21st June to the living spaces and private open spaces of the principal dwelling.

4 Secondary dwellings are to maintain at least 4 hours solar access between 9am and 3pm on the 21st June to the living spaces and private open spaces of the neighbouring dwellings.

5 Secondary dwellings are not to overshadow existing solar panels/ photovoltaic cells of the principal dwelling or neighbouring dwellings.

6 Where existing overshadowing by buildings is greater than that permitted in *5C.1(2-5) of this Part*, sunlight is not to be reduced by more than 20%.

5C.2 PRIVATE OPEN SPACE

Objectives

1 *To provide useable outdoor space to all secondary dwellings.*

2 *To retain adequate private open space for the principal dwelling.*

Controls

1 Private open space for the secondary dwelling is to lead directly off the internal living area.

2 A secondary dwelling at ground level is to have a minimum nominated useable private open space area of 25m^2, with a minimum dimension of 3.0 metres. This area may be located within the secondary dwelling setbacks.

3 Freestanding walls or fencing are not to be used to separate or screen the private ground floor open space of a secondary dwelling. Landscaping may be used as a screening device.

4 A secondary dwelling on the first floor level is to have an allocated private open space such as a balcony or terrace that is accessible directly from the living area. The minimum provision is indicated in the table below:

Type	Minimum Balcony/ Terrace Requirement	Minimum Dimension Requirement
Studio	8m^2	2.4m
1 bedroom	10m^2	
2 bedrooms	12m^2	

5 Where a first floor secondary dwelling proposal demonstrates that it is unable to provide private open space upon the first floor, Council may consider provision of that space at the ground level in line with *5C.2 (2) of this Part*, at a location directly visible from the first floor living area of the secondary dwelling.

6 Private open space is to be orientated to receive a minimum 3 hours of solar access between 9am and 3pm on 21st June where practicable.

5C.3 BUILDING ENVELOPES

Further controls that may apply		
SECTION A **PART 4C.1 -** Building Envelopes		

Objectives

1 *To ensure the secondary dwelling is integrated with the principal dwelling and does not dominate the principal dwelling.*

Controls

1 Heights of all secondary dwellings attached and detached are to comply with the building height plane controls applicable to the principal dwelling as illustrated in *Figure 5C.3-1*, and as stated within *Part 4C.1*.

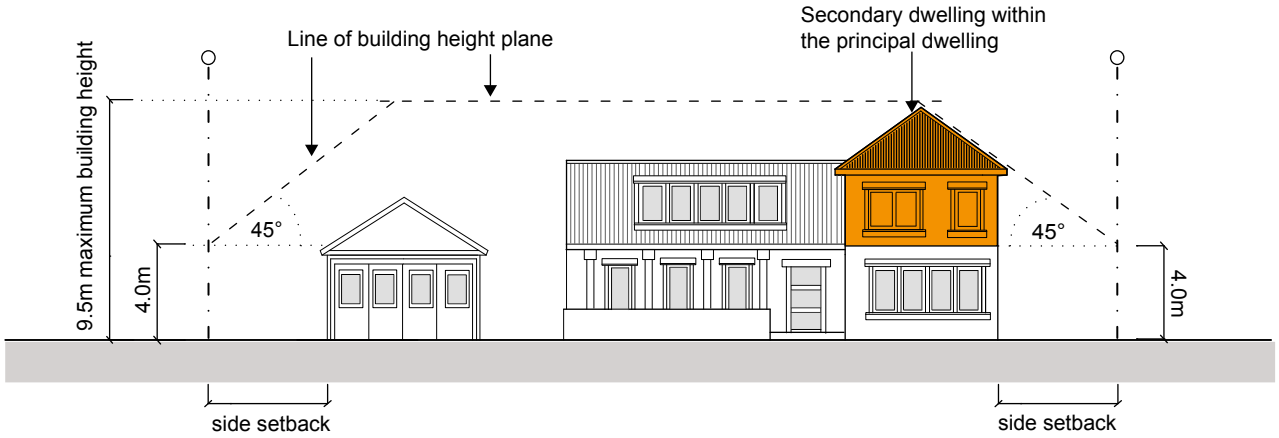

Figure 5C.3-1:
Building height plane- secondary dwelling within the principal dwelling.

5C.4 BUILDING AND ROOM SIZES

Objectives

1 *To protect the streetscape and the amenity of neighbouring properties by controlling building bulk and scale and associated overlooking.*

2 *To ensure that the secondary dwelling has functional internal areas with high amenity.*

Controls

1 The minimum floor area for a secondary dwelling is 40m^2 except where the secondary dwelling is located over an existing double garage where the application will be considered on merit.

Note: The maximum floor area of a secondary dwelling is referred to in Clause 5.4(9) of KLEP (Local Centres) 2012 which states: *If development for the purposes of a secondary dwelling is permitted under this Plan, the total floor area of the dwelling (excluding any area used for parking) must not exceed whichever of the following is the greater:*

(a) 60 square metres,

(b) 25% of the total floor area of the principal dwelling.

2 A maximum of two bedrooms are permitted within the secondary dwelling.

3 All bedrooms and living spaces are to have a minimum plan dimension of 3m, excluding wardrobe space. Refer *Figure 5C.4-1*.

4 The secondary dwelling is to function as an independent dwelling, and include a kitchen and bathroom. A laundry may be shared with the principal dwelling, however the secondary dwelling is to provide a space where a washing machine could be included in the future if needed.

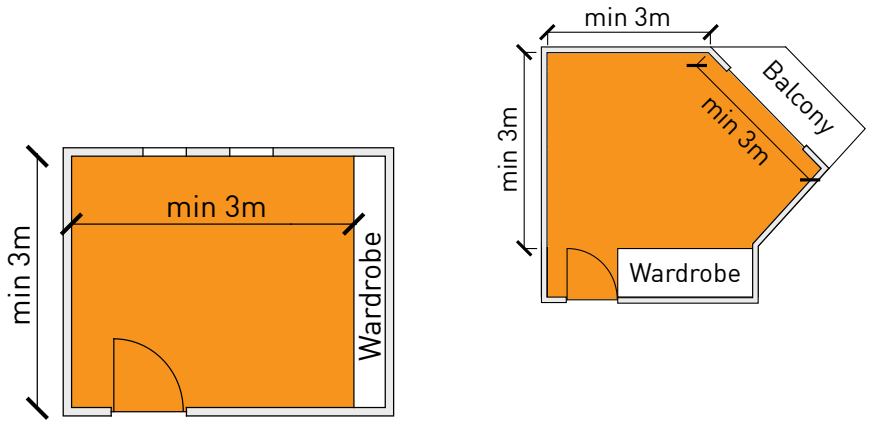

Figure 5C.4-1:
Minimum plan dimension 3m x 3m for habitable rooms

5C.5 BUILDING APPEARANCE

Objectives

1 To ensure the streetscape and dwelling character of the neighbourhood is maintained.

2 To integrate attached secondary dwellings with the principal dwelling, so that it appears as a single house when viewed from the street.

3 To ensure that detached secondary dwellings are visually linked to the principal dwelling.

Controls

1 The secondary dwelling is to incorporate similar or complementary design and construction features, finishes, materials and colours to the principal dwelling.

2 Attached secondary dwellings are to be integrated into the principal dwelling and to maintain the appearance of a single house by utilising similar proportions, height, roof shape, fenestration, material and finishes as the principal dwelling.

3 Detached secondary dwellings are to be sympathetic to the design of the principal dwelling in terms of its roof shape, fenestration, materials and finishes.

4 The entry to the secondary dwelling is not to conflict with the prominence of the entry to the principal dwelling (Refer *Figure 5C.5-1*).

5C.6 BUILDING SERVICES

Objectives

1 *To ensure the secondary dwelling and the principal dwelling are able to operate as independent dwellings.*

2 *To encourage the conservation of water and energy.*

Controls

1 Services provided to the secondary dwelling are to include:

- i) water and sewerage;
- ii) electricity;
- iii) gas;
- iv) telephone and internet;
- v) waste storage and collection;
- vi) letterbox.

2 Separate provision and metering of water, electricity and gas are to be provided to ensure the secondary dwelling may be billed separately by infrastructure providers.

5C.7 VISUAL AND ACOUSTIC PRIVACY

Further controls that may apply		
		SECTION C **PART 23.8** - General Acoustic Privacy **PART 23.9 -** General Visual Privacy

Objectives

1 *To maintain the visual and acoustic privacy of the occupants of principal and neighbouring dwellings.*

2 *To ensure visual and acoustic privacy for occupants of the secondary dwelling.*

Controls

1 Windows and private open space areas of secondary dwellings are to protect the privacy of the principal dwelling and of neighbouring properties. Methods of achieving this include, but are not limited to, the following:

i) locate private open space, balconies and windows so that they do not look into the principal or neighbouring dwellings, refer *Figure 5C.7-1*;

ii) offset windows / balconies / private open space to avoid overlooking and privacy intrusion.

2 Noise generating equipment related to the secondary dwelling is to be located away from the bedroom windows of the secondary dwelling, the principal dwelling and neighbouring dwellings.

3 Floors, walls and doors that connect the secondary dwelling to the principal dwelling are to meet the noise transmission and insulation requirements of the BCA and *AS 2107 (1987)*.

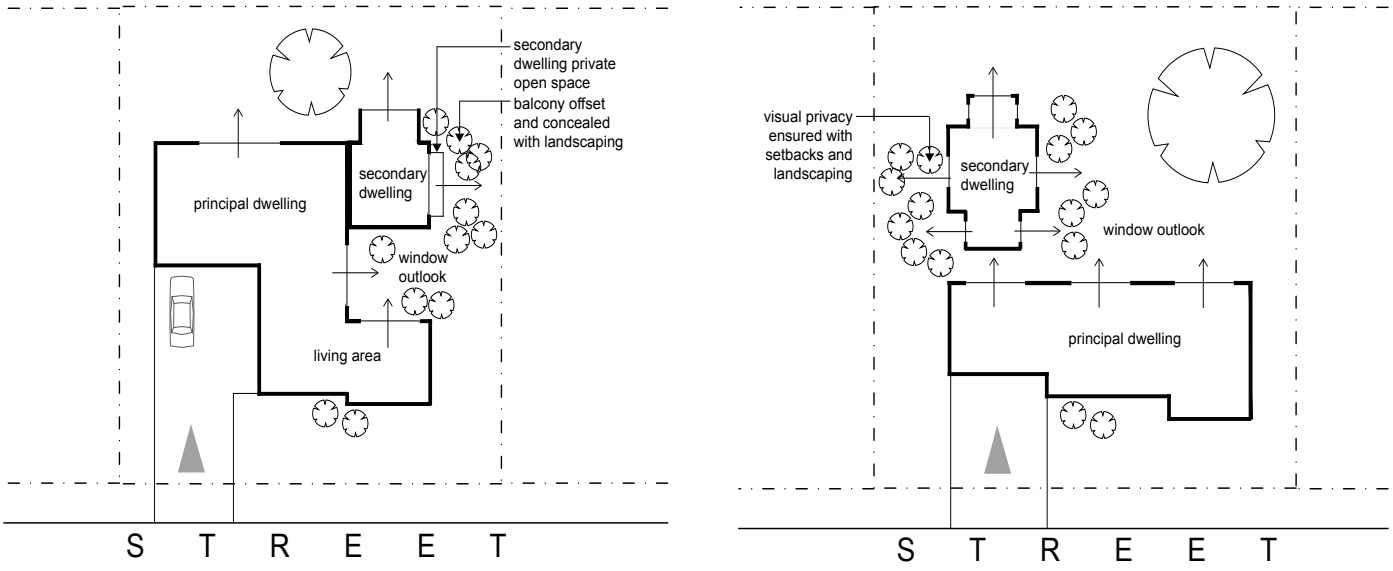

Figure 5C.7-1:
Windows, balconies, private open space must be located to avoid visual intrusion.

5C.8 STORAGE AND UTILITY AREAS

Objectives

1 To ensure storage provision and access to a utility area.

Controls

1 All secondary dwellings are to provide internal storage space in accordance with the following table:

Type	Minimum storage space requirement
Studio	$3m^3$
1 Bedroom	$6m^3$
2 Bedroom	$8m^3$

2 Where separate clothes lines and bins storage areas are provided for the secondary dwelling, they are:

i) to be screened so that they are not visible from the street;

ii) to be screened from the principal dwelling; and

iii) not to compromise the amenity of entry into the secondary dwelling.

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PART 6

MULTI-DWELLING HOUSING

Introduction

6A Site Design

6A.1 Local Character and Streetscape

6A.2 Site Layout

6A.3 Building Setback

6A.4 Building Separation

6A.5 Site Coverage

6A.6 Deep Soil Landscaping

6B Access and Parking

6B.1 Vehicle Access

6B.2 Car Parking Provision

6B.3 Bicycle Parking Provision

6C Building Design and Sustainability

6C.1 Communal Open Space

6C.2 Private Open Space

6C.3 Solar Access and Daylight

6C.4 Natural Ventilation

6C.5 Dwelling Mix and Accessibility

6C.6 Dwelling Placement and Room Design

6C.7 Building Entries and Internal Pathways

6C.8 Building Facades and Articulation

6C.9 Building Storeys

6C.10 Top Storey Design and Roof Forms

6C.11 Internal Ceiling Heights

6C.12 Visual and Acoustic Privacy

6C.13 Storage

6C.14 External Air Clothes Drying Facilities

6C.15 Fencing

6R References

6R.1 Design Quality Principles

INTRODUCTION

The objectives and controls in this Part guide the medium density residential development in meeting the aims and objectives within the KLEP (Local Centres) 2012.

Multi-dwelling housing, as defined in the KLEP (Local Centres) 2012, is to be located in the R3 Medium Density Residential zone. It includes all residential developments with 3 or more dwellings on one lot in the form of detached or attached town houses or villas.

Where a multi-dwelling housing development involves refurbishment works or alterations/additions to existing buildings, new elements are to meet the requirements of this Part.

All multi dwelling developments are to achieve the following nine Design Quality Principles detailed in Part 6R Design Quality Principles at the end of this Part:

i) Principle 1: Context and neighbourhood character

ii) Principle 2: Built form and scale

iii) Principle 3: Density

iv) Principle 4: Sustainability

v) Principle 5: Landscape

vi) Principle 6: Amenity

vii) Principle 7: Safety

viii) Principle 8: Housing diversity and social interaction

ix) Principle 9: Aesthetics

INTRODUCTION (continued)

The aims of this Part are to:

i) Ensure that development is in keeping with the garden character of Ku-ring-gai where the tree canopy dominates the landscape by making provision for quality deep soil landscaping, including: tall trees to the streetscape; in-between and to all elevations of buildings on the development site; inbetween buildings on the development site and on adjacent sites.

ii) Encourage development which does not dominate, but harmonises with and contributes to the treed landscape and is sympathetic to the street and locality in which it is proposed.

iii) Ensure that with each development sufficient landscaping is provided to contribute to the conservation and replenishment of the tree canopy of Ku-ring-gai, including locally occurring native tree species suited to the site.

iv) Protect and minimise the impact of development on adjoining properties

v) Protect and minimise the impact of development on the natural environment

vi) Ensure development that minimises the depletion of raw materials and non-renewable resources

vii) Ensure that development meets the needs of the present without compromising the ability of future generations to meet their own need.

viii) Encourage housing of the highest possible architectural, environmental and amenity standards.

ix) Manage residential development in a way that embraces innovative design and contemporary lifestyles

x) Ensure that there are more certain outcomes for applicants and the community.

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6A Site Design

6A.1 Local Character and Streetscape
6A.2 Site Layout
6A.3 Building Setback
6A.4 Building Separation
6A.5 Site Coverage
6A.6 Deep Soil Landscaping

READ WITH
SECTION A **PART 2 -** Site Analysis
SECTION C **PART 21 -** General Site Design 21.2: Landscape Design

REFER TO
LIVABLE HOUSING DESIGN GUIDELINES

6A.1 LOCAL CHARACTER AND STREETSCAPE

Further controls that may apply:		
SECTION A **PART 2 –** Site Analysis		**SECTION C** **PART 21 –** General Site Design

Objectives

1 *To improve the design quality of multi-dwelling housing.*

2 *To provide a sucessful transition between higher and lower density development.*

3 *To ensure that the development contributes to the greater Ku-ring-gai landscaped character of buildings within a landscaped garden setting and surrounded by canopy trees.*

4 *To provide developments that are sensitive to, conserves and enhances the built environment, landscape setting, environmental conditions and established character of the street and locality with partitcular reference to integration of:*

i) *architectural themes;*

ii) *building scale and setbacks; and*

iii) *landscape themes.*

5 *To ensure development provides a positive contribution to the public domain and all areas shared by the community.*

6 *To maintain the visual, scenic and environmental qualities on visually prominent sites.*

Controls

1 All multi dwelling housing developments are to be designed by an architect registered with the NSW Architects Registration Board.

2 All multi dwelling housing developments are to demonstrate how they provide:

i) a garden setting with buildings surrounded by landscaped gardens, including canopy trees, on all sides;

ii) a transition in built form between single dwelling residential buildings and high density apartment buildings.

3 Design components of new development are to be based on the existing predominant and high quality characteristics of the local neighbourhood.

4 The appearance of the development is to maintain the local visual character by considering the following elements:

i) visibility of on-site development when viewed from the street, public reserves and adjacent properties; and

ii) relationship to the scale, layout and character of the tree dominated streetscape of Ku-ring-gai.

5 The predominant and high quality characteristics of the local neighbourhood are to be identified and considered as part of the site analysis at Part 2 of the DCP.

Note: Local character and streetscape is created by many features including, but not limited to: kerbs, setbacks, footpath treatment, building separation and spaces between buildings, access arrangements, street tree planting, tall tree canopy backdrop to the horizon, native vegetation and gardens, topography, site and street geometry, as well the architecture.

6 Development is to integrate with surrounding sites by:

i) being of an appropriate scale retaining consistency with the surrounds when viewed from the street, public domain or adjoining development;

ii) minimising overshadowing; and

iii) integrating built form and soft landscaping (gardens and trees) within the tree canopy that links the public and private domain throughout Ku-ring-gai.

6A.1 LOCAL CHARACTER AND STREETSCAPE (continued)

Visually Prominent Sites

7 Development on visually prominent sites is to:

i) be of high architectural and aesthetic quality;

ii) be integrated into the existing landscape through the site planning process and avoid tall and bulky structures;

iii) have a selection of external colours and finishes that are sensitive to the site and locality;

iv) retain significant landscape and vegetation elements;

v) consider views to the site as well as those from the site; and

vi) soften visual impact by extensive landscaping including larger trees and shrubs.

Note: Refer to Part 1B Dictionary for definition of Visually Prominent Site.

8 Colours of materials used in sites adjoining or in close proximity to bushland areas and Heritage Conservation Areas are to be in harmony with the built and natural landscape elements of the area.





Figure 6A.1-1:
Townhouse development

6A.2 SITE LAYOUT

Further controls that may apply		
SECTION A **PART 2 -** Site Analysis	**SECTION B** **PART 20 -** Development Near Rail Corridors and Busy Roads	**SECTION C** **PART 21 -** General Site Design **PART 23.8 -** General Acoustic Privacy

Objectives

1 *To ensure fundamental design decisions are appropriate to the site.*

2 *To ensure detailed design decisions are founded on an appropriate site strategy determined through site analysis.*

3 *To ensure that site planning for multi-dwelling housing responds to site attributes such as streetscape character, existing vegetation and topography, and addresses associated opportunities and constraints.*

4 *To ensure high impact elements such as noise sources are considered early in the design stage.*

5 *To ensure provision of a clear and legible address for the development.*

6 *To soften built form with soft landscaping.*

7 *To achieve a high standard of amenity for future residents.*

8 *To minimise impacts on the amenity of neighbouring sites.*

9 *To reduce the appearance of building mass and scale.*

10 *To ensure driveways are not a dominant feature of the development.*

Controls

1 The site layout is to demonstrate a clear and appropriate design strategy and arrangement of building mass in response to the Site Analysis in Part 2 Site Analysis of this DCP. Demonstration of design strategies to address opportunities and constraints based on a Site Analysis are to include:

   i) building location and orientation on the site optimising northern aspect; relationship with neighbouring developments; geographical aspect; views; access etc;

   ii) response of building development in maintaining site characteristics within the subject site, such as topography, vegetation, significant trees, any special features, etc;

   iii) building separations and internal layouts of buildings that respond to (i) above and be consistent with the requirements of the DCP.

2 A drawing and supporting written information is to demonstrate how the building and its layout has applied and responded to the site analysis conducted in Part 2 of this DCP.

3 For requirements on development near noise sources refer to Part 20 Development Near Rail Corridors and Busy Roads in this DCP.

4 Any dwelling with a frontage to the street is to address that street with entry doors, windows, verandas and such like.

5 Where a site has two or more frontages, the buildings are to address and provide dwelling door entry points from all street frontages.

6 Soft landscaping, including canopy trees, is to be provided between onsite buildings, fences and courtyard walls.

7 Hard landscaping is to be minimised to maximise opportunities for landscape planting.

8 Long straight driveways are not permitted except where necessary for battle-axe sites. Driveways are to be designed to be of minimal visual impact.

9 Provide a single pedestrian entry point into the development from the street. Other entries may be permitted where several dwellings address the street along an extended street or dual frontage sites.

10 Layouts for multi-dwelling housing development are shown in *Figures 6A.2-1 to 6A.2-3*.

6A.2 SITE LAYOUT (continued)

Objectives

11 To provide a safe and continuous pathway from the street to the entry point of each dwelling.

12 To ensure buildings address the public domain and give direct access from both primary and secondary streets and any other street on the property boundary.

13 To maintain the alignment and rhythm of the built form on the street.

14 To ensure high quality site design with integrated methods of pedestrian and vehicular access that support the visual character of the streetscape and locality.

15 To ensure visual and acoustic amenity is preserved to neighbouring developments.

Good Examples of Site Layout



Figure 6A.2-1.
Site layout with <25m frontage

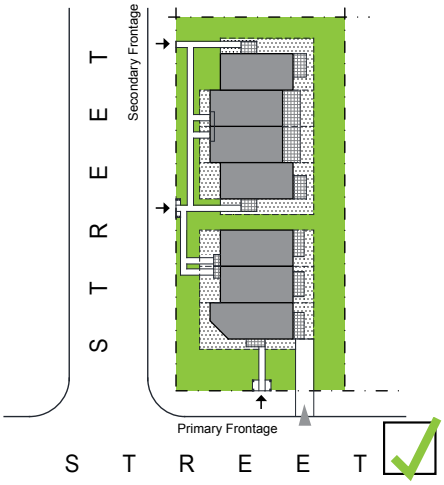
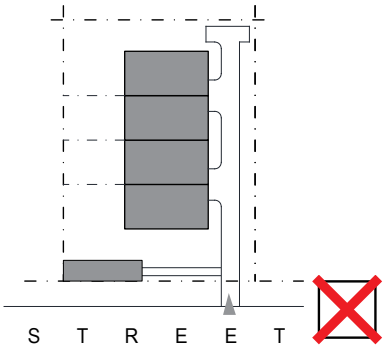


Figure 6A.2-2.
Site layout with dual frontages



Figure 6A.2-3:
Site layout with >25m frontage.

Bad Examples of Site Layout



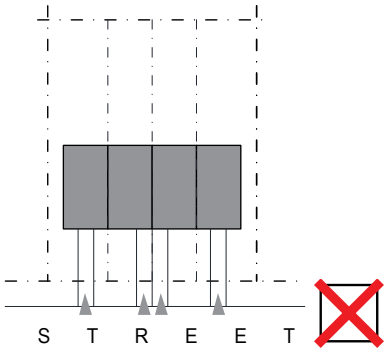




Figure 6A.2-4:
Layouts not permitted

6A.2 SITE LAYOUT (continued)

Objectives

Controls

11 All development is to have a building alignment parallel to the street, or in alignment with existing setback patterns where the pattern is not likely to change, as in *Figure 6A.2-5*.

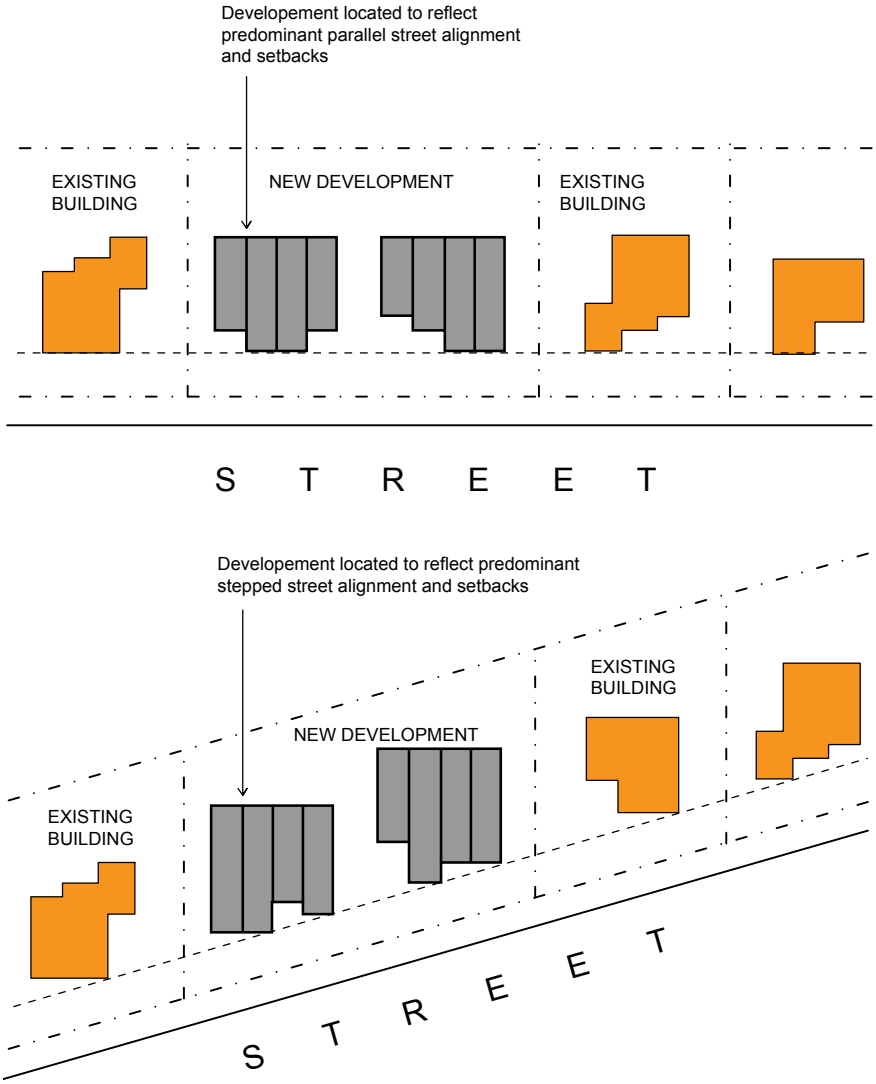


Figure 6A.2-5:
New development sited parallel to prevailing building line.

12 Stair lifts and inclinators are not permitted in any setback area and are not to be visible to any street frontage or public domain area.

Note: Such devices will not be permitted even if screening devices are provided.

6A.3 BUILDING SETBACK

Objectives

1 *To ensure buildings are situated within a garden setting dominated by canopy trees.*

2 *To soften the built form and maintain the garden character of Ku-ring-gai.*

3 *To ensure deep soil areas within setbacks areas are clear of elements that compromise planting and growth of canopy trees.*

4 *To ensure adequate space between buildings to enable effective landscaping and to soften the built form.*

5 *To protect existing trees and provide areas for the planting of canopy trees, especially at the front and rear of the development.*

Controls

Street setback

1 Multi-dwelling housing developments are to meet the following street setback requirements, as in *Figure 6A.3-1*:

i) a minimum of 10.0m from the Primary street boundary;

ii) on corner sites a minimum of 8.0m from the Secondary street boundary with a 6.0-8.0m articulation zone. No more than 40% of the articulation zone is to be occupied by the building.

Side and rear setbacks

2 A minimum setback of 3.0m is to be provided from any side boundary where the side elevation has non-habitable rooms only. Where a pedestrian pathway is located within this type of side setback, the minimum side setbacks are to be increased by the width of that path.

3 Where the dwellings are oriented towards side boundaries and/ or have openings to habitable rooms towards side boundaries, the setback is to be a minimum of 6.0m.

4 A minimum setback of 6.0m is to be provided from the rear boundary. For corner sites one boundary is to be nominated as a rear boundary.



Figure 6A.3-1:
Building setbacks and private open space setbacks

6A.3 BUILDING SETBACK (continued)

Objectives

6 *To provide adequate amenity including visual and acoustic privacy, solar access and natural ventilation.*

7 *To reduce the visual bulk of buildings from the street.*

8 *To maintain the rhythm of the built form to the streetscape.*

9 *To ensure access pathways do not compromise the privacy of onsite or adjacent dwellings.*

Controls

Setbacks to parking

5 Basement areas are to be consolidated under the building footprint and meet the same building setback.

6 No driveways are to be located in side or rear setback areas including within the side setback areas in front of the building line.

Battle axe blocks

7 Sites with no clear street frontage are to nominate front, side and rear boundaries and comply with the associated setbacks.

Encroachments

8 Ground floor private terraces/courtyards may encroach into the required street, side and rear setback areas only where deep soil landscaping requirements are met. The encroachments are to retain a minimum setback to the courtyard wall of:

i) 8.0m from the Primary street boundary;

ii) 4.0m from the Secondary street boundary;

iii) 3.0m from any side boundary; and

iv) 4.0m from the rear boundary;

Note: The requirements for deep soil planting along side boundaries are outlined in 6A.5 of this Part.

9 Balconies may encroach only into front and rear setbacks provided they project no more than 1.5m from the building line.

10 The following elements may encroach into the setback areas only where they do not increase the apparent bulk of the building:

i) eaves;

ii) open pergolas;

iii) blades, fins, columns.

6A.4 BUILDING SEPARATION

Objectives

1 *To ensure buildings are set within a garden setting dominated by canopy trees which soften the built form and maintain the garden character of Ku-ring-gai, particularly to the street frontage.*

2 *To provide effective deep soil areas that enable a garden setting, including substantial trees and canopy, to all sides of the building within the site.*

3 *To reduce the visual bulk of buildings within the site when viewed from the street.*

4 *To provide residential amenity including visual and acoustic privacy, natural ventilation, solar access, daylight and outlook.*

5 *To provide suitable areas for communal open spaces, private open spaces and deep soil zones.*

Controls

1 The minimum separation between residential buildings on the same development site is to comply with the following controls, as in *Figure 6A.4-1*:

i) 12.0m between habitable rooms/balconies;

ii) 9.0m between habitable room/balcony and non-habitable room;

iii) 6.0m between a habitable room and a blank wall;

iv) 6.0m between non-habitable rooms;

v) 6.0m between a blank wall and a non-habitable room;

vi) 4.0m between blank walls.

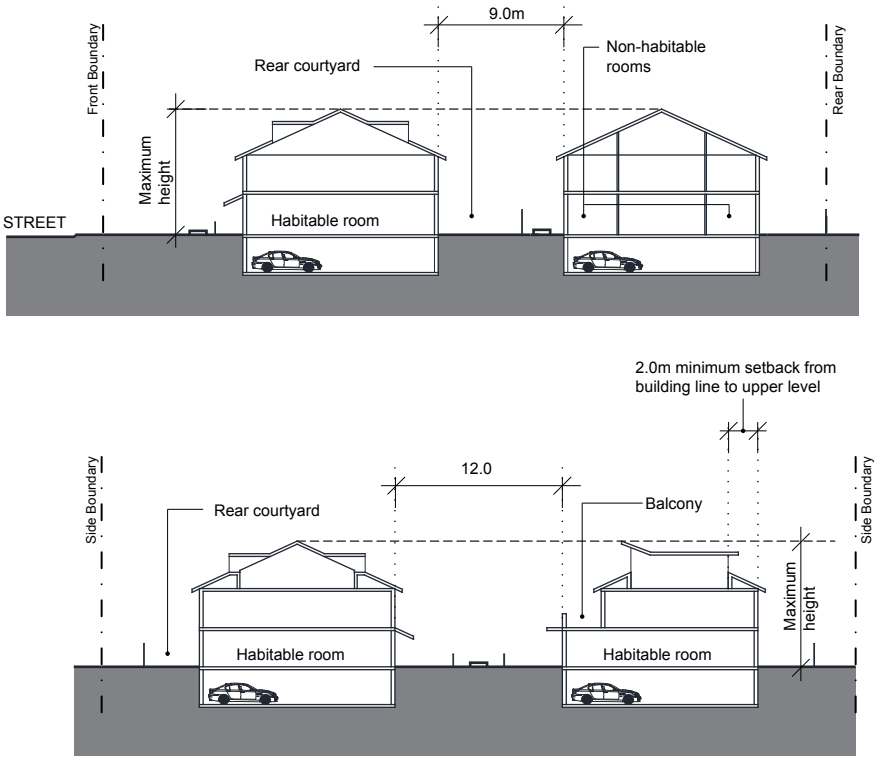


Figure 6A.4-1:
Minimum building separation controls for multi-dwelling housing development up to 3 storeys.

6A.5 SITE COVERAGE

Objectives

1 *To ensure development is consistent with the landscape character of the area.*

2 *To protect and improve the tree canopy within Ku-ring-gai.*

3 *To provide adequate space for the planting of tall trees and other landscaping.*

4 *To provide a balance of built form and soft landscaped area.*

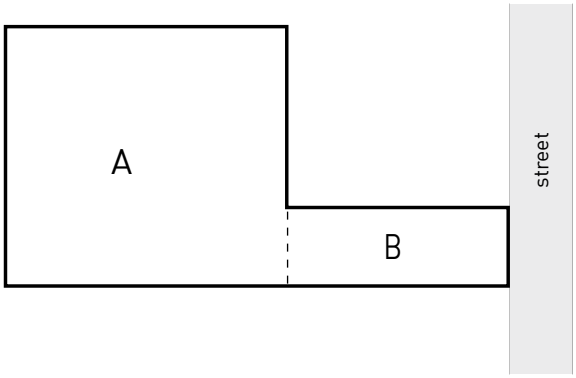
5 *To minimise impervious surfaces that generate storm water runoff.*

Controls

1 The site coverage for multi dwelling housing may be up to a maximum site coverage as outlined in *Figure 6A.5-1* and *6A.5-2*, provided that the deep soil landscaping requirements in Part 6A.5 can be met.

Basement Parking	
Maximum site coverage for standard site	Maximum site coverage for site with access handle
40%	40% less 40% of any access handle

Figure 6A.5-1:
Maximum site coverage controls.



Maximum site coverage for townhouses
= [(A+B) x 40%]m^2 - (B x 40%)m^2

Figure 6A.5-2:
Maximum site coverage controls.

2 When a site comprises land in an R3 Meduim Density Residential and/or R4 High Density Residential zone and land in another zone, only the R3 and/or R4 zone land is to be included in calculating site area.

Note: Site coverage is not the inverse of deep soil landscaping. Refer to Part 1B Dictionary for clarification of site coverage.

6A.6 DEEP SOIL LANDSCAPING

Further controls that may apply		
		SECTION C **PART 21.2 -** Landscape Design

Objectives

1 *To provide quality landscaping that contributes to the garden character and tree canopy of Ku-ring-gai.*

2 *To provide consolidated deep soil zones of adequate dimensions in all residential development sites especially in the front and rear setbacks.*

3 *To ensure deep soil landscaping is located within common areas that surround the building to provide effective landscape screening between the development and neighbouring properties.*

4 *To provide viable deep soil landscaped areas for the retention and/or planting of large and medium sized trees:*

- *to provide shade and amenity;*
- *to soften the built form;*
- *to capture carbon;*
- *for the sustainable maintenance and enhancement of the Ku-ring-gai tree canopy.*

5 *To provide landscaping that provides habitat for native indigenous plants and animals and contributes to biodiversity in the area.*

Controls

Design

1 Multi-dwelling housing development is to have a minimum deep soil landscaping area of 40% of the site area provided within common areas only.

2 For the purposes of calculating deep soil landscaping and landscaped areas, any access handle on battle axe sites is excluded.

3 Deep soil zones are to be configured to retain healthy and significant trees on the site and adjoining sites.

4 Deep soil areas for tree and screen planting are to be as follows:

i) provided within setback areas to all side and front boundaries;

ii) be a minimum width of 4m along the rear boundary. This is to be within the common area if it is located at the rear of the development.

5 Deep soil landscaping is to support the planting of substantial trees to the streetscape.

6 Screen planting is to soften and reduce dominance of walls and fences.

7 Driveways are not to dominate the street setback area. Deep soil landscaping areas in the street setback are to be maximised.

8 Where the site has an access handle, deep soil calculation are to exclude that access handle.

Tree Replenishment and planting

9 Lots are to support a minimum number of tall trees capable of attaining a mature height of at least 13m on shale, transitional soils or 10m on sandstone derived soils, as detailed in *Figure 6A.6-1*:

Lot Size	Number of Tall Trees
1,200m^2	1 per 400m^2 of site area or part thereof
1,201m^2 - 1,800m^2	1 per 350m^2 of site area or part thereof
1,801m^2 +	1 per 300m^2 of site area or part thereof

Figure 6A.6-1:
Lot size and numbers of tall trees

6A.6 DEEP SOIL LANDSCAPING (continued)

Objectives

6 *To ensure that deep soil is provided to allow infiltration of rain water to the water table and to reduce stormwater runoff.*

Controls

10 In addition to the tall trees, a range of medium trees, small trees and shrubs are to be selected to ensure:

i) that the streetscape presents as buildings within a tall tree canopy setting;

ii) that vegetation creates a garden setting and can be viewed from the buildings onsite.

11 On sites within areas mapped under Council's Green web categories, the percentage of all tree planting is to be as per the biodiversity controls in Part 19 of this DCP. On all other sites, at least 30% of all tree planting are to be locally occurring species.





Figure 6A.6-1:
Deep Soil Landscaping

6B Access and Parking

6B.1 Vehicle Access

6B.2 Car Parking Provision

6B.3 Bicycle Parking Provision

READ WITH

SECTION A
PART 6 - Multi Dwelling Housing
6A.2: Site Layout

SECTION C
PART 22 - General Access and Parking
22.1: Equitable Access
22.2: General Vehicle Access
22.3: Basement Parking
22.4: Visitor Parking
22.6: Pedestrian Movement within Car Parks
22.7: Bicycle Parking and Facilities
22R.1: Car Parking Rates
PART 23 - General Building Design and Sustainability
23.4: Waste Management
23.9: Visual Privacy
23.5: Roof Terraces and Podiums
23.8: Materials and Finishes

REFER TO

LIVABLE HOUSING DESIGN GUIDELINES

6B.1 VEHICLE ACCESS

Further controls that may apply		
SECTION A **PART 6A.2 -** Site Layout		**SECTION C** **PART 22.2 -** General Vehicle Access **PART 23.7 -** Waste Management

Objectives

1 *To ensure landscaping adequately separates driveways from neighbouring properties.*

2 *To provide well located and designed vehicle entrances.*

3 *To facilitate pedestrian amenity and safety.*

4 *To ensure that driveways do not dominate the streetscape.*

5 *To ensure vehicular and service access do not detract from the visual character of the streetscape.*

6 *To minimise hard surfaces on the site.*

7 *To provide convenient and safe vehicular movements onsite.*

8 *To conceal waste storage and collection areas to improve the streetscape.*

Controls

1 Driveways are to be located at least 3m from any side boundary and be separated from the boundary by a continuous landscaped verge and screen planting to the neighbouring development.

2 Not more than one driveway is to be established on any property.

3 On sites with dual street frontage, one additional driveway may be considered.

4 Driveways are to be designed to avoid a straight, gun barrel appearance by using appropriate landscaping and variations in alignment.

5 On-site vehicle turning areas are to be located within the basement.

6 On-site vehicle turning areas are to be designed to permit turning in a single reversing movement.

7 Waste and recycling rooms are to be provided within the basement, with a minimum finished ceiling height of 2.6m along the path of travel from the street to the residential waste collection and manoeuvring area. This clearance is to be kept free of any overhead ducts, services or other obstructions.

6B.2 CAR PARKING PROVISION

Further controls that may apply		
		SECTION C **PART 22.3-** Basement Car Parking **PART 22.4-** Visitor Parking **PART 22.6-** Pedestrian Movement within Car Parks **PART 22.7-** Bicycle Parking and Facilities **PART 22R.1-** Car Parking Rates

Objectives

1 *To locate and design car parking which is integrated with the site and building design and which does not increase the bulk and scale of the building.*

2 *To provide adequate car parking for the development's residents and visitors.*

3 *To ensure pedestrian access, from dwellings to parking areas is direct and convenient.*

4 *To ensure car parking does not compromise deep soil landscaping provisions.*

5 *To ensure safety and convenience for all vehicle users within car parks.*

6 *To ensure car parking achieves a high quality streetscape and does not detract from the landscape character of Ku-ring-gai.*

7 *To provide adequate accessible car parking.*

Controls

Car parking design

1 All multi dwelling housing development is to provide on-site parking within the basement.

2 Basement car park areas are to be consolidated under building footprints. See *Figure 6B.2-1.*

Note: Basements may be permitted to extend under the space between buildings on the site provided deep soil requirements have been met.

3 The basement car park is not to project more than 1.0m above existing ground level.

Note: Basements greater than 1.0m above the natural existing ground level are counted as a storey for the purposes of this DCP and will be included in the floor space ratio calculation as well as any control based on the number of storeys.

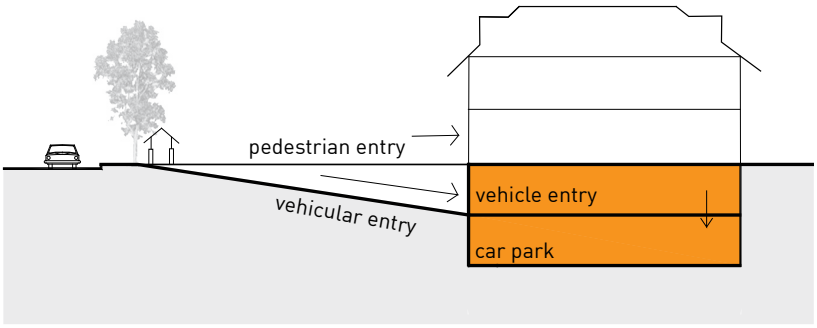


Figure 6B.2-1:
Car park is housed within the building basement

4 The use of single lane tunnels and single lane spiral ramps is not permitted. Double lane spiral ramps may be allowed where there are no other options, but can only link a maximum of 2 basement levels.

5 Single lane aisles, straight ramps and tunnels are to be a maximum of 12.0m in length.

6 Direct access is to be provided from basement car parks to dwelling entry points; and, wherever possible direct access is to be provided from basement parking into each individual dwelling.

7 Car park entry is to be integrated within the building and located behind the building line.

6B.2 CAR PARKING PROVISION (continued)

Controls

8 Car parking design is to be in accordance with requirements for Silver and Platinum Level dwellings as required in this DCP and by the *Livable Housing Guidelines*. Circulation areas, roadways and ramps are to comply with AS2890.1. Where a conflict occurs, the *Livable Housing Guidelines* is to take precedence.

Note: Refer to *Livable Housing Guidelines* at *http://www.livablehousingaustralia.org.au/*

Car parking rates

9 The following parking ranges apply to multi-dwelling housing on sites within 400m walking distance of a railway station entry:

Dwelling Size	Minimum number of parking spaces per dwelling	Maximum number of parking spaces per dwelling
One bedroom	1 space	1 space
Two bedrooms	1 space	1.5 spaces
Three or more bedrooms	1 space	2 spaces

10 For all other locations, car parking is to be provided in accordance with the parking rates in Part 22R.1.

Note: Any spaces provided which exceed the upper range are included in the gross floor area calculation.

Note: A *Traffic Impact Assessment* is to accompany Development Applications that seek to vary the parking rates. This includes commercial or strata funded car share schemes in lieu of parking spaces.

11 At least one visitor car space is to be provided within the site for every 4 dwellings or part thereof.

12 At least one visitor parking space is to be accessible and comply with the dimensional and locational requirements of AS2890.6.

13 One visitor parking bay is to be provided with a tap, to make provision for on-site car washing.

14 A clearly signposted space for temporary parking of service and removalist vehicles is to be provided. The space is to have a minimum dimension of 3.5m x 6.0m and a minimum manoeuvring area 7.0m wide. Where a separate space is not provided, one of the visitor spaces may be used if it meets these dimensions and provides signage for dual usage.

6B.3 BICYCLE PARKING PROVISION

Further controls that may apply		
		SECTION C **PART 22.7-** Bicycle Parking and Facilities

Objectives

1 To provide adequate bicycle parking that is safe and easily accessible.

2 To encourage the use of bicycles.

Controls

1 Where basement parking is provided, the following rates of onsite secure bicycle parking spaces and storage to AS2890.3 on site are required:

i) 1 bicycle parking space per 5 units or part thereof for residents within the residential car park area; and

ii) 1 bicycle parking space (in the form of a bicycle rail) per 10 units or part thereof for visitors within the visitor car park area.

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6C Building Design and Sustainability

6C.1 Communal Open Space

6C.2 Private Open Space

6C.3 Solar Access and Daylight

6C.4 Natural Ventilation

6C.5 Dwelling Mix and Accessibility

6C.6 Dwelling Placement and Room Design

6C.7 Building Entries and Internal Pathways

6C.8 Building Facades and Articulation

6C.9 Building Storeys

6C.10 Top Storey Design and Roof Forms

6C.11 Internal Ceiling Heights

6C.12 Visual and Acoustic Privacy

6C.13 Storage

6C.14 External Air Clothes Drying Facilities

6C.15 Fencing

READ WITH

SECTION A
PART 6 - Multi-Dwelling Housing
- 6A.2: Site Layout
- 6A.4: Building Separation
- 6C.6: Dwelling Depths, Width and Room Size.

SECTION C
PART 22 - General Access and Parking
- 22.1: General Equitable Access

PART 23 - General Building Design and Sustainability
- 23.5: General Acoustic Privacy
- 23.6: General Visual Privacy
- 23.9: Roof Terraces and Podiums

REFER TO

LIVABLE HOUSING DESIGN GUIDELINES

6C.1 COMMUNAL OPEN SPACE

Further controls that may apply		
		SECTION C **PART 23.5-** Roof Terraces and Podiums

Objectives

1 To provide adequate, useable, attractive, highly visible, safe and accessible communal open space with good amenity for larger developments.

2 To provide communal open space that is responsive to the site and its context, and is well integrated within the development.

3 To ensure high quality communal open space that adds to the amenity of the development and facilitates social interaction.

Controls

1 Where more than 10 dwellings are proposed, one Primary communal open space is to be provided as follows, and as in *Figure 6C1.-1*:

i) have a minimum area of 72.0m^2 ; and

ii) have a minimum dimension of 8.0m.

2 Where more than 20 dwellings are proposed, 144m^2 of communal open space is to be provided with a minimum dimension of 8.0m. This may be provided as:

i) a single Primary communal open space; or

ii) a Primary communal open space, with minimum requirements as per 6C.1(1) and a Secondary communal open space with minimum dimension of 8.0m.

3 Shared facilities such as barbecue facilities, shade structures, play equipment and seating, are to be provided within the Primary communal open space. Placement of these facilities are to consider the privacy and amenity of dwellings adjacent to the communal open space. Seating is to be provided within the Secondary communal open space.

4 All communal open space is to be located at ground level behind the building line and be screened from the street by the built form.

5 Access to all communal open spaces is to be provided for people with a disability in accordance with Part 2 Section 7 of AS1428.

6 The location and design of communal open spaces is to optimise opportunities for social and recreation activities, solar access, orientation, summer shade, visibility and outlook; and consider the privacy of the adjacent onsite residents and the neighbours to the development site.

7 At least 50% of the area of the Primary and Secondary communal open space is to recieve direct sunlight for at least three hours between 9am and 3pm at mid winter.

8 Communal open spaces are to be co-located and integrated with any natural feature(s) of the site and soft landscaping areas.

9 All communal open spaces are to be capable of surveillance from at least two dwellings for safety reasons.

10 Communal open spaces are to be designed to avoid concealment or entrapment areas.

Note: Communal open spaces are to be well lit with an energy efficient lighting system to be used in conjunction with timers or daylight controls. All light spill is prohibited.

6C.1 COMMUNAL OPEN SPACE (continued)

Controls

11 Garden maintenance storage areas, drainage and connections to water taps are to be provided within the Primary communal open space. Secondary communal open spaces are to have adequate connections to water for maintenance purposes.

Note: Proposals are to demonstrate entry and access to communal open spaces and common areas for maintenance purposes.



Figure 6C.1-1:
Communal open space

Legend

- Building Footprint
- Landscaped Common Areas
- Landscaped Communal Open Space
- Landscaped Private Open Space
- Paved Private Open Space
- Private Open Space Boundary
- Pedestrian Pathway
- Pedestrian Entry
- Driveway

6C.2 PRIVATE OPEN SPACE

Objectives

1. *To provide adequately sized private outdoor areas with a high level of amenity for residents to enjoy outdoor living.*
2. *To provide private open spaces that are integrated into the overall design of the development.*
3. *To ensure that private open space design allows views and passive surveillance of the street and communal areas.*
4. *To provide for the safety, visual and acoustic privacy of residents both within the development site and between neighbouring properties.*
5. *To ensure the site character is not dominated by dividing fences, walls and access paths and the internal site character is one of dwellings within a predominantly landscaped setting.*

Controls

1 A minimum private open space of 25.0m^2 internal dimension is to be provided to each dwelling within the multi-dwelling housing development, as in *Figure 6C.2-2*. The private open space is to:

i) have a minimum internal dimension of 4.0m;

ii) have direct level access from the living/dining area;

iii) provide a consolidated paved area of 12.0m^2 and a minimum width of 3.0m to accommodate a table and 6 chairs directly accessible from the living/dining area;

iv) provide a 4.0m^2 minimum landscaped area/planter bed for gardening.

2 The private open space to each dwelling may be provided as a maximum of 2 separate spaces only if the Primary private open space is a minimum 20m^2 in area, and meets all the criteria in 6C.2(1)i-iv. The remaining Secondary private open space is to have a minimum internal dimension of 2m.

3 All private open space area requirements are exclusive of any areas for the provision of services such as fixed drying areas.

Note: Pull out lines are acceptable within the private open space.

4 Ground level private open space (outdoor) is to be differentiated from common areas by:

i) a change in level; and/or

ii) screen planting, such as hedges and low shrubs; and/or

iii) a fence/wall to a maximum height of 1.8m. Any solid wall component is to be a maximum height of 1.2m with at least 30% transparent component above.

5 Where practical, a gate is to be provided between the private open space and common areas to allow access into common areas.

6 Private open space, courtyard and terrace wall and fence heights are not to exceed:

i) 1.2m to any street frontage;

ii) 1.8m to any side or rear boundary, with a maximum 1.2m high solid component and a minimum 30% transparent component above.

7 A water outlet is to be provided within the Primary private open space.

6C.2 PRIVATE OPEN SPACE (continued)

Controls

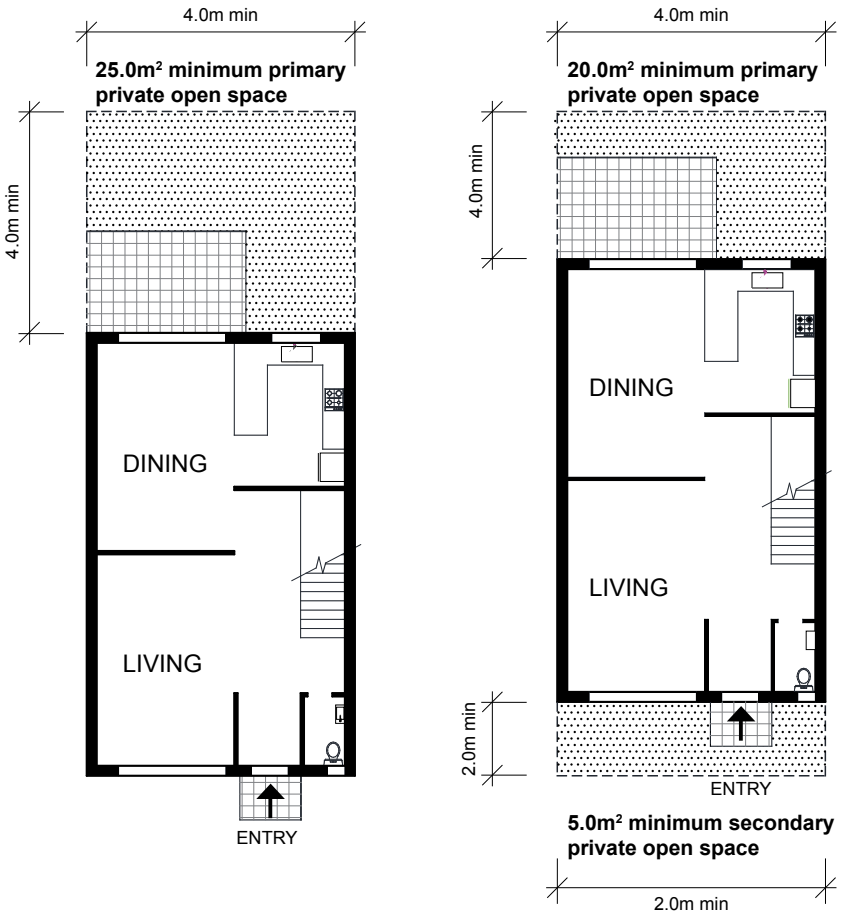

Figure 6C.2-2:
Private open space.

6C.3 SOLAR ACCESS AND DAYLIGHT

Objectives

1 *To provide adequate sunlight to all dwellings.*

2 *To ensure a high level of internal amenity for occupants.*

3 *To provide adequate access to daylight in all habitable rooms.*

4 *To minimise overshadowing of living areas and private and communal open space areas within neighbouring developments.*

5 *To minimise the impact of development on existing solar collection devices.*

6 *To provide adequate shading in summer.*

Controls

1 Buildings are to be oriented to optimise the northern aspect.

2 All dwellings are to receive a minimum of three hours direct sunlight to the living room and/or dining room, and to the Primary private open space between 9am and 3pm on 21st June.

Note: Shadows cast by trees and fences are excluded from this calculation.

Note: Shadows cast by adjacent buildings or those in the vicinity likely to impact the development site are to be included. Where future development is anticipated under existing land-use zones, building envelopes under the relevant controls are to be included.

3 All habitable rooms are to have a window in an external wall that is directly visible from every part of the room. Snorkel windows are not permitted.

Note: Refer to Part 1B.1 for definition of snorkel window.

4 The use of lightwells, skylight, or high level windows as a primary source of daylight in habitable rooms is not permitted.

5 Notches, slots or indents in the perimeter of the building are to be at least as wide as they are deep.

6 All developments are to allow the retention of at least three hours of sunlight between 9am and 3pm on 21st June to the living areas and the private open spaces and communal open spaces of multi-dwelling housing and any low density residential development on adjoining lots.

7 If the proposal will significantly reduce the solar access of existing dwellings on a neighbouring site, building setbacks are to be increased beyond the minimums to reasonably allieviate the impact.

Note: Overshadowing is not to compromise the development potential of the adjoining yet-to-be-developed site(s).

8 Developments are to allow the retention of a minimum of 4 hours direct sunlight between 9am to 3pm on 21st June to all existing neighbouring solar collectors and solar hot water services.

Sun Shading

9 All developments are to utilise shading and glare control. Design solutions include:

i) providing external horizontal shading to north-facing windows, such as eaves, overhangs, pergolas, awnings, colonnades, upper floor balconies, deciduous vegetation;

ii) providing vertical shading to east and west windows, such as sliding screens, adjustable louvres, blinds and shutters;

iii) providing shading to glazed and transparent roofs.

10 All shading devices are to be integrated into the building facade design.

6C.4 NATURAL VENTILATION

Further controls that may apply		
SECTION A **PART 6C.6 -** DwellingDepths, Width and Room Size.		

Objectives

1 *To provide adequate natural cross ventilation to all dwellings.*

2 *To ensure a high level of internal amenity for all occupants.*

3 *To provide adequate access to fresh air for all habitable rooms.*

4 *To provide a high proportion of naturally ventilated kitchens.*

5 *To minimise reliance on mechanical ventilation.*

Controls

1 All dwellings are to have natural cross ventilation. Building designs (plans, sections) are to demonstrate the potential for cross ventilation. Design solutions may include:

i) facilitating cross ventilation by designing narrow dwelling depths;

ii) facilitating convective currents by designing spaces which draw cool air in at lower levels and allow warm air to escape at higher levels;

iii) minimising interruptions in air flow (the more corners or rooms airflow must negotiate, the less effective the natural ventilation);

iv) grouping rooms with similar usage together, for example keeping living spaces together and sleeping spaces together (this allows the dwelling to be compartmentalised for efficient summer cooling or winter heating).

v) Select doors and operable windows to maximise natural ventilation opportunities. Design solutions may include:

- locating small windows on the windward side (facing prevailing winds) and larger windows on the leeward side (away from prevailing winds) of the building thereby utilising air pressure to draw air through the dwellings;
- using higher level casement or sash windows, clerestory windows or operable fanlight windows (including above internal doors) to facilitate convective currents;
- selecting window styles that can funnel breezes into the dwelling such as vertical louvred, casement windows and externally opening doors.

2 All habitable rooms are to have a window or door in an external wall that can be opened and closed for natural ventilation. The use of lightwells, skylights, or high level windows as a primary source of ventilation in habitable rooms is not permitted.

3 At least 25% of all kitchens are to be immediately adjacent to an operable window in an external wall.

4 Notches, slots or indentations cannot be relied upon to achieve natural cross ventilation unless they meet the minimum building separation requirements. Notches, slots or indentations in the perimeter of the building are to be at least as wide as they are deep.

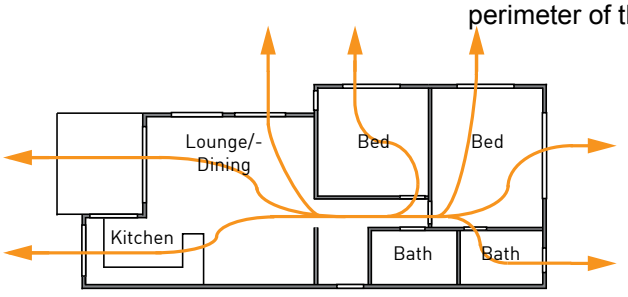

Figure 6C.4-1: Building layout that facilitates cross ventilation.

6C.5 DWELLING MIX AND ACCESSIBILITY

Objectives

1 *To provide dwellings to cater for a range of household types.*

2 *To increase housing diversity and housing choice within Ku-ring-gai.*

3 *To increase the housing choice for seniors, people with disabilities and families.*

4 *To promote flexible housing for all community members and for changing household requirements now and in the future as needs change due to ageing and disability.*

Controls

1 A range of dwelling sizes and a mix of types which includes two, three and four bedroom dwellings are to be provided within the development

Accessible Housing

2 All multi-dwelling housing development is to be designed to Silver Level under the *Livable Housing Design Guidelines*.

3 At least 15% or part thereof, of all multi-dwelling housing are to be designed to Platinum Level under the *Livable Housing Design Guidelines.*

Note: For details on Liveable Housing Design Guidelines refer to www.livablehousingaustralia.org.au.

4 At least 70% of all dwellings are to be visitable.

6C.6 DWELLING PLACEMENT AND ROOM DESIGN

Further controls that may apply		
PART 1B - Dictionary		**SECTION C** **PART 21.1 -** Earthworks and Slope

Objectives

1 *To ensure adequate outlook, daylight access and natural ventilation to all dwellings.*

2 *To minimise on site excavation for multi-dwelling developments.*

3 *To assist in preventing dampness and water ingress into buildings and to enable effective long term maintenance and servicing to all external walls of dwellings.*

4 *To enable pleasant outdoor private open space that has good daylight and ventilation.*

5 *To enable connection and access to common areas from private open areas.*

Controls

Relationship to Ground Line

1 Subterranean rooms are not permitted to any part of the dwelling. The floor level of all rooms is to be located above finished ground level.

Note: Refer to Part 1B Dictionary for the definition of subterranean rooms.

2 No dwellings are to be accommodated as a result of excavation.

Note: Refer to Part 21.1 Earthworks and Slope.

3 No part of any wall used to accommodate any residential dwelling uses, including storage areas inside and outside the dwelling:

i) is to be located below any adjacent ground level;

ii) is to be in direct contact with soil;

iii) is to have any form of tanking, including spaces that act as tanking, separating the dwelling from external ground levels.

Note: Tanking is only acceptable to basement parking levels.

4 Tanking may only be provided to basement parking levels. Where basement storage is located adjacent to external walls, it is to be separated from the tanked wall by an accessible maintenance passage. (*See Figure 6C.6-1*)

5 The internal finished floor level of any part of a ground floor dwelling and/or private open space is not to be more than 0.9m below existing ground level at the building line.

6 Where the internal finished floor level of a ground floor dwelling and/or private open space is not more than 0.9m below the existing ground level at the building line, the ground level adjacent to the building is to be levelled to the finished floor level for a distance of 3.0m from the building line *(see Figure 6C.6-1).*

7 No obstructions, such as retaining walls or fences, are permitted to project beyond a 45˚ control plane, drawn from the finished ground level at the building line. Plants may project beyond the 45˚ control plane *(see Figure 6C.6-1).*

8 Ground floor dwellings are to consider noise attenuation measures where the dwellings may be impacted by adjoining common areas, communal open space and the public domain.

9 Ground and podium level dwellings are to have private outdoor areas differentiated from communal areas. A gate is to be provided from the private open space of each dwelling into common areas where possible.

6C.6 DWELLING AND ROOM DESIGN AND SIZE (continued)

Controls

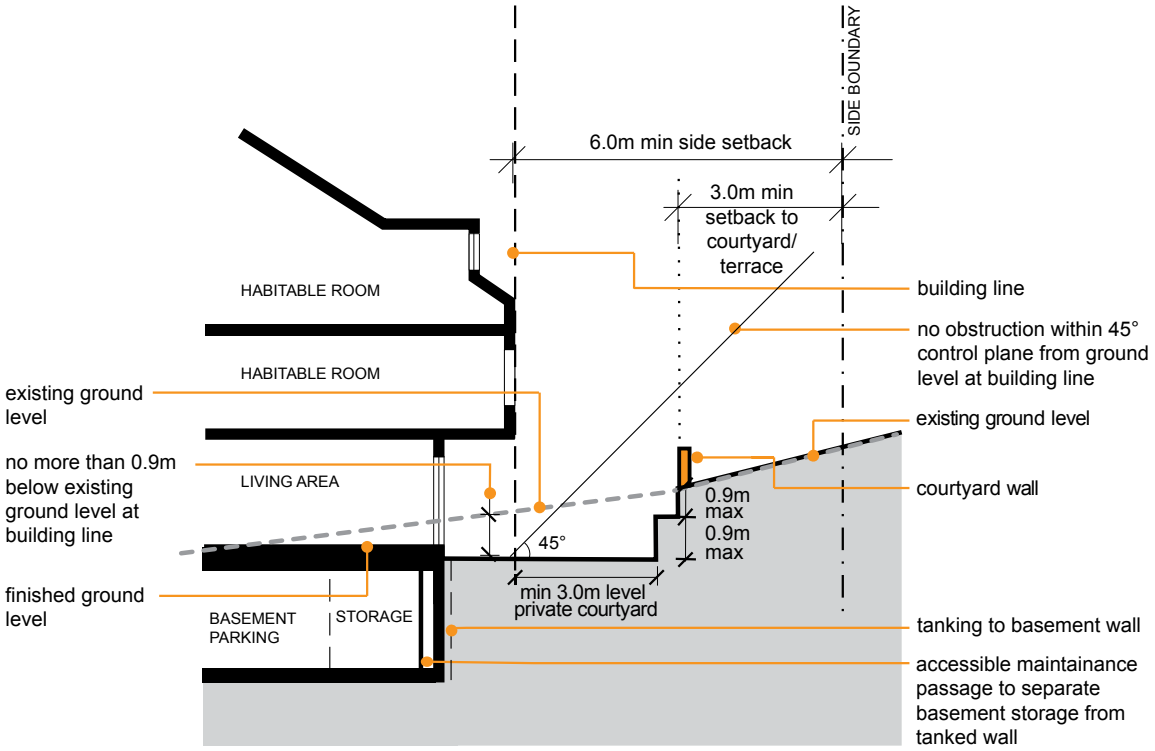

Figure 6C.6-1:
Dwelling relationship to ground line

6 *To provide dwellings with well proportioned and functional rooms of adequate dimension.*

7 *To ensure safety of movement on stairs for all age groups.*

8 *To ensure the provision of separate living, dining and kitchen areas within each dwelling, and generous areas where open plan living is provided.*

9 *To ensure kitchens have adequate areas to facilitate food preparation for the entire household.*

10 *To ensure adequate daylight access and natural ventilation.*

Dwelling and Room Design

10 The maximum habitable room depth is 8.0m from a window in an external wall.

11 The maximum internal plan depth of a dwelling is to be 14.0m from glass line to glass line, as in *Figure 6C.6-2*.

12 The living area is to have a minimum internal plan dimension of 4.0m, as in *Figure 6C.6-2*.

13 The dining area is to have a minimum internal plan dimension of 4.0m, as in *Figure 6C.6-2.*

14 Where living and dining rooms are combined in an open plan, a minimum internal plan dimension of 8.0m is to be provided across both areas, with the secondary plan dimension remaining at 4.0m as in *Figure 6C.6-2* to *Figure 6C.6-4*.

15 Where kitchen areas are included within open plan dining and living areas, the kitchen area and the circulation area for the kitchen is to be separate and excluded from the measurement of living room and dining room area dimensions in 6C.6(14).

16 All bedrooms are to have a minimum internal plan dimension of 3.0m, as in *Figure 6C.6-3*.

17 All minimum internal plan dimensions are exclusive of storage and wardrobe space.

6C.6 DWELLING AND ROOM DESIGN AND SIZE (continued)

Controls

11 To ensure adequate storage in bedrooms.

12 To provide bathing options for a variety of household compositions.

Room Design

18 Dwellings are to provide the following minimum dwelling sizes and bathroom provisions according to the number of bedrooms provided:

Dwelling	Minimum Size (m^2)	Bathrooms
Studio	50	1 bathroom
1 bedroom	70	1 bathroom
2 bedrooms	95	2 bathrooms
3 bedrooms	115	3 bathrooms
4 bedrooms	130	3 bathrooms

20 Built in wardrobes of minimum 0.6m deep and 1.8m long are to be provided to the following:

i) all studio dwellings

ii) all bedrooms in one and two bedroom dwellings;

iii) at least two bedrooms in dwellings of three or more bedrooms.

21 Where more than one bathroom is provided, one bathroom is to be fitted with a bathtub.

22 No winders are to be provided in staircases.

23 All kitchens are to provide a minimum clear workbench surface of 0.6x2.0m. This may be provided as two surfaces of minimum 0.6x1.0m each.

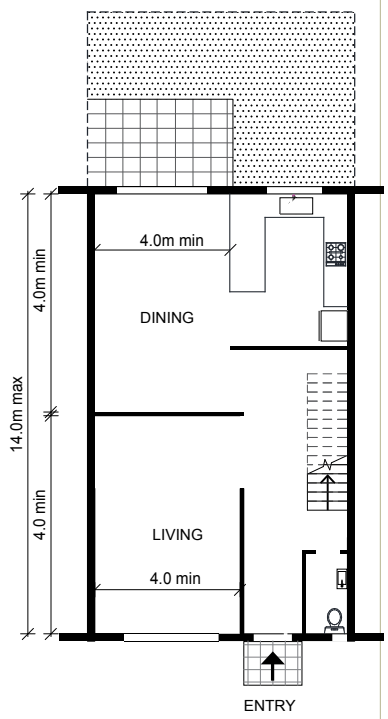

Figure 6C.6-2: Maximum internal plan depth controls.

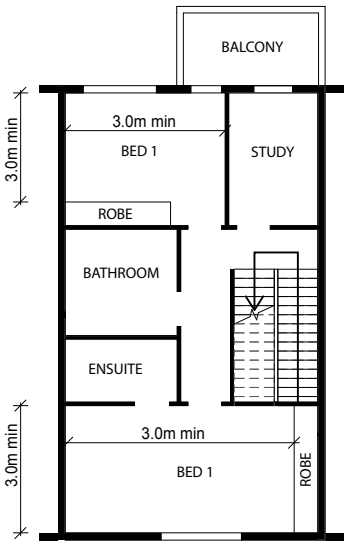

Figure 6C.6-3: Minimum dimension controls for bedrooms - Level 1

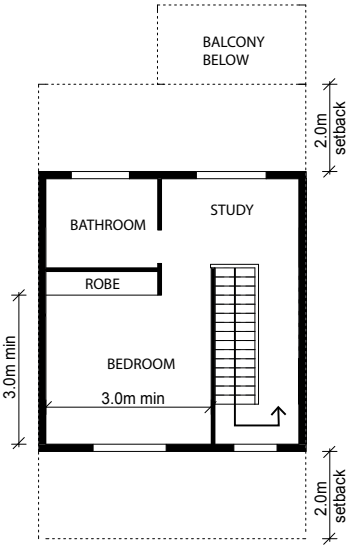

Figure 6C.6-4: Minimum dimension controls for bedrooms - Level 2

6C.7 BUILDING ENTRIES AND INTERNAL PATHWAYS

Further controls that may apply		
SECTION A **PART 6A.2 -** SiteLayout		**SECTION C** **PART 22.1 -** Equitable Access

Objectives

1 *To ensure the site and building entry is clear and provides an identifiable element in the street.*

2 *To ensure the building entry contributes positively to the streetscape and building facade design.*

3 *To ensure dwelling entries are close to and relate to natural ground line at street level and within the site.*

4 *To ensure that a high level of amentiy is provided to pedestrian links within the development.*

5 *To ensure the amenity of adjoining building courtyards is not compromised by pedestrian flow through the site.*

6 *To soften the impact of hard landscaping within the site.*

7 *To ensure all pathways are safe and accessible.*

Controls

1 The entry into the multi-dwelling housing development is to be directly accessible and visible from the street.

2 All ground floor entries to dwellings are to be located no more than 1.0m above natural ground level. Any falls in the ground level are to be acommodated within the design of the dwelling by utilising split levels.

3 Building entry pathways are to be minimum 1.2m wide and located within the common area with a minimum dimension of 1.2m on either side for landscape planting. All other internal pathways are to be minimum 1.2m wide with a minimum dimension of 0.6m on either side for landscape planting.

Note: A building entry path is any path that provides a line of travel from the street, or lift/stair from the carparking, to the front entry of each dwelling.

4 All paths are to provide extra widths to allow effective turning and to allow easy passing between pedestrians.

5 Where any path is included in the side setback, then the setback is to be increased by the width of the path.

6 Provide clear sightlines to the entries of all dwellings. Provide way-finding signs on large development sites comprising multiple buildings.

7 All street and individual dwelling entry areas are to be well lit and designed to avoid any concealment or entrapment areas. All light spill is prohibited.

8 Individual dwelling entries are to be integrated into the building facade design and be articulated with awnings, porticos, recesses or projecting bays for clear identification.

9 All pathways are to be designed to avoid blind corners, dark alcoves and narrow passageways dominated by internal fencing or structures.



Figure 6C.7-1: Entrances to individual townhouses are clearly identifiable with the use of porches/verandahs.

6C.8 BUILDING FACADES AND ARTICULATION

Further controls that may apply		
PART 1B - Dictionary		**SECTION C** **PART 23.5-** General Acoustic Privacy **PART 23.6-** General Visual Privacy

Objectives

1. *To ensure multi-dwelling development does not appear as 3 story residential flat buildings in their shape and structure.*
2. *To create high quality streetscapes of buildings with individual character, diversity and interest.*
3. *Provide an individual identity for each dwelling building.*
4. *To promote well-designed buildings of high architectural quality that contribute to the local character.*
5. *To design building facades that reduce the bulk and scale of the building.*
6. *To create building facades that are environmentally responsive.*
7. *To integrate building elements into the overall building form and facade design.*
8. *To ensure air conditioning and telecommunication devices are concealed and do not detract from or clutter the buildings visual quality.*

Controls

1 Buildings are to express the scale and mass of townhouse and villa development.

2 Building design and finish is to provide a variety of architectural character within the streetscape.

3 All facades are to achieve well-proportioned compositions utilising suitable architectural elements and treatments, including a variety of window openings.

4 All building elevations are not to exceed 36.0m in length.

5 All external walls longer than 14.0m are to be articulated by having a minimum 0.6m step in the building facade alignment (projection or indentation). Facades consisting of a single predominant finish or material and/or limited articulation will not be accepted.

6 All building facades are to be modulated and articulated with wall planes and architectural elements that vary in depth and reduce bulk and scale of the building. Large flat walls, undifferentiated window openings, applied treatments and inarticulated facades will not be accepted. Articulation that is integrated into the building may include:

i) well designed elevations utilising architectural elements to make the buildings unique with changes of material, texture, colour that are integrated into the building;

ii) defining a base, middle and top related to the overall proportions of the building;

iii) expressing internal building layout or structure, such as vertical bays or party walls;

iv) using a variety of window types to create a rhythm or express the building uses;

v) using recessed balconies and deep windows to add visual depth;

vi) sun shading devices to openings.

Note: Facades are to be designed to minimise weathering and ongoing maintenance by selecting appropriate robust materials/finishes; and including appropriate building edge, balcony edge, sill head and parapet detailing that demonstrates protection from prevailing weather and harsh solar aspects.

7 All building elements, including shading devices and awnings, are to be coordinated and integrated into the overall facade design.



Figure 6C.8-1:
Well articulated building facade with the use of balconies. Sun shading devices incorporated into the balcony design for solar access control.

6C.8 BUILDING FACADES AND ARTICULATION (continued)

Controls

9 To provide distinct building articulation on corner sites that reinforce the street intersection.

10 To ensure that building facade design contributes to the safety of the public domain.

8 Air conditioning units are to be located within the basement or within the roof structure of the upper most roof. Air conditioning units are not to be located on the building facade or on top of a flat roof or terrace, or within private or communal open spaces.

9 Telecommunication structures are to be located within roof strucutres or basements and not be visible from any street or public domain area.

10 Balconies that run the full length of the building facade are not permitted.

11 Balconies are not to project more than 1.5m from the outermost wall of the building facade and be integrated into the overall building design and composition of the elevations.

12 Blade walls are not to be the sole element used to articulate the facade.

13 Overhead ducts and services at the basement parking entry are to be concealed and not be visible from the street.

14 Street corners are to be addressed through the use of architectural elements that give visual prominence to parts of the building facade, such as a change in building modulation, material, colour, roof expression or height.

15 Building elevations are not to create snorkel windows to any part of the building.

Note: Refer to Section A Part 1B Dictionary for definition of snorkel window.

6C.9 BUILDING STOREYS

Objectives

1 *To ensure that buildings are responsive to the site.*

2 *To provide for quality dwelling interior spaces and private open space areas.*

3 *To ensure roof articulation, lift overuns and services are incorporated into the allowable building height.*

4 *To ensure additional height is available at the ground level to integrate the relationship of the building with the topography.*

Controls

1 Multi-dwelling housing is to have a maximum of 3 storeys as illustrated in *Figure 6C.9-1.*

Note: The 1st storey is measured from a maximum 1m above the existing ground line.

2 On steep sites, the size of the floor plate is to reflect the topographic constraints. Subterranean dwellings at ground level are not permitted.

Note: Smaller stepping floor plates can assist to negotiate the topography.

3 Attic levels cannot be located above the third storey.

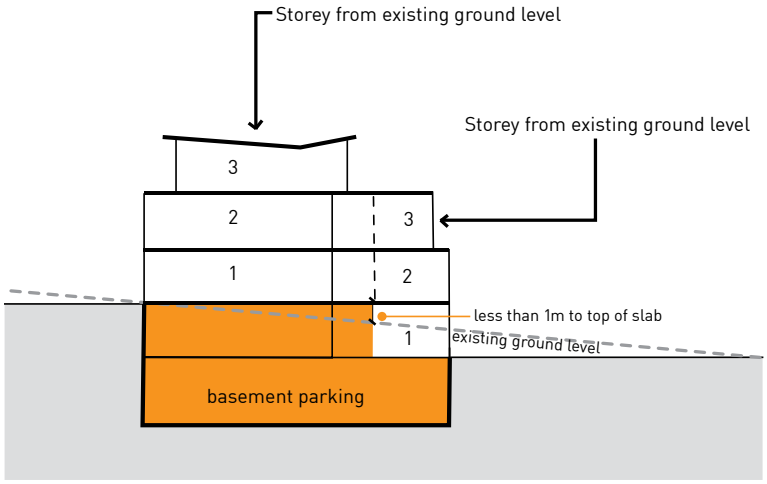

Figure 6C.9-1
Building Storeys

6C.10 TOP STOREY DESIGN AND ROOF FORMS

Objectives

1 *To encourage a scale and character of development that provides a transition between residential flat buildings and single dwellings.*

2 *To minimise the visual bulk of buildings.*

3 *To contribute to the overall design and environmental performance of buildings.*

4 *To ensure multi-dwelling development does not have the appearance of a 3 story residential flat building.*

5 *To manage overlooking and privacy of dwellings and private open spaces within and adjacent to the multi-dwelling housing development.*



Figure 6C.10-1:
Top floor setback with recessive colour scheme to minimise the bulk and scale.



Figure 6C.10-2
Broken roof forms on townhouses

Controls

1 The top storey of the building is to be incorporated into the roof space to make an attic floor level where possible. Where a flat roof is proposed, the design is not to resemble a residential apartment building form.

2 Service elements such as drainage pipes and communication devices are to be integrated into the overall design of the roof and not be visible from the public domain or any surrounding development.

3 Roof design is to enable solar access to openings in winter and shading to openings in summer.

4 Roof forms are to be modulated or broken, especially for long facades *(see Figure 6C.10-2)*.

5 Where solar panels are provided they are to be integrated into the roof line.

6 Balconies and terraces are not permitted above the ground and first floor levels of the building except to the street frontage.

Attic Floor Top Storey

7 Where the top storey is incorporated into the roof space to form attic rooms, dormer windows are to be provided. Skylights to habitable rooms will not be permitted.

8 Dormer windows to attics are to be no higher than the height of the main roof of the building and are not to incorporate or access a balcony or terrace.

Flat Roof Top Storey

9 Where the top storey is not incorporated within the roof form, it is to stepback as follows:

i) a minimum of 2.0m from the front and rear building line of the floor below;

ii) a minimum of 0.6m from the building line of the floor below at the end walls, where the end walls at the top storey has no openings; where end walls have openings, the stepback is to be a minimum of 2.0m from the building line of the floor below;

iii) access to balconies or terraces at the top storey may only be provided to the street elevation.

10 Flat roofs and terraces are not to be used for plant and service equipment, all such equipment is to be concealed within the buildings roof structure and basements.

6C.11 INTERNAL CEILING HEIGHTS

Objectives

1 *To ensure that adequate internal ceiling height is provided.*

2 *To ensure the internal ceiling height is coordinated with external building form requirements.*

3 *To ensure all dwellings are designed to facilitate a 'sense of space' and natural light and ventilation into rooms.*

4 *To ensure all servicing elements are incorporated within the building structure.*

Controls

1 All multi-dwelling housing developments are to comply with the following minimum ceiling heights, measured from finished floor level (FFL) to finished ceiling level (FCL):

   i) 2.7m for all habitable rooms (minimum 3.1m floor to floor height);

   ii) 2.4m for all non-habitable rooms (minimum 2.8m floor to floor height with 0.4m clearance for structure, services and finished).

2 Architectural plans are to indicate service ducts between floors for drainage pipes and building services.

6C.12 VISUAL AND ACOUSTIC PRIVACY

Further controls that may apply		
SECTION A **PART 6A.4 -** Building Separation		**SECTION C** **PART 23.8 -** General Acoustic Privacy **PART 23.9 -** General Visual Privacy

Objectives

1 *To ensure high standards of visual and acoustic privacy to habitable rooms and private open space both within the development and to neighbouring developments.*

2 *To ensure building elements are well designed and integrated into the overall building form.*

Controls

1 Buildings are to be designed to ensure privacy to other onsite dwellings and to neighbouring properties. In addition to design options outlined in Part 23.8 and Part 23.9, design measures may also include:

i) off-setting balconies in relation to adjacent balconies;

ii) using recessed balconies and/or vertical fins between adjacent private balconies;

iii) using louvres/screen panels to windows and balconies;

iv) incorporating planter boxes into walls or balustrades to increase the visual separation between areas;

v) utilising pergolas or shading devices to limit overlooking of lower building levels or common and private open space.

2 Continuous transparent or translucent balustrades to private open spaces are not permitted to balconies/terraces/courtyards.

3 Screening between dwellings is to be integrated into the overall building design.

4 Landscaped screening is to be provided to neighbouring properties.

5 Any screens for achieving visual privacy to habitable rooms cannot be fixed in place and impede their function of the opening to provide daylight, ventilation or outlook from the internal space.



Figure 6C.12-1:
Operable louvres to all balconies to provide enhanced privacy.

6C.13 STORAGE

Further controls that may apply		
		SECTION C **PART 23.7 -** Waste Management **PART 23.9 -** General Visual Privacy

Objectives

1 *To ensure all dwellings have adequate, appropriate, convenient and accessible storage for everyday household items.*

Controls

1 Storage space is to be provided at the following minimum volumes:

i) 10m^3 for two bedroom dwellings; and

ii) 12m^3 for dwellings with three or more bedrooms.

Note: Internal service ducting is not to impact on storage area provisions.

2 At least 50% of the storage space is to be provided within the dwelling.

Note: Storage space within dwellings are to be in the form of cupboards. These cupboards can be located in circulation spaces, living rooms, laundries, flexible spaces (which can also be used as studios/media rooms etc). Storage in kitchens, bedrooms or bathrooms will not count towards this requirement.

Note: Storage within laundries is to exclude the space required to accommodate a washing tub, washing machine and dryer.

3 Storage space provided outside the dwellings within basements and such like, are to be separately allocated and identified as belonging to the relevant dwelling.

4 Storage space outside dwellings is to be provided as dedicated storerooms within the basement adjacent to designated parking bays.

6C.14 EXTERNAL AIR CLOTHES DRYING FACILITIES

Objectives

1 *To maximise the opportunities for sun and wind drying of clothes and reduce the use of electric dryers.*

2 *To provide external air clothes drying areas that do not detract from the visual appearance of the building and common areas.*

Controls

Private drying facilities

1 Provide one external air clothes drying area for each dwelling.

Note: Clothes drying areas do not form part of the required 35m^2 private open space.

2 The external air clothes drying area is not to be located at the street frontage and is to be screened from all public domain areas and common areas.

Shared drying facilities

3 Where shared air clothes drying lines are provided, they are to be located within common areas, but are not to form part of any communal open space and should not be visible from any public domain.

6C.15 FENCING

Objectives

1 *To ensure fencing design responds to the character of the streetscape in terms of:*

- *i) open landscape quality;*
- *ii) visibility and security;*
- *iii) materials selection;*
- *iv) solid or transparent qualities;*
- *v) height;*
- *vi) vertical and horizontal composition of the materials;*
- *vii) location of entries and gates;*
- *viii) noise sources;*
- *ix) topography.*

2 *To ensure that fencing does not detract from the overall visual amenity and character of the area.*

3 *To ensure onsite fencing and courtyard walls are integrated with the built form and provide separation and privacy to private open areas.*

Controls

1 Front boundary fences and walls (to a public street/public domain) and side boundary fences within the street setback are not to be higher than:

- i) 0.9m if of closed construction (such as masonry, lapped and capped timber or brushwood fences); or
- ii) 1.2m if of open construction (such as open paling and picket fences).

Note: Open fencing includes panels set into a timber frame or between brick piers, where any solid base is not taller than 0.9m, and panels are spaced pickets, palings, or lattice.

2 Closed front fences with a maximum height of 1.8m may be considered where the site fronts a busy road or other sources of undesirable noise. These fences are to be set back at least 2.0m from the front boundary and screened by landscaping.

Note: Rendered masonry boundary walls are generally inappropriate to the landscape character of Ku-ring-gai.

3 Fences and walls are to step down and follow the natural contours of the site.

4 Hedges and shrub planting are preferred to the street frontage, but no higher than 1.2m along the entire front boundary, or 1.8m on a site fronting a busy road.

5 All fencing is to be designed to highlight entrances, and be compatible with buildings and letterboxes.

6 External finishes for fencing is to be robust and graffiti resistant.



Figure 6C.15-1:
Open style fencing to maintain visual link with common areas.



Figure 6C.15-2:
Use of hedges as fencing.

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PART 6R

REFERENCES

6R References

6R.1 Design Quality Principles

6R.1 DESIGN QUALITY PRINCIPLES

The following are Design Quality Principles which are to be achieved by all multi-dwelling developments:

Principle 1: Context and neighbourhood character

Good design responds and contributes to its context. Context is the key natural and built features of an area, their relationship and the character they create when combined. It also includes social, economic, health and environmental conditions. Responding to context involves identifying the desirable elements of an area's existing or future character. Well designed buildings respond to and enhance the qualities and identity of the area including the adjacent sites, streetscape and neighbourhood. Consideration of local context is important for all sites, including sites in established areas, those undergoing change or identified for change.

Principle 2: Built form and scale

Good design achieves a scale, bulk and height appropriate to the existing or desired future character of the street and surrounding buildings. Good design also achieves an appropriate built form for a site and the building's purpose in terms of building alignments, proportions, building type, articulation and the manipulation of building elements. Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook.

Principle 3: Density

Good design achieves a high level of amenity for residents and each dwelling, resulting in a density appropriate to the site and its context. Appropriate densities are consistent with the area's existing or projected population. Appropriate densities can be sustained by existing or proposed infrastructure, public transport, access to jobs, community facilities and the environment.

Principle 4: Sustainability

Good design combines positive environmental, social and economic outcomes. Good sustainable design includes use of natural cross ventilation and sunlight for the amenity and liveability of residents and passive thermal design for ventilation, heating and cooling reducing reliance on technology and operation costs. Other elements include recycling and reuse of materials and waste, use of sustainable materials and deep soil zones for groundwater recharge and vegetation.

Principle 5: Landscape

Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in attractive developments with good amenity. A positive image and contextual fit of well designed developments is achieved by contributing to the landscape character of the streetscape and neighbourhood. Good landscape design enhances the development's environmental performance by retaining positive natural features which contribute to the local context, co-ordinating water and soil management, solar access, micro-climate, tree canopy, habitat values and preserving green networks.Good landscape design optimises

6R.1 DESIGN QUALITY PRINCIPLES (continued)

useability, privacy and opportunities for social interaction, equitable access, respect for neighbours' amenity and provides for practical establishment and long term management.

Principle 6: Amenity

Good design positively influences internal and external amenity for residents and neighbours. Achieving good amenity contributes to positive living environments and resident well being. Good amenity combines appropriate room dimensions and shapes, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas and ease of access for all age groups and degrees of mobility.

Principle 7: Safety

Good design optimises safety and security within the development and the public domain. It provides for quality public and private spaces that are clearly defined and fit for the intended purpose. Opportunities to maximise passive surveillance of public and communal areas promote safety.A positive relationship between public and private spaces is achieved through clearly defined secure access points and well lit and visible areas that are easily maintained and appropriate to the location and purpose.

Principle 8: Housing diversity and social interaction

Good design achieves a mix of dwelling sizes, providing housing choice for different demographics, living needs and household budgets. Well designed developments respond to social context by providing housing and facilities to suit the existing and future social mix. Good design involves practical and flexible features, including different types of communal spaces for a broad range of people and providing opportunities for social interaction among residents.

Principle 9: Aesthetics

Good design achieves a built form that has good proportions and a balanced composition of elements, reflecting the internal layout and structure. Good design uses a variety of materials, colours and textures. The visual appearance of a well designed development responds to the existing or future local context, particularly desirable elements and repetitions of the streetscape.

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PART 7

RESIDENTIAL FLAT BUILDINGS

Introduction

7A Site Design

7A.1 Local Character and Streetscape

7A.2 Site Layout

7A.3 Building Setbacks

7A.4 Building Separation

7A.5 Site Coverage

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7B Access and Parking

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7C Building Design and Sustainability

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7C.3 Ground Floor Apartments

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INTRODUCTION

The objectives and controls in this Part guide development for residential flat buildings in meeting the aims and objectives within the KLEP (Local Centres) 2012.

Residential flat buildings, as defined in the KLEP (Local Centres) 2012, may be located within the R4 High Density Residential and R1 General Residential zones.

The development of residential flat buildings in the B4 Mixed Use zone is covered by this Part of the DCP.

Where a development only involves refurbishment works or alterations/ additions to existing buildings, new elements are to meet the requirements of this Part.

Where residential uses are provided to any part of the ground floor street frontage within a B4 Mixed Use zone, then the development is to be treated as a Residential Flat Building and meet the standards of this Part.

SEPP 65 Design Quality of Residential Apartment Development (Schedule 1) stipulates nine design quality principles which are to be achieved by residential flat developments. These are as follows:

i) Principle 1: Context and neighbourhood character

ii) Principle 2: Built form and scale

iii) Principle 3: Density

iv) Principle 4: Sustainability

v) Principle 5: Landscape

vi) Principle 6: Amenity

vii) Principle 7: Safety

viii) Principle 8: Housing diversity and social interaction

ix) Principle 9: Aesthetics

In addition, the following aspects of residential flat building development are to be consistent under *SEPP 65* and the associated sections of the *Apartment Design Guide:* visual privacy, solar and daylight access, natural ventilation, ceiling heights, apartment size and layout, private open space and balconies, common circulation and spaces, and storage.

INTRODUCTION (continued)

The aims of this Part are to:

i) Ensure that development is in keeping with the garden character of Ku-ring-gai where the tree canopy dominates the landscape by making provision for quality deep soil landscaping, including: tall trees to the streetscape; in-between and to all elevations of buildings on the development site; inbetween buildings on the development site and on adjacent sites.

ii) Encourage development which does not dominate, but harmonises with and contributes to the treed landscape and is sympathetic to the street and locality in which it is proposed.

iii) Ensure that with each development sufficient landscaping is provided to contribute to the conservation and replenishment of the tree canopy of Ku-ring-gai, including locally occurring native tree species suited to the site.

iv) Protect and minimise the impact of development on adjoining properties

v) Protect and minimise the impact of development on the natural environment

vi) Ensure development that minimises the depletion of raw materials and non-renewable resources

vii) Ensure that development meets the needs of the present without compromising the ability of future generations to meet their own need.

viii) Encourage housing of the highest possible architectural, environmental and amenity standards.

ix) Manage residential development in a way that embraces innovative design and contemporary lifestyles

x) Ensure that there are more certain outcomes for applicants and the community.

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7A Site Design

7A.1 Local Character and Streetscape

7A.2 Site Layout

7A.3 Building Setback

7A.4 Building Separation

7A.5 Site Coverage

7A.6 Deep Soil Landscaping

READ WITH
SECTION A **PART 1B** - Dictionary **PART 2 -** Site Analysis **PART 3 -** Land Amalgamation and Subdivision
SECTION B **PART 14 -** Urban Precinct and Sites
SECTION C **PART 21 -** General Site Design **21.2** - Landscape Design

REFER TO
LIVABLE HOUSING DESIGN GUIDELINES

REFER TO
SEPP 65 APARTMENT DESIGN GUIDE

7A.1 LOCAL CHARACTER AND STREETSCAPE

Further controls that may apply:		
SECTION A **PART 2 –** Site Analysis		**SECTION C** **PART 21 –** General Site Design

Objectives

1 *To improve the design quality of residential flat buildings.*

2 *To ensure that the development contributes to the greater Ku-ring-gai landscaped character of buildings within a landscaped garden setting and surrounded by canopy trees.*

3 *To ensure the development is sensitive to, and conserves and enhances the existing built environment, landscape setting, environmental conditions and established character of the street and locality with particular reference to integration of.*

i) *architectural themes;*

ii) *building scale and setbacks; and*

iii) *landscape themes.*

4 *To ensure development provides a positive contribution to the public domain and all areas shared by the community.*

5 *To ensure that the visual, scenic and environmental qualities on visually prominent sites are maintained.*

Controls

1 All Residential Flat Buildings are to be designed by an architect registered with the NSW Architects Registration Board.

2 All residential flat buildings are to demonstrate how they provide a garden setting with buildings surrounded by landscaped gardens, including canopy trees, on all sides.

3 Design components of new development are to be based on the existing predominant and high quality characteristics of the local neighbourhood.

4 The appearance of the development is to maintain the local visual character by considering the following elements:

i) visibility of on-site development when viewed from the street, public reserves and adjacent properties; and

ii) relationship to the scale, layout and character of the tree dominated streetscape of Ku-ring-gai.

5 The predominant and high quality characteristics of the local neighbourhood are to be identified and considered as part of the site analysis at Part 2 of the DCP.

Note: Local character and streetscape is created by many features including, but not limited to: kerbs, setbacks, footpath treatment, building separation and spaces between buildings, access arrangements, street tree planting, tall tree canopy backdrop to the horizon, native vegetation and gardens, topography, site and street geometry, as well the architecture.



Figure 7A.1-1:
Qualities of visual character

7A.1 LOCAL CHARACTER AND STREETSCAPE (continued)

Controls

6 Development is to integrate with surrounding sites by:

i) being of an appropriate scale retaining consistency with the surrounds when viewed from the street, public domain or adjoining development;

ii) minimising overshadowing; and

iii) integrating built form and soft landscaping (gardens and trees) within the tree canopy that links the public and private domain throughout Ku-ring-gai.

Visually Prominent Sites

7 Development on visually prominent sites is to:

i) be of high architectural and aesthetic quality;

ii) be integrated into the existing landscape through the site planning process and avoid tall and bulky structures;

iii) have a selection of external colours and finishes that are sensitive to the site and locality;

iv) retain significant landscape and vegetation elements;

v) consider views to the site as well as those from the site; and

vi) soften visual impact by extensive landscaping including larger trees and shrubs.

Note: Refer to Part 1B Dictionary for definition of *Visually Prominent Site.*

8 Colours of materials used in sites adjoining or in close proximity to bushland areas and Heritage Conservation Areas are to be in harmony with the built and natural landscape elements of the area.



Figure 7A.1-2: Qualities of visual character

7A.2 SITE LAYOUT

Further controls that may apply		
SECTION A **PART 2 -** Site Analysis	**SECTION B** **PART 20 -** Development Near Rail Corridors and Busy Roads	**SECTION C** **PART 21**- General Site Design **PART 23.8 -** General Acoustic Privacy

Objectives

1 *To ensure fundamental design decisions are appropriate to the site.*

2 *To ensure detailed design decisions are founded on an appropriate site strategy determined through site analysis.*

3 *To ensure that site planning for residential flat buildings responds to site attributes such as streetscape, character, existing vegetation and topography and address site opportunities and constraints.*

4 *To ensure high impact elements such as noise sources are considered early in the design stage*

5 *To soften built forms through use of soft landscaping.*

6 *To achieve a high standard of amenity for future residents.*

7 *To minimise impacts on the amenity of neighbouring sites.*

8 *To reduced the appearance of building mass and scale.*

9 *To ensure driveways blend into a landscaped setting and are not a dominant feature of the development*

10 *To ensure provision of a clear and legible address for the development.*

Controls

1 The site layout is to demonstrate a clear and appropriate design strategy and arrangement of building mass in response to the Site Analysis in Part 2 Site Analysis of this DCP. Demonstration of design strategies to address opportunities and constraints based on Site Analysis are to include:

   i) building location and orientation on the site optimising northern aspect; relationship with neighbouring developments; building setbacks; geographical aspect; views; access etc;

   ii) response of building development in maintaining site characteristics within the subject site, such as topography, vegetation, significant trees, any special features, etc.

   iii) building separation and internal layouts of buildings that respond to (i) above and be consistent with the requirements of the DCP.

   iv) limited apartments with no direct sunlight.

2 A drawing and supporting written information is to demonstrate how the building and its layout has applied and responded to the site analysis conducted in Part 2 of this DCP.

3 For requirements on development near noise sources refer to Section B Part 20 Development Near Rail Corridors and Busy Roads in this DCP.

4 Any building with a frontage to the street is to address that street.

5 Where a site has two or more frontages, the buildings are to address and provide building entry points from all street frontages.

6 Soft landscaping, including canopy trees, is to be provided between onsite buildings, fences and courtyard walls.

7 Hard landscaping is to be minimised and to maximise opportunities for landscape planting.

8 Long straight driveways are not permitted, except where necessary for battle-axe sites. Driveways are to be designed to be of minimal visual impact.

9 Provide a single pedestrian entry point into the development from the street. Other entries may be permitted where several buildings address the street along an extended street or where there are dual frontage sites.

7A.2 SITE LAYOUT (continued)

Objectives

11 To provide safe and continuous pathway from the street to the ground floor entry point of the apartment building.

12 To ensure buildings address the public domain and give direct access from all street frontages: primary, secondary and any other streets to the boundary line of the development.

13 To minimise the negative impact of overshadowing on living areas and private and communal open space areas of neighbouring buildings.

14 To minimise the impact of development on existing solar collection devices.

Controls

10 Three hours of direct sunlight between 9am and 3pm on 21st June is to be maintained to the living rooms, primary private open spaces and any communal open spaces within:

i) existing residential flat buildings and multi-dwelling housing on adjoining lots;

ii) residential development in adjoining lower density zones.

Note: Where an adjoining property does not currently recieve the required hours of solar access, the proposed building is to ensure that solar access to neighbours is not reduced by more than 20%.

11 Overshadowing should not compromise the development potential of the adjoining yet to be redeveloped sites.

12 Developments are to allow the retention of a minimum of 4 hours direct sunlight between 9am to 3pm on 21st June to all existing solar collectors and solar hot water services on neighbouring buildings.

7A.3 BUILDING SETBACKS

Further controls that may apply		
SECTION A **PART 1B -** Definitions **PART 7A.6 -** Deep Soil Landscaping	**SECTION B** **PART 14 -** Urban Precinct and Sites	

Objectives

1 *To ensure buildings are situated within a garden setting dominated by canopy trees.*

2 *To soften the built form and maintain the garden character of Ku-ring-gai.*

3 *To provide effective deep soil areas that are able to create a garden setting, including substantial trees and canopy, to all sides of the building.*

4 *To reduce the visual bulk of buildings from the street.*



Figure 7A.3-6:
Landscaped street setback to provide effective softening..

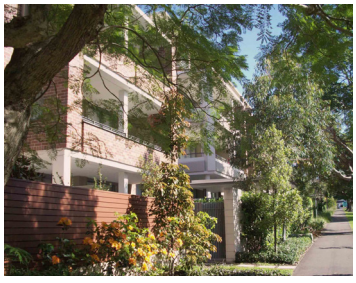


Figure 7A.3-7:
Smaller landscaped street setback with upper level setback for development near the commercial core area.

Controls

Street setback

1 Residential flat buildings are to meet the following street setback requirements (see Figure 7A.3-1):

i) 10.0m from the street boundary;

ii) on corner sites, or sites with multiple street frontages, the street boundary setback in 1(i) above applies on all street frontages.

Note: Greater setbacks may be required where the site has significant existing trees.

2 Residential flat buildings on the sites identified in Part 14 Urban Precincts and Sites of this DCP are to meet the following street setback requirements:

i) street setbacks as specified in the Building Setback maps in Part 14 Urban Precincts and Sites of this DCP;

ii) a minimum of 8.0m from the street boundary to the fourth storey and above;

iii) on corner sites, or sites with multiple street frontages, the street boundary setback in 2(ii) above applies on all street frontages.

3 Residential flat buildings are to provide a 2.0m articulation zone behind the street setback, and no more than 40% of this zone (in plan) is to be occupied by the building (see Figure 7A.3-1).

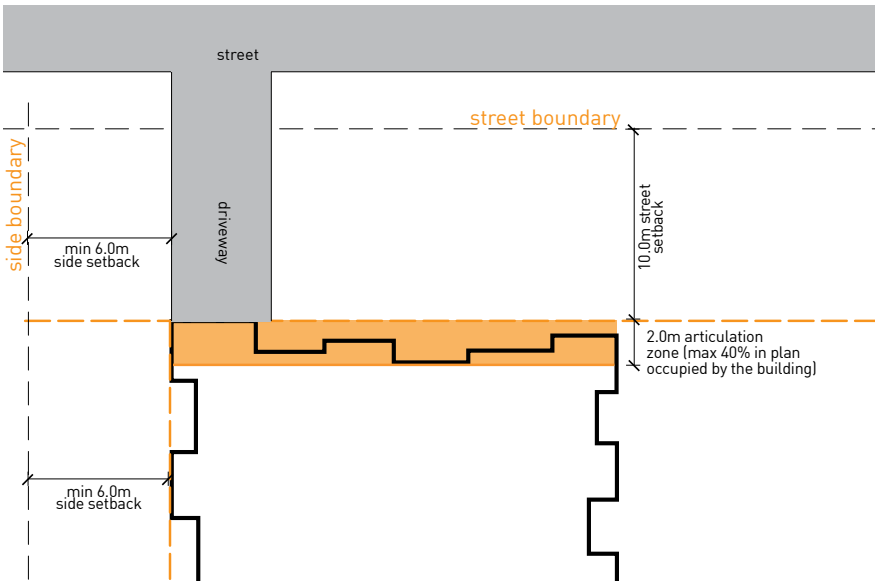


Figure 7A.3-1: Setback and articulation zone controls.

7A.3 BUILDING SETBACKS (continued)

Objectives

5 To maintain the alignment and rhythm of the built form on the street.

6 To ensure driveways do not compromise the landscape setting or neighbouring amenity.

7 To ensure adequate separation space between neighbouring sites to enable effective deep soil landscaping and tree planting which enhances the Ku-ring-gai landscape character.

8 To ensure that building separation distances are met on smaller sites.

9 To provide a transition to adjoining sites zoned differently for lower density residential development.

10 To ensure building setbacks at all levels respond to site conditions, and the local topography.

11 To ensure side and rear setbacks allow for deep soil landscaping including substantial trees that are able to screen blank facades and facades with openings to non-habitable rooms and service areas.

12 To ensure common area is retained to all boundaries, and that they are viable for deep soil landscaping.

13 To minimise bulk and scale impacts on neighbouring development.

Controls

4 The building line to any street is to be parallel to the prevailing building line in the streetscape. For angled sites, a stepped façade may be appropriate (see Figure 7A.3-2).

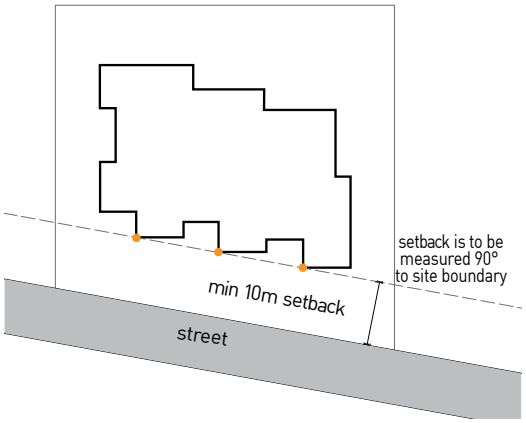


Figure 7A.3-2:
Setback controls on angled sites.

Side and Rear setbacks

5 Residential flat buildings are to meet the following side setback requirements to ensure deep soil, landscaping and canopy trees are accommodated to all sides of the building:

i) a minimum of 6m from the side boundary for all levels up to the fourth storey (see Figure 7A.3-3);

ii) a minimum of 9m to the fifth storey and above (see Figure 7A.3-3).

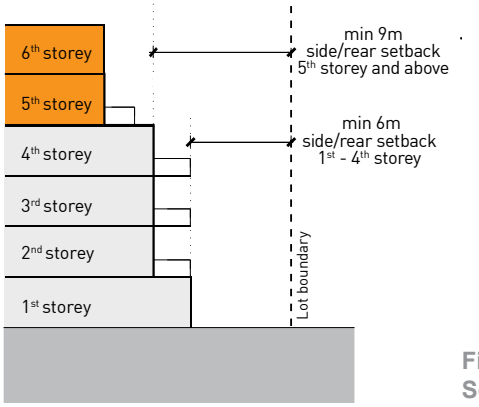


Figure 7A.3-3:
Setback controls on side & rear.

6 For buildings of 3 storeys or less on sites less than 1800m^2, a minimum of 3m from the side boundary may be provided, however Building Separation requirements are to be met as stated in Part 7A.4.

14 To ensure setback areas limit elements that compromise deep soil planting and growth of canopy trees.

15 To ensure that new development is of a scale that supports the desired area character with appropriate massing and spaces between buildings.

16 To protect existing trees.

Controls

7 Side setback areas behind the building line are not to be used for driveways or for vehicular access into the building (see Figure 7A.3-1).

8 Driveways are to be set back a minimum of 6m from the side boundary within the street setback to allow for deep soil planting (see *Figure 7A.3-1*).

Side and rear setbacks at a zone interface

9 Setbacks are to respond to the attributes identified in the site analysis, conducted as required by Section A Part 2 Site Analysis of this DCP, including consideration of the location of adjoining buildings and views of the site.

10 Residential flat buildings are to provide the following side and rear setbacks to land which is zoned differently for lower density residential development:

i) a minimum of 9m from the side and rear boundary up to the fourth storey (see *Figure 7A.3-4)*;

ii) a minimum of 12m from the side and rear boundary for the fifth storey and above (see *Figure 7A.3-4)*;

iii) greater setbacks may be required where the residential flat building is located upslope from a lower density zone (see *Figure 7A.3-5)*

Encroachments

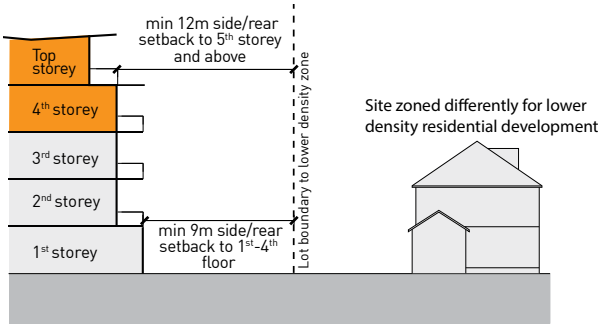


Figure 7A.3-4:
Sites adjoining lower density zones

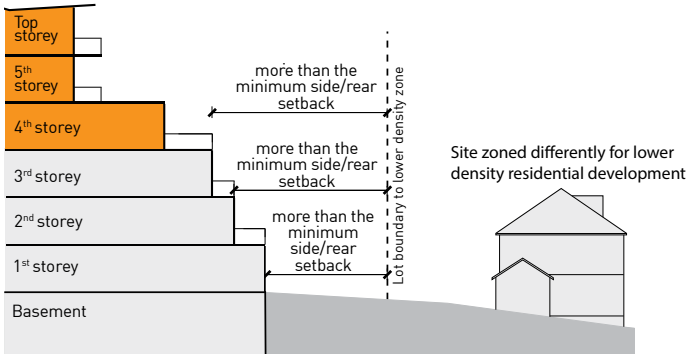


Figure 7A.3-5:
On steep sites adjoining lower density zones, setbacks may need to be more generous.

7A.3 BUILDING SETBACKS (continued)

Controls

11 Basements are not to encroach into the street, side and rear setbacks.

12 Ground floor private terraces/courtyards may encroach into the setback areas (see Figure 7A.3-6) provided there is a minimum setback to the terrace edge/courtyard wall of:

i) 8m from the street boundary;

ii) 4m from the side and rear boundaries;

iii) 7m from the side and rear boundaries where adjoining land is zoned differently for lower density residential development.

13 On sites less than 1800m^2 no encroachments into the setback areas is permitted.

14 No encroachments are permitted where minimum setbacks have not been achieved.

15 No more than 15% of the total area of the street setback area is to

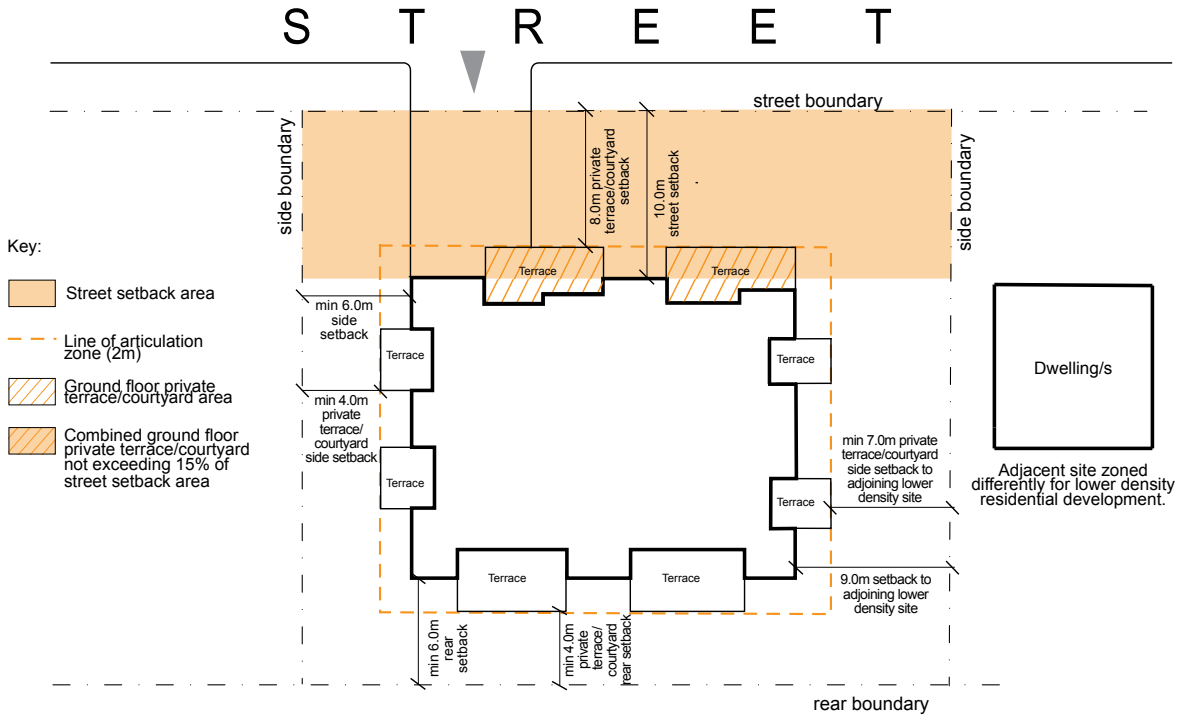


Figure 7A.3-6:
Setback controls for ground floor private terrace/courtyard and controls for ground floor terrace area encroachment to the street setback area.

be occupied by private terraces/courtyards (see Figure 7A.2-3).

16 In addition to the above encroachments, the following elements may encroach into the setback areas where they do not increase the apparent bulk of the building or create visual clutter:

i) eaves;

ii) open pergolas;

iii) blades, fins, columns.

7A.4 BUILDING SEPARATION

Further controls that may apply		
SECTION A **PART 1B -** Dictionary	**SECTION B** **PART 14 -** Urban Precinct and Sites	

Objectives

1 *To provide deep soil areas capable of supporting large canopy trees in between buildings on the same development site so the Ku-ring-gai garden and tree canopy character is enhanced.*

2 *To ensure that new development scaling, massing and spaces between buildings support the desired area character.*

3 *To configure buildings that facilitate the provision of useable communal open space, private open space and landscape area.*

4 *To maximise view sharing and view corridors into landscaped gardens inbetween the buildings onsite, and within the setback areas.*

Controls

1 Residential buildings on the same development site are to include areas of deep soil in between the building that are capable of housing substantial vegetation and large canopy trees.

2 The minimum separation between residential buildings on the development site is to comply with the following controls:

Up to 4th Storey

i) 12.0m between habitable rooms/balconies;

ii) 9.0m between habitable rooms/balconies and non-habitable rooms;

iii) 6.0m between non-habitable rooms.

5th Storey and above

iv) 18.0m between habitable rooms/balconies;

v) 13.5m between habitable rooms/balconies and non-habitable rooms;

vi) 9.0m between non-habitable rooms.

3 Buildings are to be located so that apartments benefit from views into and through onsite landscaped gardens.

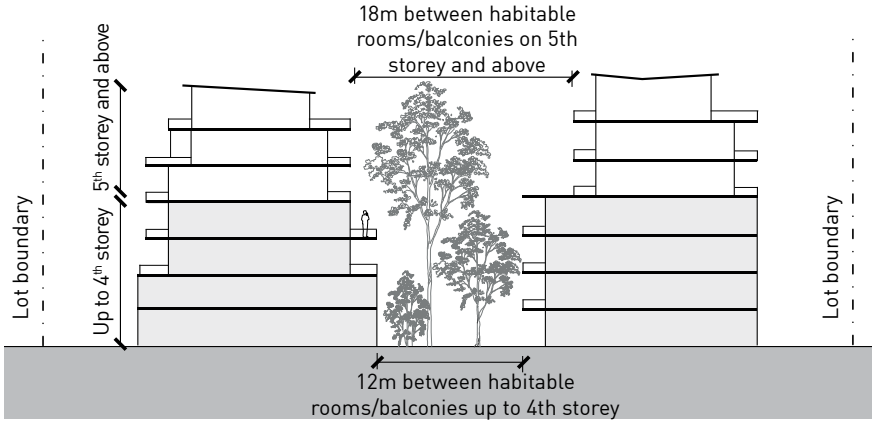


Figure 7A.4-1:
Minimum building separation controls.

7A.5 SITE COVERAGE

Further controls that may apply		
SECTION A **PART 1B-** Dictionary	**SECTION B** **PART 14 -** Urban Precinct and Sites	

Objectives

1 *To ensure development is consistent with the desired future landscape and built character of the area.*

2 *To protect and improve the tree canopy within Ku-ring-gai.*

3 *To provide viable deep soil landscaping within developments and between residential developments on neighbouring sites.*

4 *To minimise impervious surfaces that generate stormwater runoff.*

5 *To provide adequate spaces between buildings for common areas that support quality gardens around the building.*

Controls

1 The site coverage may be up to a maximum of 30% of the site area, provided that the deep soil landscaping requirements in Section A Part 7A.6 Deep Soil Landscaping can be met.

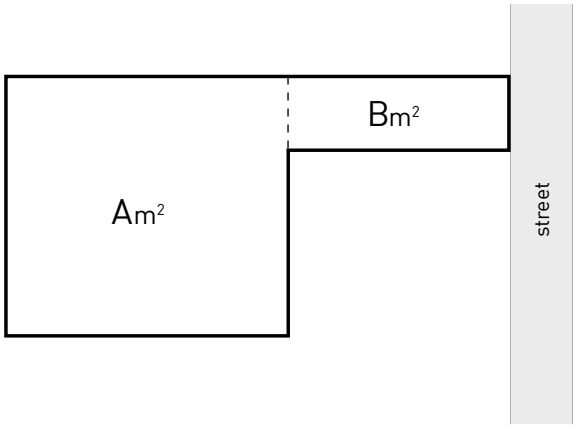
Note: Site coverage is not the inverse of deep soil landscaping. Refer to Part 1B Dictionary for clarification of site coverage.

Note: Certain sites in B2 and B4 zones have reduced maximum site coverage. Refer to Section B Part 14 Urban Precincts and Sites.

2 Where a site incorporates an access handle/s, the site coverage is not to exceed 30% of the total site area less 30% of the access handle/s (refer to *Figure 7A.5-1).*

Note: The definition of 'site coverage' uses a calculation of the 'site area'. 'Site area in KLEP (Local Centres) 2015 states in part:

'...does not include the area of any land on which development is not permitted to be carried out under this Plan.'.



Maximum site coverage = [(A+B) x 30%]m^2 - (B x 30%]m^2

Note: This is equivalent to [A x 30%]m^2

Figure 7A.5-1:
Site coverage controls for Residential Flat Buildings

7A.6 DEEP SOIL LANDSCAPING

Further controls that may apply		
SECTION A **PART 1B.1 -** Dictionary	**SECTION B** **PART 14 -** Urban Precinct and Sites	**SECTION C** **PART 21.2 -** Landscape Design

Objectives

1 *To ensure landscape areas contribute to the garden character and canopy of the Ku-ring-gai locality.*

2 *To provide consolidated deep soil zones of adequate area in all residential development sites through quality planning and building design.*

3 *To provide landscaped areas that are appropriate to the scale and context of the development.*

4 *To retain areas that provide habitat for native indigenous plants and animals and contributes to biodiversity in the area.*

5 *To create high quality landscaped areas through retention and/or planting of large and medium sized trees particularly at the street frontage.*

6 *To ensure that deep soil landscaping is within common areas.*

7 *To ensure spaces between buildings provide deep soil landscaping that can sustain large trees that contribute to Ku-ring-gai's garden character.*

8 *To ensure that deep soil is provided to allow infiltration of rain water to the water table and to reduce stormwater runoff.*

Controls

Design

1 Residential flat development is to have a minimum deep soil landscaping area as follows:

Site Area	Minimum Deep Soil Landscaping
Less than 1800 m^2	40% of the site
1800 m^2 or more	50% of the site

Note: For the purpose of this section, the site excludes any access handle.

Note: Certian sites in the B2 and B4 zones have a reduced maximum deep soil landscaping area. Refer to Section B Part 14 Urban Precinct and Sites.

2 Deep soil zones are to be configured to retain healthy and significant trees on the site and adjoining sites, where possible.

3 Deep soil zones are to be configured to allow for required tree planting including tall canopy tree planting and garden and screen planting at front, side and rear boundaries.

4 Deep soil landscaping is to be provided in the common areas as a buffer between buildings that softens the bulk and scale of the buildings.

5 Driveways are not to dominate the street setback area. Deep soil landscaping areas in the street setback are to be maximised.

6 Where the site has an access handle, deep soil calculation is to exclude that access handle.

Tree Replenishment and Planting

7 Lots with the following sizes are to support a minimum number of tall trees capable of attaining a mature height of at least 18m on shale, transitional soils and 15m on sandstone derived soils.

Lot Size	Number of Tall Trees
1,200m^2 (or less)	1 per 400m^2 of site area or part thereof
1,201m^2 - 1,800m^2	1 per 350m^2 of site area or part thereof
1,801m^2 +	1 per 300m^2 of site area or part thereof

8 In addition to the tall trees, a range of medium trees, small trees and shrubs are to be selected to ensure that vegetation softens the building form and creates a garden setting. At least 50% of all tree plantings are to be locally occurring trees and spread around the site.

Note: Refer to Section A Part 1B Dictionary for definition of common area.

7A.6 DEEP SOIL LANDSCAPING (continued)

Controls

9 Trees are to be planted within all setback areas. At least 30% of the required number of tall trees are to be planted within the front setback.



Figure 7A.6-1:
Landscape design for the communal open space area.

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7B Access and Parking

7B.1 Car Parking Provision

7B.2 Bicycle Parking Provision

READ WITH
SECTION C **PART 22 -** General Access and Parking 22.3: Basement Parking 22.4: Visitor Parking Design 22.6: Pedestrian Movement within Car Parks 22.7: Bicycle Parking and Facilities 22R.1: Car Parking Rates

REFER TO
LIVABLE HOUSING DESIGN GUIDELINES

REFER TO
SEPP 65 APARTMENT DESIGN GUIDE

7B.1 CAR PARKING PROVISION

Further controls that may apply		
		SECTION C **PART 22 -** General Access and Parking **PART 22.3 -** Basement Parking **PART 22.4 -** Visitor Parking **PART 22.6 -** Pedestrian Movement within Car Park **PART 22R.1 -** Car Parking Rates

Objectives

1 *To locate and design car parking which is integrated with the site and building design and which does not increase the bulk and scale of the building.*

2 *To ensure car parking does not detract from the landscape character of Ku-ring-gai and supports the garden setting of the residential flat building.*

3 *To ensure car parking does not compromise deep soil landscaping provisions.*

4 *To provide adequate car parking for the development's residents and visitors.*

5 *To ensure saftey and convenience for all vehicle users and pedestrians within the car park areas.*

6 *To ensure provision of suitable clearance and manoeuvrability for service vehicles.*

7 *To provide adequate accessible parking.*

Controls

Car parking design

1 All residential flat developments are to provide on-site car parking within basements.

2 Basement car park areas are to be consolidated under building footprints.

3 The use of single lane tunnels and single lane spiral ramps is not permitted. Double lane spiral ramps may be allowed where there are no other options, but can only link a maximum of 2 floor levels.

4 The basement car park is not to project more than 1.0m above existing ground level.

Note: Basements greater than 1m above the natural existing ground level are counted as a storey for the purposes of this DCP and will be included in the floor space ratio calculation as well as any control based on the number of storeys.

5 Single lane aisles, straight ramps and tunnels are to be a maximum of 12.0m in length.

6 Direct and continuous internal pedestrian access from basement car parks is to be provided to each level of the building.

7 Car park entry is to be integrated within the building and located behind the building line.

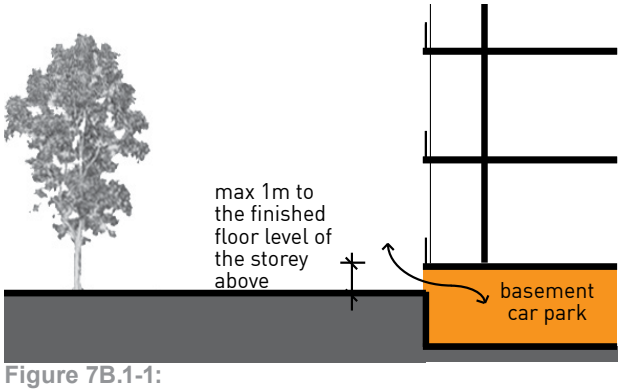

Figure 7B.1-1:
Controls for basement car park projection above existing ground level.

7B.1 CAR PARKING PROVISION (continued)

Controls

8 Car parking design is to be in accordance with requirements for Silver and Platinum Level dwellings as required in this DCP and by the *Livable Housing Guidelines*. Circulation areas, roadways and ramps are to comply with AS2890.1. Where a conflict occurs, the *Livable Housing Guidelines 2012* is to take precedence.

Note: Refer to *Livable Housing Guidelines* at *http://www.livablehousingaustralia.org.au/*

Car parking rates

9 The following parking ranges apply to residential flat developments on sites within 400m walking distance of a railway station entry:

Apartment Size	Minimum number of parking spaces per dwelling	Maximum number of parking spaces per dwelling
Studio	0 spaces	0.5 spaces
One bedroom	0.6 spaces	1 space
Two bedrooms	1.0 space	1.25 spaces
Three or more bedrooms	1.4 spaces	2 spaces

10 For all other locations, car parking is to be provided in accordance with the parking rates in Section C Part 22R.1 Car Parking Rates.

Note: Any spaces provided which exceed the upper range will be included as gross floor area.

Note: A Traffic Impact Assessment is to accompany Development Applications that seek to vary the parking rates. This includes commercial or strata funded car share schemes in lieu of parking spaces.

11 At least one visitor car space is to be accessible and be provided within the site for every 6 apartments or part thereof.

12 At least one visitor parking space is to comply with the dimensional and locational requirements of *AS2890.6*.

13 One visitor parking bay is to be provided with a tap, to make provision for on-site car washing.

14 A clearly signposted parking bay for temporary parking of service and removalist vehicles is to be provided. The space is to have the following standards:

i) a minimum dimension of 3.5m x 6m;

ii) a minimum manoeuvring area 7m wide.

Note: Where a separate space can not be provided, one of the visitor spaces may be used as the service/removalist parking spaces provided it meets the dimensions stated in 13(i) and 13(ii) above.

15 At least one car share space is to be provided.

Note: any proposed reduction in car parking on the basis of providing car share space/s is to be justified by the proponent through supporting studies.

7B.2 BICYCLE PARKING PROVISION

Further controls that may apply		
		SECTION C **PART 22.7 -** Bicycle Parking and Facilities

Objectives

1 *To provide adequate bicycle parking that is safe and easily accessible.*

2 *To encourage the use of bicycles.*

Controls

1 Provide on-site, secure bicycle parking spaces and storage at the following rates:

i) 1 bicycle parking space per 5 units or part thereof for residents within the residential car park area; and

ii) 1 bicycle parking space (in the form of a bicycle rail) per 10 units for visitors in the visitor car park area.

2 All on-site bicycle parking spaces and storage are to be designed to AS2890.3.

7C Building Design and Sustainability

7C.1 SEPP 65 and Apartment Design Guide Requirements
7C.2 Communal Open Space
7C.3 Ground Floor Apartments
7C.4 Apartment Mix
7C.5 Building Entries
7C.6 Building Form and Facades
7C.7 Building Storeys
7C.8 Top Storey Design and Roof Forms
7C.9 Laundry and Air Clothes Drying Facilities
7C.10 Fencing

READ WITH

SECTION A
PART 1 - Start Here
1B.1: Dictionary
PART 7 - Residential Flat Buildings
7A.4: Building Separation
PART 12 - Signage and Advertising

SECTION C
PART 22 - General Access and Parking
22.1: Equitable Access
PART 23 - General Building Design and Sustainability
23.7: Waste Management
23.9: General Visual Privacy
23.3: Sustainability of Building Materials
23.4: Materials, Finishes and Colours

REFER TO

SEPP 65 APARTMENT DESIGN GUIDE
PART 3F - Visual Privacy
PART 4A - Solar and Daylight Access
PART 4B - Natural Ventilation
PART 4C - Internal Ceiling Heights
PART 4D - Apartment Size and Layout
PART 4E - Private Open Space
PART 4F - Common Circulation and Spaces
PART 4G - Storage

REFER TO

LIVABLE HOUSING DESIGN GUIDELINES

7C.1 SEPP 65 AND APARTMENT DESIGN GUIDE REQUIREMENTS

SEPP 65 APARTMENT DESIGN GUIDE	**Part 3F - Visual Privacy** **Part 4A - Solar and Daylight Access** **Part 4B - Natural Ventilation** **Part 4C - Ceiling Heights** **Part 4D - Apartment Size and Layout** **Part 4E - Private Open Space and Balconies** **Part 4F - Common Circulation and Spaces** **Part 4G - Storage**

Objectives

1 *To ensure that aspects of development controlled by SEPP 65 Apartment Design Guide comply with those standards.*

Controls

1 All residential flat buildings are to comply with the objectives, Design Criteria and Design Guidance of the following *Apartment Design Guide* sections:

- 3F Visual Privacy
- 4A Solar and Daylight Access
- 4B Natural Ventilation
- 4C Ceiling Heights
- 4D Apartment Size and Layout
- 4E Private Open Space and Balconies
- 4F Common Circulation and Spaces
- 4G Storage

Note: Refer to *SEPP 65 Design Quality of Residential Apartment Development* at *http://www.legislation.nsw.gov.au/maintop/view/inforce/epi+530+2002+cd+0+N*

Note: Refer to *Apartment Design Guide* at *http://www.planning.nsw.gov.au/Policy-and-Legislation/Housing/~/media/7ED8E40113064120AEE3432457390171.ashx*

7C.2 COMMUNAL OPEN SPACE

Further controls that may apply		
SECTION A **PART 1B -** Dictionary		

Objectives

1 *To provide adequate safe, useable, attractive and accessible communal open spaces for residents.*

2 *To provide communal open space that adds to the amenity of the development and facilitates social interaction.*

3 *To provide communal open space that is responsive to the site and its context.*

4 *To ensure high quality communal open space that is well integrated within the development.*

5 *To provide a Primary communal open space that is of a size conducive to outdoor activities by families and groups.*

6 *To ensure that the design of communal open space protects the privacy of onsite and neighbouring residents.*

7 *To ensure occupants have direct access to sunlight within areas of communal open space.*

8 *To ensure early consideration of storage of equipment, access to water, ease of rubbish removal and effective drainage for garden maintenance.*

Controls

1 At least 10% of the site area is to be provided as communal open space. Each parcel of communal open space is to have a minimum dimension of 5m.

2 At least one single parcel of Primary communal open space is to be provided with the following requirements:

i) a minimum area of 80m^2; and

ii) a minimum dimension of 8m.

3 The Primary communal open space is to be directly accessible from the internal common circulation areas.

4 The Primary communal open space is to be located at or above finished ground level behind the building line. Roof top Primary communal open space may be provided where the ground level cannot meet performance requirements or is undesirable.

5 Secondary communal open spaces are to have a minimum dimension of 5.0m and may be provided on roof tops.

6 Access to and within the Primary communal open space is to be provided for people with a disability Part 2 Section 7 of AS1428.

7 The location and design of the Primary communal open space is to optimise opportunities for active and passive social and recreation activities, solar access and orientation, summer shade, outlook, and maintain the privacy of residents on adjoining sites zoned differently for lower density residential development sites.

8 At least 50% of the area of the Primary communal open space and any Secondary communal open space are to receive direct sunlight for at least two hours between 9am and 3pm on 21st June.

9 Communal open space is to be integrated with any significant natural feature(s) of the site and soft landscaping areas.

10 The communal open space is to have surveillance from at least two onsite apartments for safety reasons.

11 Communal open space design is to avoid creation of concealment or entrapment areas.

Note: Communal open space is to be well lit with an energy efficient lighting system to be used in conjunction with timers or daylight controls. All light spill is prohibited.

7C.2 COMMUNAL OPEN SPACE (continued)

Objectives

9 *To prevent subterranean communal open areas.*

Controls

12 Shared facilities such as barbecue facilities, shade structures, play equipment and seating, are to be provided within the Primary communal open space.

Note: Selected items within communal open spaces are to be appropriate to the space and demonstrate consideration of the amenity of nearby apartments.

13 Garden maintenance storage areas, drainage and connections to water taps are to be provided with the Primary communal open space. Secondary communal open spaces are to have adequate connections to water for maintenance purposes.

Note: Proposals are to demonstrate entry and access to communal open spaces and common areas for maintenance purposes.

Note: Refer to Section A Part 1B Dictionary for definitions of Communal Open Space and Common Area.



Figure 7C.2-1:
Communal open space overlooked by adjacent apartments for casual surveillance.



Figure 7C.2-2:
Well designed communal open space with lighting and seating.

7C.3 GROUND FLOOR APARTMENTS

Further controls that may apply		
SECTION A **PART 1B.1 -** Dictionary		**SECTION C** **PART 21.1 -** Earthworks and Slope

Objectives

1 *To ensure adequate outlook and amenity is preserved to all ground floor apartments and their private open space.*

2 *To enable access to private open areas from the common area.*

3 *To minimise excavation on the site for residential apartments.*

4 *To ensure ground floor apartments are designed to limit noise impacts of activities from adjacent areas.*

5 *To assist in preventing dampness and water ingress into buildings and to enable effective long term maintenance and servicing to all external walls of apartments.*

Controls

Relationship to Ground Line

1 Ground floor apartments are to be separated from noise sources such as common areas, communal open space and the public domain.

2 Ground and podium level apartments are to have private outdoor areas differentiated from communal areas by at least one of the following:

i) a change in level;

ii) walls to deflect noise;

iii) planting, such as hedges and low shrubs;

iv) a fence/wall to a maximum height of 1.8m. Any solid wall component is to be a maximum height of 1.2m with at least 30% transparent component above.

3 A gate is to be provided from each ground floor apartment private open space into common areas where practical.

4 Subterranean rooms are not permitted to any part of any apartment.

Note: Refer to Part 1B Dictionary for the definition of subterranean room.

5 No ground floor apartments are to be accommodated as a result of excessive excavation.

Note: Refer to Part 21.1 Earthworks and Slope for excavation, earthworks and retaining walls.

6 No part of any wall used to accommodate any residential apartment uses,including storage areas outside the apartment, is to be in direct contact with soil or rely on any form of tanking including spaces that act as tanking.

Note: Tanking is only acceptable to basement parking levels.

7 Tanking may only be provided to basement parking levels. Where basement storage is located adjacent to external walls, they are to be separated from the tanked wall by an accessible maintenance passage. (*See Figure 7C.3-2*)

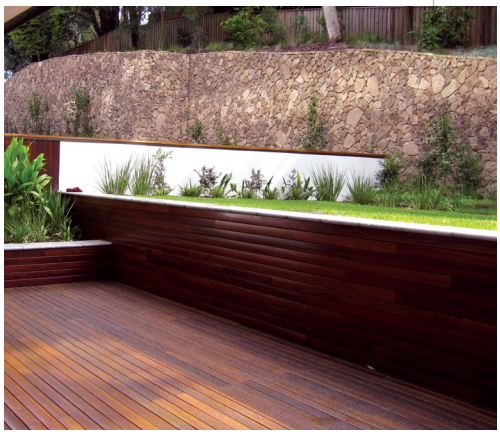

Figure 7C.3-1
Level area outside living space on sloping site

7C.3 GROUND FLOOR APARTMENTS (continued)

Controls

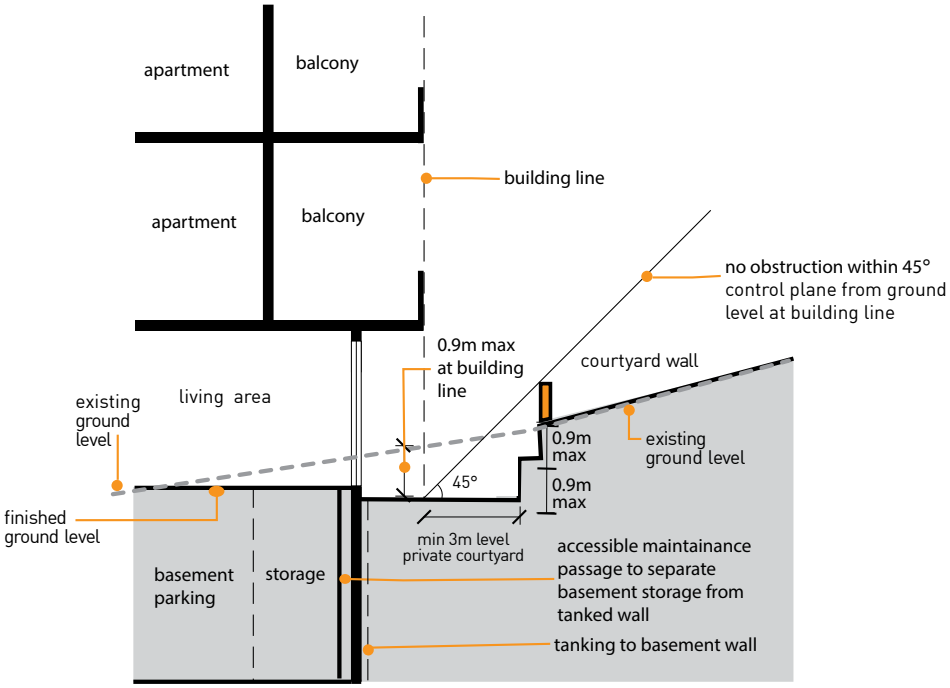

Figure 7C.3-2:
Ground floor apartments located below ground level

8 The internal finished floor level of any part of a ground floor apartment and/or private open space is not to be more than 0.9m below existing ground level at the building line.

9 Where the internal finished floor level of a ground floor apartment and/or private open space is not more than 0.9m below the existing ground level at the building line, the ground level adjacent to the building is to be levelled to the finished floor level for a distance of 3.0m from the building line (*see Figure 7C.3-2*).

10 All obstructions, such as retaining walls or fences, are to be located below a 45˚ control plane, drawn from the finished ground level at the building line. Landscaping plants may project beyond the 45˚ control plane (*see Figure 7C.3-2*).

7C.4 APARTMENT MIX AND ACCESSIBILITY

Further controls that may apply		
SECTION A **PART 1B.1 -** Dictionary		**SECTION C** **PART 22.1 -** Equitable access

Objectives

1 *To increase housing diversity and choice within Ku-ring-gai through provision of a range of apartment sizes and types.*

2 *To increase the housing choice for seniors, people with disabilities and for families.*

3 *To promote flexible housing for all community members and for changing household requirements now and in the future as needs change due to ageing and disability.*

Controls

1 A range of apartment sizes (one, two, three bedroom) and a mix of types are to be included within the development.

2 A mix of one, two and three-bedroom apartments are to be located on the ground level.

Accessible Housing

3 All residential flat buildings and apartments are to be designed to Silver Level under the *Livable Housing Design Guidelines*.

4 At least 15% or part thereof, of all residential flat buildings are to be designed to Platinum Level under the *Livable Housing Design Guidelines.*

Note: For details on *Liveable Housing Design Guidelines* refer to *www.livablehousingaustralia.org.au.*

5 At least 70% of all dwellings are to be visitable.

7C.5 BUILDING ENTRIES

Further controls that may apply		
		SECTION C **PART 22.1** - Equitable access

Objectives

1 *To ensure the building entry and address is a clear and identifiable element in the street and is safely accessible to all.*

2 *To ensure the building entry contributes positively to the streetscape and building facade design.*

3 *To provide direct legible, safe and pleasant entry to internal circulation spaces.*

4 *To provide adequate common circulation spaces to allow for the easy removal of furniture and to satisfy access and egress.*

5 *To ensure mail boxes are appropriately located.*

6 *To soften the impact of hard landscaping within the site.*

Controls

1 The residential flat building entry is to be clearly expressed using appropriate architectural elements.

2 Buildings are to address the street by providing visible entry points with the following:

i) main building entrances that are level and directly accessible from the street; or,

ii) where site configuration is conducive to having a side entry, the path to the building entrance is readily visible from the street, and the building entrance is signalled with appropriate architectural elements.

3 Entry foyers are to be no more than 1m above ground level. Any ramped access required is to be integrated into the design of the building or landscape. Mechanical chairlifts and the like will not be accepted.

4 Buildings are to have a clearly visible building entry for each vertical circulation core with clear way-finding signs integrated into the external circulation pathway system.

5 The building entry is to be legible and integrated with horizontal and vertical building facade architectural elements. At street level, the entry is to be articulated with awnings, porticos, recesses or projecting bays for clear identification.

6 All entry areas are to be well lit and designed to avoid any concealment or entrapment areas and avoid dog leg entry foyers. All light spill is prohibited.



Figure 7C.5-1:
Extensive use of glazing to stairway area assists to identify entries.



Figure 7C.5-2:
Clear signage to building entry.



Figure 7C.5-3:
Clear signage to apartments.

7C.5 BUILDING ENTRIES (continued)

Controls

7 Lifts are to be directly visible from the building entry doorway.

8 Lockable mail boxes are to be:

i) provided close to the street; and

ii) be at 90 degrees to the street and to Australia Post standards; and

iii) integrated with front fences or building entries.

9 On large development sites comprising multiple seperate buildings, each building is to have its own clear entry with good sightlines. Way-finding signs are to be provided.

10 All entries are to be integrated into the external circulation pattern of the development.

11 Buildings on corner sites are to address both street frontages and provide entry points and direct level access from both street frontages.

12 Building entry paths are to be minimum 1.2m wide and located within the common area with a minimum dimension of 1.2m on either side for landscape planting. Paths are to provide extra width at building entries to allow easy passing between pedestrians and to allow effective turning.

Note: This may result in increased side setbacks.

13 All common circulation corridors are to be at least 1.5m wide, and the area outside lifts is to be at least 1.8m wide.



Figure 7C.5-4: Well defined residential entry integrated with the building facade design.

7C.6 BUILDING FORM AND FACADES

Further controls that may apply		
SECTION A **PART 1B -** Dictionary **PART 12 -** Signage and Advertising		**SECTION C** **PART 23 -** General Building Design and Sustainability **PART 23.3 -** Sustainability of Building Materials **PART 23.4 -** Materials and Finishes

Objectives

1 *To promote well-designed buildings of high architectural quality that contribute to the desired local character.*

2 *To ensure the 3-dimensional built form and the setback is clearly articulated to reduce the bulk and scale of the building.*

3 *To limit the unarticulated length of buildings.*

4 *To create a garden setting for the building, in keeping with the Ku-ring-gai landscape character.*

5 *To create building facades that are environmentally responsive.*

6 *To integrate building elements into the overall building form and facade design.*

7 *To ensure air conditioning and tele communication devices are concealed and do not detract from, or clutter the building's visual quality.*

8 *To ensure that building facade design contributes to the safety of the public domain.*

9 *To demonstrate appropriate levels of architectural detail that will achieve the desired urban character of Ku-ring-gai.*

Controls

1 All building facades at ground level are to be designed to avoid the creation of entrapment areas.

2 No single wall plane is to exceed 81m^2 in area.

3 The following are to be avoided on all building elevations:

i) large flat walls;

ii) undifferentiated window openings;

iii) applied treatments;

iv) one single predominant finish or material.

4 All facades are to place entries, habitable room windows, and balconies so that they maximise outlook and passive surveillance of the street and to common areas surrounding the building.

5 All building elements including shading devices, signage, drainage pipes awnings/colonnades and communication devices are to be coordinated and integrated into the overall facade design.

Note: Refer to Section A Part 12 Signage and Advertising for other signage controls.

6 Air conditioning units are to be located within the basement or within the roof structure of the upper most roof. Air conditioning units are not to be located on the building facade or on top of a flat roof or terrace, or within private or communal open spaces.

7 Tele communication structures are to be located within roof structures or basements and not be visible from any road or public domain area.

8 Screening between adjacent apartments is to be integrated into the overall building design.

9 Notches, slots or indentations in the perimeter of the building are to be at least as wide as they are deep.

10 Facade elements that result in poor architectural design outcomes for internal spaces, such as snorkel windows, are not permitted.

Note: Refer to Section A Part 1B Dictionary for definition of snorkel window.

7C.6 BUILDING FORM AND FACADES (continued)

Objectives

10 To enable the building facade openings to directly relate to the street frontage and to the common open landscaped gardens around the building.

11 To provide private open spaces that are integrated into the overall design of development.

12 To co-locate sustainable design features as integrated building elements which enhance the buildings appearance.

13 To ensure openings and articulation on the elevations do not compromise the liveability of the internal areas.

14 To provide distinct building articulation on corner sites that reinforce the street intersection and create a unique memorable building that supports urban wayfinding.



Figure 7C.6-1: Controls for building facade articulation.

Controls

11 All facades are to be designed to minimise on-going maintenance and weathering through measures such as:

i) selecting appropriate robust materials/finishes; and

ii) including appropriate building edge, balcony edge, sill, head and parapet detailing that demonstrates protection from prevailing weather and harsh solar aspects.

Facade Articulation

12 All building facades are to be articulated with wall planes varying in depth by not less than 0.6m, and supplemented with architectural elements.

13 Facade articulation is to be well composed with attractive proportions and coherent rhythms and integrated into the building form and structure. Methods of achieving articulated facades include:

i) defining a base, middle and top relating to the overall proportion of the building;

ii) expressing the internal building layout or structure, such as vertical bays or party walls;

iii) using a variety of window types to create rhythm or express the building uses;

iv) using recessed balconies and deep windows to add visual depth;

v) use of eaves, louvres and sun shading devices to openings.

vi) using elements that cast shadow and accentuate the appearance of depth;

vii) using changes of material, texture and colour integrated with the building articulation to break down large or repetitive facades and reduce the bulk and scale of the building.

14 Blade walls are not to be the sole element used to provide articulation.

15 All developments are to utilise shading/glare control devices to articulate the facade and contribute to the streetscape. Design solutions can include:

i) providing external horizontal shading to north-facing windows, such as eaves, overhangs, pergolas, awnings, colonnades, upper floor balconies, and/or deciduous vegetation;

ii) providing vertical shading to east and west windows, such as sliding screens, adjustable louvres, blinds and/or shutters;

iii) providing shading to glazed and transparent roofs;

iv) integration of shading devices with solar energy collection technology.

7C.6 BUILDING FORM AND FACADES (continued)

Controls

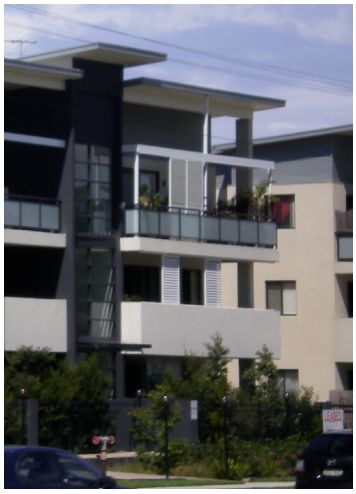

Figure 7C.6-2:
Building layout expressed through vertical facade articulation and elements.

Building Length

16 The continuous length of a single building on any elevation is not to exceed 36m.

17 The length of a single building elevation facing the side or rear boundary may exceed 36m provided that:

i) the façade is recessed in depth and width to appear as distinctive and seperate building bays or wings; and

ii) the recess is retained as common area with landscaping which includes at least one medium tree (at least 8m canopy diameter at maturity).

Balconies

18 Balcony or terrace design may incorporate building elements such as pergolas, sun screens, shutters, operable walls and the like to respond to the street context, building orientation and residential amenity. The use of such building elements are not to enable the balcony or terrace to be used as a habitable room.

19 Balconies that run the full length of the building facade are not permitted.

20 Continuous transparent or translucent balustrades are not permitted to balconies or terraces.

21 Balconies are not to project more than 1.5m from the outermost wall of the building facade.



Figure 7C.6-3:
Well articulated building facade with the use of balconies. Sun shading devices incorporated into the balcony design for solar access control.



Figure 7C.6-4:
Good building facade proportion created by a distinctive base.

7C.6 BUILDING FORM AND FACADES (continued)

Controls

Corner Sites

22 Street corners are to be emphasised architecturally by accentuating parts of the building facade. This may be through:

i) changes in height, colour or facade materials;

ii) changes at the corner;

iii) change in building articulation;

iv) facade orientation;

v) change in roof expression;

vi) splayed setbacks or curves;

vii) providing corner building entries.

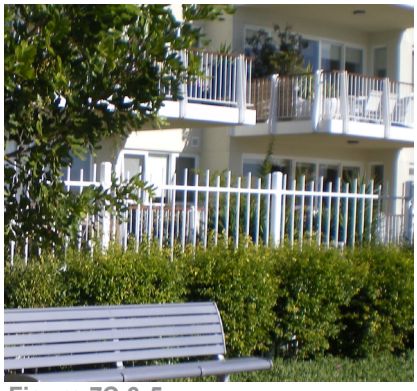

Figure 7C.6-5:
Partially recessed balconies add visual interest to the facade. .



Figure 7C6-6:
Distinct form to highlight the building corner.

7C.7 BUILDING STOREYS

Objectives

1 *To ensure that buildings are responsive to the site.*

2 *To provide for quality dwelling interior spaces and private open space areas.*

3 *To ensure roof articulation, lift overruns and services are incorporated into the allowable building height.*

4 *To ensure additional height is available at the ground level to solve the relationship of the building to the topography.*

Controls

1 Sites with the following maximum building heights under the KLEP are to have a maximum number of storeys above the basement as in the table below and illustrated in Figure 7C.7-1:

Maximum building height (m)	Maximum number of storeys
11.5	3
14.5	4
17.5	5
20.5	6
23.5	7

Note: The 1st storey is measured from a maximum 1m above the existing ground level.

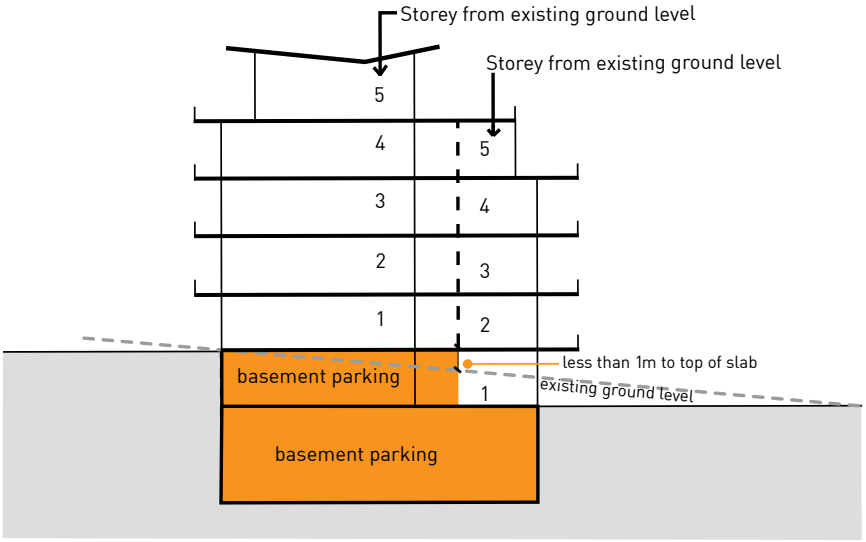

Figure 7C.7-1
Building Storeys

2 On steep sites, the size of the floor plate is to reflect the topographic constraints.

Note: Smaller stepping floor plates can assist to negotiate the topography.

Note: Accomodating building storey levels through excavation and creation of subterranean rooms to ground floor apartments will not be accepted

7C.8 TOP STOREY DESIGN AND ROOF FORMS

Objectives

1 *To ensure that the design of the top floor of buildings minimises visual bulk.*

2 *To ensure that the design and location of the top floor minimises overshadowing.*

3 *To contribute to the overall design and environmental performance of buildings.*

4 *To differentiate the visual appearance of the top floor of the residential flat building from the floors below.*



Figure 7C.8-3:
The upper storeys of the building articulated with mezzanine penthouse.



Figure 7C.8-4:
Distinctive roof design.

Controls

1 The top storey of a building is to be designed so that:

i) the GFA of the top storey of a residential flat building does not exceed 60% of the GFA of the storey immediately below it (see Figure 7C.8-1*)*; and

ii) for the purposes of this section, the top storey applies to the building as a whole and does not apply to the top level of each part of a stepped building (see Figure 7C.8-2*).*

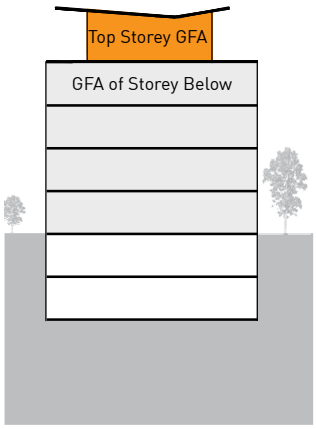

Figure 7C.8-1:
Top storey floor area calculation for level sites.

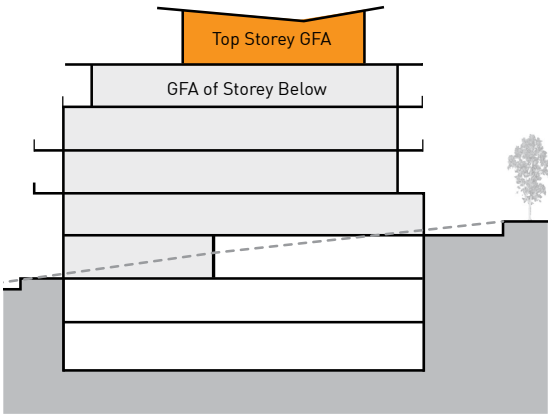

Figure 7C.8-2:
Top storey floor area calculation for sloping sites.

2 The top storey of a building is to be set back a minimum of 2.4m from the outer face of the floors below on all sides (roof projection is allowed beyond the outer face of the top storey).

Note: Lift cores are to be located internally within the building to facilitate the top storey setback

3 The upper storeys of residential buildings are to be articulated with differentiated roof forms, maisonettes or mezzanine penthouses and the like.

4 Service elements are to be integrated into the overall design of the roof and not be visible from the public domain or any surrounding development. These elements include lift overruns, plant equipment, air conditioning units, chimneys, vent stacks, water storage, communication devices and signage.

5 Roof design is to respond to solar access and prevailing weather with the use of eaves, skillion roofs, awnings and the like with a minimum overhang of 0.6m.

6 Where solar panels are provided they are to be integrated into the roof line or elevation.

7 Lightweight pergolas, sun screens, privacy screens and planters are permitted on the roof or podium, provided they are integrated with the building and facade design and do not increase the bulk of the building, create visual clutter or impact on significant views from adjoining properties.

8 Roof top gardens for private or communal use are encouraged.

7C.9 LAUNDRY AND AIR CLOTHES DRYING FACILITIES

Objectives

1 *To ensure buildings maximise the opportunities for sun and wind drying of clothes and reduce the use of electric dryers.*

2 *To provide external air clothes drying areas that do not detract from the visual appearance of the building and common areas.*

Controls

1 Each apartment is required to have access to an external air clothes drying area, such as a screened balcony, a terrace or clothes lines within the common area (see Figure 7C.9-1).

2 All external air clothes drying areas are to be screened and not be visible from any public domain area.

3 Storage volume calculation within laundries is to exclude the space required to accommodate a washing tub, washing machine and dryer.

4 Where clothes drying is provided within private open space within a communal open space, its area is to be additional to that required for the private open space or communal open space.



Figure 7C.9-1:
Screened balconies for external air clothes drying area.

7C.10 FENCING

Objectives

1 *To ensure fencing design responds to the character of the streetscape in terms of:*

- *i) open landscape character;*
- *ii) visibility and security;*
- *iii) materials selection;*
- *iv) solid or transparent qualities;*
- *v) height;*
- *vi) vertical and horizontal composition of the materials; and/or*
- *vii) location of entries and gates.*
- *viii) noise sources*
- *ix) topography*

2 *To ensure that fencing does not detract from the overall visual amenity and character of the area.*

3 *To ensure on site fencing and courtyard walls are integrated with the built form and provide separation and privacy to the private open areas.*

Controls

1 Front boundary fences and walls (to a public street) and side boundary fences within the street setback are not to be higher than:

- i) 0.9m if of closed construction (such as masonry, lapped and capped timber or brushwood fences); or
- ii) 1.2m if of open construction (such as open paling and picket fences).

Note: Open fencing includes: panels set into a timber frame or between brick piers, where any solid base is not taller than 0.9m, and panels are spaced pickets, palings, or lattice.

2 Closed front fences with a maximum height of 1.8m may be considered where the site fronts a busy road or other sources of undesirable noise. These fences are to be set back at least 2m from the front boundary and screened by landscaping.

Note: Rendered masonry boundary walls are generally inappropriate to the landscape character of Ku-ring-gai.

3 Fences and walls are to step down and follow the natural contours of the site.

4 Hedges and shrub planting are preferred to the street frontage, but no higher than 1.2m along the entire front boundary, or 1.8m on a site fronting a busy road.

5 All fencing is to be designed to highlight entrances, and be compatible with buildings and letterbox areas.

6 External finishes for fencing are to be robust and graffiti resistant.

7 Groundfloor private open space, courtyard and terrace wall and fence heights are not to exceed

- i) 1.2m to any street frontage
- ii) 1.8m to any side or rear boundary with a maximum 1.2m high solid component and a minimum 30% transparent component above.

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PART 8

MIXED USE DEVELOPMENT

Introduction

8A Site Design

8A.1 Local Character and Streetscape
8A.2 Site Layout
8A.3 Building Setbacks
8A.4 Building Separation
8A.5 Wind Impact
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8B Access and Parking

8B.1 Vehicle and Service Access and Loading Facilities
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8C Building Design and Sustainability

8C.1 Solar Access and Daylight
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8C.4 Apartment Mix and Accessibility
8C.5 Building Entries
8C.6 Internal Common Circulation Areas
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8C.8 Communal Open Space
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8C.12 Colonnades
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8C.14 Visual Privacy
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8C.16 Late Night Trading
8C.17 External Air Clothes Drying Facilities

INTRODUCTION

The objectives and controls in this Part guide development of retail, business and mixed use buildings in meeting the aims and objectives within the KLEP (Local Centres) 2012.

Mixed use buildings, as defined in the KLEP (Local Centres) 2012, are located within the B2 Local Centres, B4 Mixed Use and B1 Neighbouhood Centres, and are composed of a mixture of two or more of the following uses:

i) retail or commercial uses at ground and lower levels; and

ii) residential apartments on upper levels; and/or

iii) offices on upper levels.

Mixed use developments provide for a variety of uses and activities within a building. They encourage use of the locality, particularly at street level, outside the working day, adding vibrancy and life to the streets and increased levels of surveillance and safety. A mix of uses within the same building are best located when retail and business activity at ground level and lower levels to street frontages assist street activation, and residential uses requiring privacy and noise mitigation are located on upper levels.

Mixed Use developments are to consider the controls and objectives within Part 14 Urban Precincts and Sites. Where there is an inconsistency between the controls in this Part 8 and Part 14, then the latter prevails to the extent of the inconsistency.

Where a development in the B2 Local Centre, or B4 Mixed Use, or B1 Neighbourhood Centre zone is proposed to only incorporate commercial uses with no residential component, the proposal is to comply with and will be assessed under the controls for Non-Residential and Office Buildings in Part 9 of this DCP.

Where a proposed development only incorporates residential purposes, it is considered as a Residential Flat Building and is to comply with and will be assessed under Part 7 of this DCP.

If a proposed mixed use development provides residential dwellings to any party the ground floor street frontage, then it will be considered a Residential Flat Building and assessed under Part 7 of this DCP. To be considered as a Mixed Use building, the development has to provide commercial uses to the entire ground floor street frontage with associated active street frontage.

Single use developments are not to compromise the achievement of the projected land use and density envisaged by the KLEP (Local Centres) 2012 for the medium term.

Where a development only involves refurbishment works or alterations/ additions to existing buildings, new elements are to meet the requirements of this Part.

INTRODUCTION (continued)

SEPP 65 Design Quality of Residential Apartment Development (Schedule 1) stipulates nine design quality principles which are to be achieved by the residential component of mixed-use buildings. These are as follows:

i) Principle 1: Context and neighbourhood character

ii) Principle 2: Built form and scale

iii) Principle 3: Density

iv) Principle 4: Sustainability

v) Principle 5: Landscape

vi) Principle 6: Amenity

vii) Principle 7: Safety

viii) Principle 8: Housing diversity and social interaction

ix) Principle 9: Aesthetics

In addition, the following aspects of residential flat building development are to be consistent under *SEPP 65* and the associated *Apartment Design Guide*: visual privacy, solar and daylight access, natural ventilation, ceiling heights, apartment size and layout, private open space and balconies, common circulation and spaces, and storage.

The aims of this Part are to:

i) Ensure that development is in keeping with the garden character and high quality built environment of Ku-ring-gai by making provision for quality landscaping, including tall trees to the streetscape.

ii) Encourage development which harmonises with and contributes to the landscape and is sympathetic to the street and locality in which it is proposed.

iii) Ensure that with each development the public domain aspect supports and contributes to the conservation and replenishment of the tree canopy of Ku-ring-gai, including locally occurring native tree species suited to the site.

iv) Protect and minimise the impact of development on adjoining properties

v) Protect and minimise the impact of development on the natural environment

vi) Ensure development that minimises the depletion of raw materials and non-renewable resources

vii) Ensure that development meets the needs of the present without compromising the ability of future generations to meet their own need.

viii) Encourage development of the highest possible architectural, environmental and amenity standards.

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8A Site Design

8A.1 Local Character and Streetscape

8A.2 Site Layout

8A.3 Building Setbacks

8A.4 Building Separation

8A.5 Wind Impact

8A.6 Site Coverage

8A.7 Deep Soil Landscaping

READ WITH
SECTION A **PART 2 -** Site Analysis
SECTION B **PART 21 -** General Site Design

REFER TO
LIVABLE HOUSING DESIGN GUIDELINES

REFER TO
SEPP 65 APARTMENT DESIGN GUIDE

8A.1 LOCAL CHARACTER AND STREETSCAPE

Further controls that may apply:		
SECTION A **PART 2 –** Site Analysis		**SECTION C** **PART 21 –** General Site Design

Objectives

1 *To ensure the development is sensitive to the landscape setting, environmental conditions and established character of the street and locality.*

2 *To ensure the development conserves and enhances the visual character of the street with partitcular reference to integration of:*

- i) *architectural themes;*
- ii) *building scale and setbacks; and*
- iii) *landscape themes.*

3 *To ensure development provides a positive contribution to the public domain and all areas shared by the community.*

4 *To ensure that the visual, scenic and environmental qualities on visually prominent sites are maintained.*

Controls

1 All mixed use developments are to be designed by an architect registered with the NSW Architects Registration Board.

Visual Character

2 Design components of new development are to be based on the existing predominant and high quality characteristics of the local neighbourhood.

3 The appearance of the development is to maintain the local visual character by considering the following elements:

- i) visibility of on-site development when viewed from the street, public reserves and adjacent properties; and
- ii) relationship to the scale, layout and character of the streetscape of Ku-ring-gai.

4 The predominant and high quality characteristics of the local neighbourhood are to be identified and considered as part of the site analysis at Part 2 of the DCP.

Note: Local character and streetscape is created by many features including, but not limited to: kerbs, setbacks, footpath treatment, building separation and spaces between buildings, access arrangements, street tree planting, tall tree canopy backdrop to the horizon, native vegetation and gardens, topography, site and street geometry, as well the architecture.

Public Domain and Communal Space

5 Development is to integrate with surrounding sites by:

- i) being of an appropriate scale retaining consistency with the surrounds when viewed from the street, public domain or adjoining development;
- ii) minimising overshadowing; and
- iii) integrating built form and soft landscaping (gardens and trees) within the tree canopy that links the public and private domain throughout Ku-ring-gai.

8A.1 LOCAL CHARACTER AND STREETSCAPE (continued)

Controls

Visually Prominent Sites

6 Development on visually prominent sites is to:

i) be of high architectural and aesthetic quality;

ii) be integrated into the existing landscape through the site planning process and avoid tall and bulky structures;

iii) have a selection of external colours and finishes that are sensitive to the site and locality;

iv) retain significant landscape and vegetation elements;

v) consider views to the site as well as those from the site; and

vi) soften visual impact by extensive landscaping including larger trees and shrubs.

Note: Refer to Part 1B Dictionary for definiton of Visually Prominent Sites.

7 Colours of materials used in sites adjoining or in close proximity to bushland areas and Heritage Conservation Areas are to be in harmony with the built and natural landscape elements of the area.

8A.2 SITE LAYOUT

Further controls that may apply		
SECTION A **PART 2 -** Site Analysis	**SECTION B** **PART 20 -** Development Near Rail Corridors and Busy Roads	**SECTION C** **PART 21 -** General Site Design **PART 23.8 -** General Acoustic Privacy

Objectives

1 *To ensure fundamental design decisions are appropriate to the site.*

2 *To ensure detailed design decisions are founded on an appropriate site strategy determined through site analysis.*

3 *To ensure that site planning for mixed use buildings responds to site attributes such as streetscape, character, existing vegetation and topography.*

4 *To ensure high impact elements such as noise sources are considered early in the design stage*

5 *To achieve a high standard of amenity for future residents.*

6 *To minimise impacts on the amenity of neighbouring sites.*

7 *To reduce the appearance of building mass and scale.*

8 *To ensure driveways blend into a landscped setting and are not a dominant feature of the development.*

9 *To ensure provision of a clear and legible address into the development.*

10 *To provide safe and continuous pathway from the street to the ground floor dwelling entry point*

Controls

1 The site layout is to demonstrate a clear and appropriate design strategy and arrangement of building mass in response to the Site Analysis in Part 2 Site Analysis of this DCP. Demonstration of design strategies based on Site Analysis is to include:

   i) building location and orientation on the site optimising the northern aspect, and relating to neighbouring developments, geographical aspect, views, access etc;

   ii) response of building development in maintaining site characteristics within the subject site, such as topography, vegetation, significant trees, any special features, etc.

   iii) internal layouts of buildings that respond to (i) above and be consistent with the requirements of the DCP

   iv) limited apartments with no direct sunlight.

2 A drawing and supporting written information is to demonstrate how the building and its layout has applied and responded to the site analysis conducted in Part 2 of this DCP.

3 For requirements on development near noise sources refer to Section B Part 21 Development Near Rail Corridors and Busy Roads in this DCP

4 Any building with a frontage to the street is to address that street.

5 Where a site has two or more frontages, the buildings are to address and provide entry points from all street frontages.

6 Onsite buildings and fences/courtyard walls are to be staggered and provide landscaping, including canopy trees, in between them.

7 Hard landscaping is to be minimised and to maximise opportunities for landscape planting.

8 Long straight driveways are not permitted. Driveways are to be designed to be of minimal visual impact and minimal heat emmission.

9 Provide a single pedestrian entry point from the street. Other enteries may be permitted where several buildings address the street along an extended street or dual frontage sites.

Note: Councils Standard Conditions are imposed on every development consent. Consideration early in the design process is to be given to incorporating these into the development proposal. .

8A.2 SITE LAYOUT (continued)

Objectives

11 To ensure building facades address the public domain and give direct access from both primary and secondary streets.

12 To ensure mixed use developments contribute to the streetscapes through high quality and varied elevations.

13 To ensure developments provide architectural merit and variation to the street elevation.

Controls

8A.3 BUILDING SETBACKS

Further controls that may apply		
SECTION A **PART 2 -** Site Analysis	**SECTION B** **PART 14 -** Urban Precincts ans Sites	

Objectives

1 *To reinforce the urban character of the commercial areas.*

2 *To ensure a consistent streetscape character along the main commercial streets.*

3 *To reduce the visual bulk of buildings from the street.*

4 *To maintain the alignment and rhythm of the built form on the street.*

5 *To ensure building setbacks at all levels respond to site conditions, the local topography and views through the site.*

6 *To ensure that new development is of a scale that supports the desired area character with appropriate massing and spaces between buildings.*

Controls

Street setbacks

1 In B1, B2 and B4 zones, mixed use buildings are required to be built to the street alignment with a zero setback, except when variations are stated in Part 14 Urban Precincts and Sites. These variations facilitate building articulation, modulation, the provision of landscaped setbacks and the development of appropriate building forms. Setbacks within B1 zones warrant merit consideration.

2 Mixed use buildings on sites in the R4 zone where commercial uses are permitted under Schedule 1 of the KLEP (Local Centres) 2012, are to provide street setbacks as specified in Part 14 Urban Precincts and Sites of this DCP.

Side and rear setbacks

3 In B1, B2 and B4 zones, mixed use buildings are generally not required to provide side and rear setbacks, except where variations are required as specified in Part 14 Urban Precincts and Sites of this DCP. These variations are designed to facilitate building articulation, modulation and the provision of new or widened streets and through-site pedestrian walkways.

4 Where building separation is provided for residential components, it is to meet building separation controls under Part 8A.4.

5 Mixed Use buildings on sites in the R4 zone where commercial uses are permitted under Scheule 1 of the KLEP (Local Centres) 2012, are to provide minimum 6.0m side and rear setbacks and meet the building separation requirements of Part 8A.4 of this DCP.



Figure 8A.3-1: Consistent building alignment at the street level in the commercial area.

8A.4 BUILDING SEPARATION

Objectives

1 *To ensure that the new development scaling, massing and spacing between buildings support the desired local area character and the Ku-ring-gai landscaped garden character.*

2 *To provide building form and layout that minimises overshadowing of adjacent properties and open space.*

3 *To provide building configuration that facilitates the provision of useable communal open space, private open space landscaping and view corridors.*

4 *To maximise view sharing.*

5 *To configure buildings to protect and enhance visual and acoustic privacy for occupants and adjacent residents.*

Controls

1 The minimum separation between a residential component of the building and any neighbouring building on the development site is to comply with the following controls:

Buildings up to 4 storeys over the podium (see *Figure 8A.4-2*)

i) 12m between habitable rooms/balconies;

ii) 9m between habitable rooms/balconies and non-habitable rooms;

iii) 6m between non-habitable rooms.

Buildings of 5 to 8 storeys over the podium (*see figure 8A.4-2*)

iv) 18m between habitable rooms / balconies;

v) 13.5m between habitable room / balcony and non habitable room;

vi) 9m between non-habitable rooms.

Buildings 9 storeys or more over the podium

vii) 24m between habitable rooms

viii) 18m between habitable room / balcony and non habitable room;

ix) 12m between non-habitable rooms.

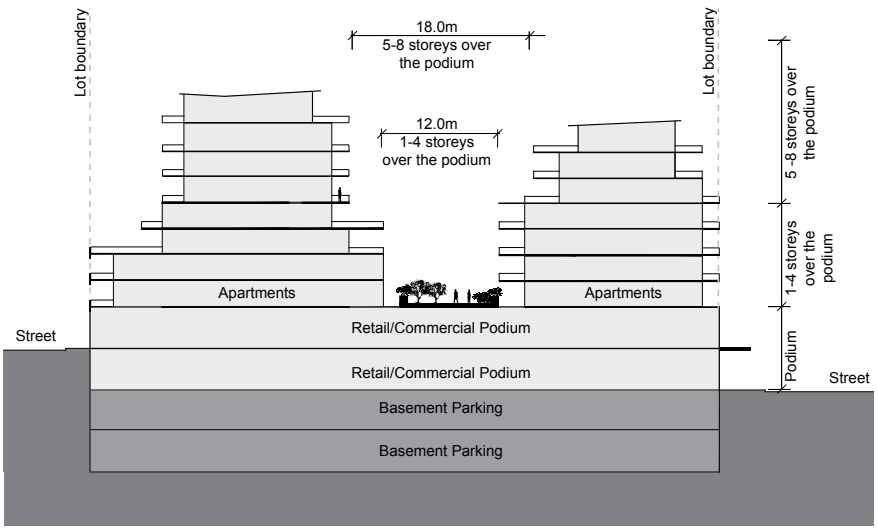


Figure 8A.4-3:1
Minimum building separation controls for residential buildings of 1-4 storeys and 5-8 storeys (over commercial podium).

8A.4 BUILDING SEPARATION (continued)

Controls

2 For all non-residential developments adjacent to residential developments:

i) the retail, office and commercial balconies are to be treated as habitable rooms and provide the same building separation required in 8A.4(1);

ii) the service and plant areas are to be treated as non-habitable rooms and provide the same building separation required in 8A.4(1);

Note: refer to section 8C.15 Acoustic Privacy.

3 Office developments adjacent to residential developments are to demonstrate that the adjoining residential development retains adequate visual and acoustic privacy, access to sunlight, outlooks and that the massing of the building is appropriate to the character of the locality.



Figure 8A.4-2:
Adequate separation between buildings to ensure visual and acoustic privacy.

8A.5 WIND IMPACT

Further controls that may apply		
	SECTION B **PART 8C.7 -** Roof forms and Podiums **PART 8C.8 -** Communal Open Space	

Objectives

1 *To ensure that new developments maintain comfortable and safe conditions at street level for pedestrians.*

2 *To ensure useability of open terraces and balconies within developments.*

Controls

1 New buildings are to be located and designed to ensure public pedestrian areas, recreation facilities, podiums, terraces and communal open areas are protected from wind generation and strong wind speed caused by the development.

2 Developments are to integrate wind deflection features to preserve the useability and amenity of open spaces within and around the development.

Methods of achieving wind impact mitigation include (see Figure 8A.3-1):

i) Use of building facade design and stepbacks to deflect downwards drafts;

ii) Awning and colannade design to deflect winds away from footpaths, podiums, terraces and communal open spaces;

iii) Use of vegetation and tree canopy as buffer to the street level from winds.

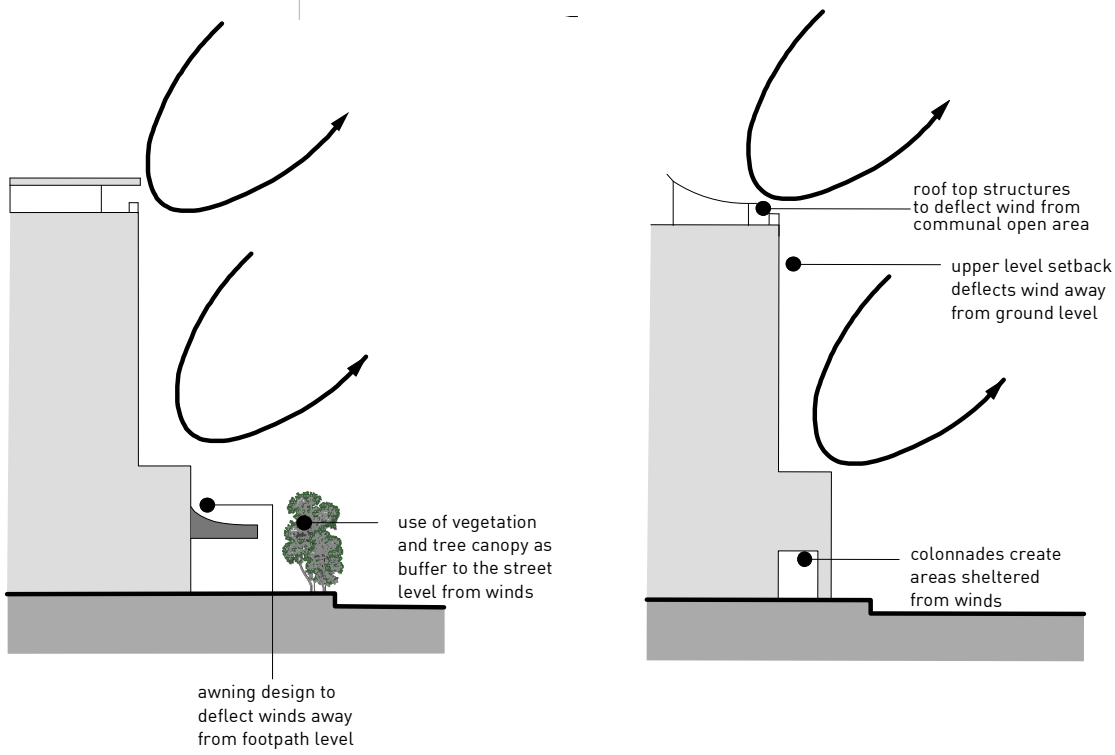


Figure 8A.5-1:
Examples of wind mitigation measures.

8A.6 SITE COVERAGE

Further controls that may apply		
SECTION A **PART 1B -** Dictionary	**SECTION B** **PART 14 -** Urban Precinct and Sites	

Objectives

1 *To ensure a pattern of built form and landscaped areas that is consistent with the planned future character of the area.*

2 *To protect and improve the tree canopy within Ku-ring-gai.*

3 *To provide viable deep soil landscaping within developments and between residential developments on neighbouring sites.*

4 *To minimise impervious surfaces that generate storm water runoff.*

5 *To provide adequate spaces between buildings for common areas that support quality gardens around the building.*

Controls

The following controls are applicable only to mixed use buildings in R4 High Density Residential zones:

1 The site coverage is to be up to a maximum of 30% of the site area, provided that the deep soil landscaping requirements in Part 8A.7 can be met.

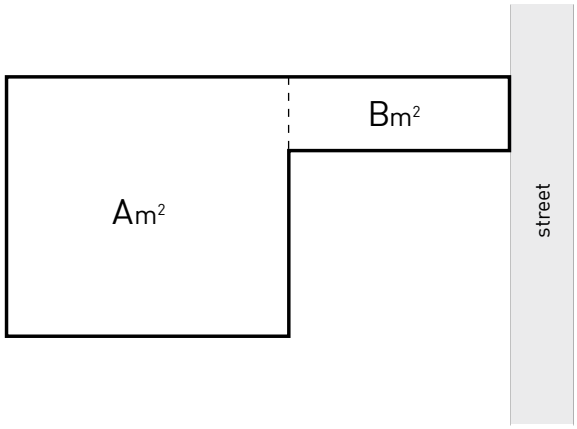
Note: Site coverage is **not** the inverse of deep soil landscaping. Refer to Section A Part 1B Dictionary for clarification of site coverage.

Note: Certain sites in B2 and B4 zones have reduced maximum site coverage. Refer to Section B Part 14 Urban Precincts and Sites.

2 Where a site incorporates an access handle/s, the site coverage is not to exceed 30% of the total site area less 30% of the access handle/s (refer to Figure 8A.6-1).

Note: The definition of 'site coverage' uses a calculation of the 'site area'. 'Site area in KLEP (Local Centres) 2012 states in part:

'...does not include the area of any land on which development is not permitted to be carried out under this Plan.'.



Maximum site coverage = [(A+B) x 30%]m^2 - (B x 30%)m^2

Note: This is equivalent to [A x 30%]m^2

Figure 8A.6-1:
Site coverage controls for Residential Flat Buildings

8A.7 DEEP SOIL LANDSCAPING

Further controls that may apply		
SECTION A **PART 1B.1 -** Dictionary	**SECTION B** **PART 14 -** Urban Precinct and Sites	**SECTION C** **PART 21.2 -** Landscape Design

Objectives

1 *To ensure landscape areas contribute to the garden character and canopy of the Ku-ring-gai locality.*

2 *To provide consolidated deep soil zones of adequate dimensions in all residential development sites through quality planning and building design.*

3 *To provide landscaped areas that are appropriate to the scale and context of the development.*

4 *To retain areas that provide habitat for native indigenous plants and animals and contributes to biodiversity in the area.*

5 *To create high quality landscaped areas through retention and/or planting of large and medium sized trees particularly at the street frontage.*

6 *To ensure that deep soil landscaping is within common areas.*

7 *To ensure spaces between buildings provide deep soil landscaping that can sustain large trees that contribute to Ku-ring-gai's garden character.*

8 *To ensure that deep soil is provided to allow infiltration of rain water to the water table and to reduce stormwater runoff.*

Controls

Design

1 This section applies to all development that:

i) does not provide commercial uses to the entire ground floor street frontage with associated active street frontages;

ii) provides any residential dwelling on the ground floor street frontage;

iii) is a mixed use building within the R4 High Density Residential zone.

2 The development is to have minimum deep soil landscaping area as follows:

Site Area	Minimum Deep Soil Landscaping
Less than 1800 m^2	40% of the site
1800 m^2 or more	50% of the site

Note: For the purpose of this section, the site excludes any access handle.

Note: Certain sites in the B2 and B4 zones have a reduced maximum deep soil landscaping area. Refer to Section B Part 14 Urban Precinct and Sites.

3 Deep soil zones are to have a minimum dimension of 6m and be configured to retain healthy and significant trees on the site and adjoining sites.

4 Deep soil zones are to be configured to allow for required tree planting including tall canopy tree planting and garden and screen planting at front side and rear boundaries.

5 Deep soil landscaping is to be provided in the common areas as a buffer between buildings that softens the bulk and scale of the buildings.

6 Driveways are not to dominate the street setback area. Deep soil landscaping areas in the street setback are to be maximised.

7 Where the site has an access handle, deep soil calculation are to exclude that access handle.

Tree Replenishment and Planting

8 Lots with the following sizes are to support a minimum number of tall trees capable of attaining a mature height of at least 18m on shale, transitional soils and 15m on sandstone derived soils

8A.7 DEEP SOIL LANDSCAPING (continued)

Controls

Lot Size	Number of Tall Trees
1,200m^2 or less	1 per 400m^2 of site area or part thereof
1,201m^2 - 1,800m^2	1 per 350m^2 of site area or part thereof
1,801m^2 +	1 per 300m^2 of site area or part thereof

9 In addition to the tall trees, a range of medium trees, small trees and shrubs are to be selected to ensure that vegetation softens the building form and creates a garden setting. At least 50% of all tree plantings are to be locally occurring trees and spread around the site.

Note: Refer to Section A Part 1B Dictionary for definition of common area.

10 Trees are to be planted within all setback areas. At least 30% of tall trees are to be planted within the front setback.

8B Access and Parking

8B.1 Vehicle and Service Access and Loading Facilities

8B.2 Car Parking Provision

8B.3 Bicycle Parking and Support Facilities Provision

READ WITH

SECTION C
PART 22 - General Access and Parking
22.2: GeneralVehicleAccess
22.3: Basement Parking
22.4: Visitor Parking
22.5: Parking For People With A Disability
22.6: Pedestrian Movements within Car Parks
22.7: Bicycle Parking and Facilities
22R.1: Car Parking Rates

PART 23 - General Building Design and Sustainability
23.7: Waste Management

REFER TO

LIVABLE HOUSING DESIGN GUIDELINES

REFER TO

SEPP 65 APARTMENT DESIGN GUIDE

8B.1 VEHICLE AND SERVICE ACCESS AND LOADING FACILITIES

Further controls that may apply		
	SECTION B **PART 14 -** Urban Precincts and Sites	**SECTION C** **PART 22.2 -** General Vehicle Access **PART 23.7 -** Waste Management

Objectives

1 *To ensure that vehicle access points are suitably designed and located.*

2 *To ensure clear demarcation of parking areas for different uses within mixed use buildings.*

3 *To provide adequate and accessible on-site service areas and loading facilities.*

4 *To provide service areas and loading docks in a quantity and size appropriate to the scale and intensity of the proposed use.*

5 *To ensure that loading facilities do not detract from the amenity of nearby public spaces and residential areas.*

6 *To locate and design car parking which is integrated with the site and building design and which does not increase the bulk and scale of the building.*

7 *To provide a suitable level of safety and accessibility.*

8 *To provide suitable clearance for service vehicles.*

Controls

Vehicle access

1 Vehicle access points are not to be located along principal active street frontages unless otherwise specified in *Part 14 of this DCP*.

2 All developments are to provide a shared vehicle entry/exit point for different uses (eg. retail, commercial and residential).

Note: Any proposal seeking to provide separate vehicle entry / exit points on large developments must justify this variation by demonstrating the combined effect does not dominate the building facade or streetscape.

3 Where retail, commercial and residential uses share the same vehicle entry/exit, clear demarcation of parking areas is to be made. Residential parking is to be secure and separate from retail/ commercial parking. See *Figure 8B.1-1*.

Note: Refer to Section C Part 22.2 of this DCP for vehicle access design controls.

4 Basement car park areas are to be consolidated under building footprints.

5 The use of single lane tunnels and single spiral ramps are not permitted in developments of more than 4 apartments, and can only link a maximum of 2 floor levels.

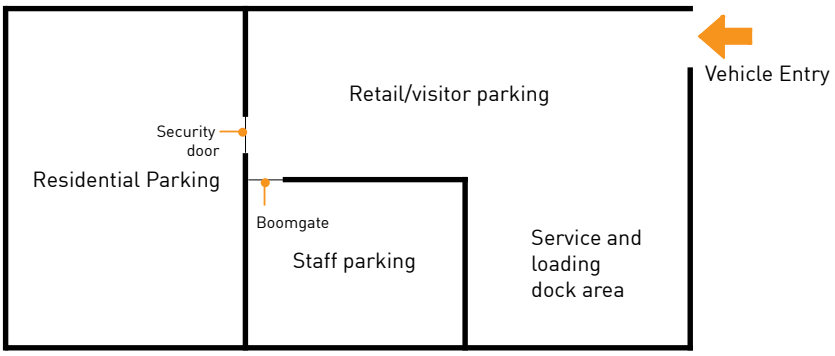


Figure 8B.1-1:
Separate parking zones for different uses.

8B.1 VEHICLE AND SERVICE ACCESS AND LOADING FACILITIES (continued)

Controls

Service access

6 On-site service vehicle access is to be provided and designed in accordance with the following:

i) a driveway is to be established that is of adequate strength, width and design for the intended service vehicle characteristics;

ii) the driveway is to be designed such that service vehicle movement is in a forward direction, both when entering and exiting the site;

iii) entrance heights are to allow access for service vehicles;

iv) service ducts, pipes and other overhead obstructions are to be located to maintain minimum finished ceiling heights required for service vehicle access; and

v) on-site manoeuvrability is to be unimpeded for all site users.

7 Generally service vehicle access is to be combined with parking access. Separate access may be required in major non-residential retail/commercial developments.

Note: Refer to Part 14 of this DCP for relevant controls within each urban precinct.

8 Where a waste and recycling room is provided within the basement, the minimum finished ceiling height may be required to be 4.5m along the path of travel from the street to the commercial waste collection and manoeuvring area, and 2.6m to the residential waste collection room and manoeuvring area. This clearance is to be kept free of any overhead ducts, services or other obstructions.

Note: Refer to *Part 3.4 of this DCP* for waste requirements.

Loading facilities

9 On-site internal loading facilities are to be provided for all developments with loading and unloading requirements.

10 Loading docks are to be:

i) accessed via a rear lane or secondary streets where these are available, and accessible to heavy vehicles;

ii) conveniently located in such a way that minimises conflict with pedestrians and other traffic; and

iii) screened from the public street.

Note: Refer to RMS guidelines.

11 Service vehicles turning into or out of a road or driveway are to be able to complete their turning manoeuvres without crossing the centre line of the public road.

12 Gradients in service areas are to be kept to a minimum. The maximum gradient measured in any direction at any one point, is to be 1:6.5 (15.4%) where only forward movement is to take place or 1:8 (12.5%) where reverse manoeuvres will occur.

8B.1 VEHICLE AND SERVICE ACCESS AND LOADING FACILITIES (continued)

Controls

13 Circulation roadways and loading area dimensions are to comply with the provisions in *AS2890.2: Off-Street Parking (Part 2:Commercial Vehicle Facilities)*.

14 The design of the apron area in front of the loading dock(s) is to take into account the type of vehicle to be used. Reference must be made to *AS2890.2* for apron dimensions.

15 Turning provisions are to be made within the site for the manoeuvring of vehicles using the loading and unloading facilities in accordance with AS2890.2 Turning Templates.

8B.2 CAR PARKING PROVISION

Further controls that may apply		
		SECTION C **PART 22 -** General Access and Parking **PART 22.3 -** Basement Parking **PART 22.4 -** Visitor Parking **PART 22.5 -** Parking For People with a Disability **PART 22.6 -** Pedestrian Movement within Car Parks **PART 22R.1 -** Car Parking Rates

Objectives

1 *To ensure the provision of unobstructed and accessible principal active street frontages.*

2 *To provide safe and convenient vertical circulation for building users.*

3 *To provide for future connections between adjacent basement car parks where required.*

4 *To ensure that streetscapes are active and attractive, and that above ground parking does not compromise the public domain.*

5 *To ensure that above ground car parking can be adapted for future use.*

6 *To provide adequate car parking for the building's users and visitors.*

7 *To ensure the location and design of car parking is integrated with the site and building design.*

8 *To encourage walking and public transport use.*

9 *To enable future connections between adjacent basement car parks.*

Controls

Car parking design

1 All car parking areas are to be provided within the basement of a development.

2 The basement car park areas are not to project above finished ground level along the principal active street frontage. On supporting active street frontages the car park may project above existing ground level by a maximum of 1m to the floor level of the storey immediately above.

3 Separate and direct lift/stair access is to be provided from basement car parks to apartments, to commercial units and to retail facilities. Where this is not possible, it is to be demonstrated that there is no conflict or danger in the use of shared lifts/stairs.

4 Car parking design is to be in accordance with requirements for Silver and Platinum Level dwellings as required in this DCP and by the *Livable Housing Guidelines, 2012*.

5 Car parking spaces are to comply with the *Livable Housing Guidelines 2012*. Circulation areas, roadways and ramps are to comply with AS2890.1. Where a conflict occurs, the *Livable Housing Guidelines 2012* is to take precedence.

Note: Refer to *Livable Housing Guidelines, 2012* at *http://www.livablehousingaustralia.org.au/*

6 For the non-residential component of the development, car parking spaces, circulation aisles, roadways and ramps are to comply with *AS2890.1 - Parking Facilities - Off street car parking*.

8B.2 CAR PARKING PROVISION (continued)

Controls

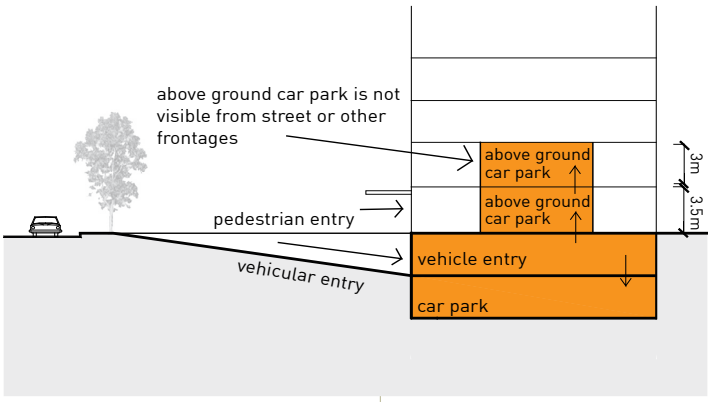


Figure 8B.2-1:
Multi-storey above ground car park is housed within the building to facilitate active street frontages.

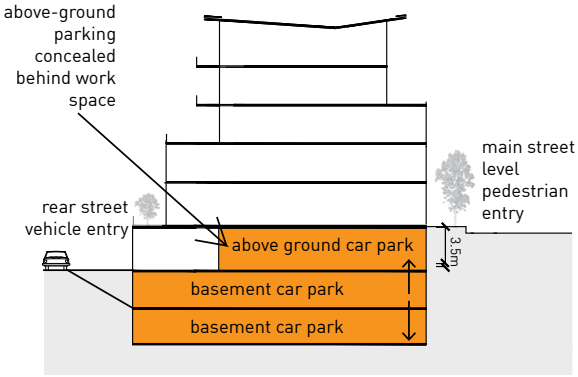


Figure 8B.2-2:
Above ground car parking is permitted on steep sites where it is screened from view.



Figure 8B.2-3:
Projection of basement car parking along the principal active street frontage is prohibited.

7 Knock-out panels are to be provided in perimeter walls of the basement car park where adjacent sites are narrow or isolated.

8 Car park design is to include the following:

i) the car park layout is to be adaptable to provide logical circulation within the car park, and between adjacent car parks, once connectivity is achieved.

ii) the connection between car parks is to remain open permanently and not closed by shutters/gates.

iii) the connection between car parks it to be made for the same user group, preferably connecting adjacent customer/public parking levels.

9 Above-ground car parking may be permitted where it is housed entirely within the building, leaving external walls for active uses (see *Figure 8B.2-1 and 8B.2-2).*

10 Above ground car parks are to have a minimum floor to ceiling height of 3.0m-3.5m to enable flexibility for a future change in use. Refer to *Figure 8B.2-2*.

Car parking rates

11 The following car parking ranges apply to office, business premises and shops, where the development is within 400m walking distance of a train station entry and within a commercial centre:

Premises	Parking Space Requirement
Office and business premises	1 space per 33m² GFA to 1 space per 45m² GFA Suggested split: 90% employee 10% visitors
Shops, including restaurants and cafes	1 space per 26m² GFA to 1 space per 33m² GFA

8B.2 CAR PARKING PROVISION (continued)

Controls

12 For all other locations or uses, car parking is to be provided for retail and commercial uses as well as any recreational/tourist uses and health/community uses in accordance with the parking rates in *Part 22R of this DCP*.

Note: Any spaces provided which exceed the requirements will be included in the calculation of gross floor area under the KLEP (Local Centres) 2012.

Note: A Traffic Impact Assessment is to accompany development applications that seek to vary the parking rates. This includes commercial or strata funded car share schemes in lieu of parking spaces.

13 For retail/commercial parking, specific areas of the total parking quantum are to be set aside for employee/long term parking. As a guide, 20% of retail parking and 90% of commercial parking could be set aside as employee/long term parking.

14 Visitor parking for each separate use is to be provided within the main parking area allocated for that use.

15 The following car parking requirements only apply to the residential component within 400m walking distance of a train station entry within mixed use developments:

Apartment Size	Minimum number of parking spaces per dwelling	Maximum number of parking spaces per dwelling
Studio	0 spaces	0.5 spaces
One bedroom	0.6 spaces	1 space
Two bedrooms	0.9 spaces	1.25 spaces
Three or more bedrooms	1 space	2 spaces

16 Residential visitor parking is to be provided within the site at the rate of one space per 6 apartments or part thereof.

17 At least one visitor parking space is to comply with the dimensional and locational requirements of *AS2890.6*.

18 One visitor parking bay is to be provided with a tap, to make provision for on-site car washing.

19 At least one car share space is to be provided.

Note: any proposed reduction in car parking on the basis of providing car share space/s is to be justified by the proponent through supporting studies.

8B.3 BICYCLE PARKING AND SUPPORT FACILITIES PROVISION

Further controls that may apply		
		SECTION C **PART 22.7 -** Bicycle Parking and Facilities

Objectives

1 *To provide sufficient and accessible bicycle parking.*

2 *To encourage the use of bicycles.*

Controls

1 Secure bicycle parking spaces and storage are to be provided on site at the following rates for retail and commercial uses:

   i) 1 bicycle locker per 600m^2 of GFA for staff; and

   ii) 1 bicycle parking space (in the form of a bicycle rail) per 2500m^2 GFA for visitors.

2 Secure bicycle parking spaces and storage are to be provided on site at the following rates for residential component:

   i) 1 bicycle parking space per 5 units or part thereof for residents within the residential car park area; and

   ii) 1 bicycle parking space per 10 units (in the form of a bicycle rail) for visitors in the visitor car park area.

3 Retail or commercial development is to provide employees with 1 shower cubicle with ancillary change rooms per 10 bicycle spaces, including a minimum of 1 shower each for both females and males. Signs to showers are to be provided at bicycle parking locations.

4 All on-site bicycle parking spaces and storage are to be designed to AS2890.3.

8C Building Design and Sustainability

8C.1 Solar Access and Daylight
8C.2 Natural Ventilation
8C.3 Room Sizes
8C.4 Apartment Mix and Accessibility
8C.5 Building Entries
8C.6 Internal Common Circulation Areas
8C.7 Roof Forms and Podiums
8C.8 Communal Open Space
8C.9 Building Facades and Articulation
8C.10 Ground Floor Commercial Use
8C.11 Awnings
8C.12 Colonnades
8C.13 Internal Ceiling Heights
8C.14 Visual Privacy
8C.15 Acoustic Privacy
8C.16 Late Night Trading
8C.17 External Air Clothes Drying Facilities

READ WITH

SECTION A
PART 8 - Mixed Use Development
8A.4: Building Separation
8C.3: Room Sizes

SECTION B
PART 14 - Urban Precinct and Sites
PART 20 - Development near road or rail noise

SECTION C
PART 22 - General Access and Parking
22.1: Equitable Access
PART 23 - General Building Design and Sustainability
23.6: General Visual Privacy
23.5: Roof Terrace and Podiums

REFER TO

SEPP 65 APARTMENT DESIGN GUIDE
PART 3F - Visual Privacy
PART 4A - Solar and Daylight Access
PART 4B - Natural Ventilation
PART 4C - Internal Ceiling Heights
PART 4D - Apartment Size and Layout
PART 4E - Private Open Space
PART 4F - Common Circulation and Spaces
PART 4G - Storage

REFER TO

LIVABLE HOUSING DESIGN GUIDELINES

8C.1 SOLAR ACCESS AND DAYLIGHT

Objectives

1 *To ensure a high level of internal amenity and comfort for all occupants:*

2 *To ensure building occupants have access to daylight within the building.*

3 *To minimise the negative impact of overshadowing on living areas and private and communal open space areas of residential neighbouring development.*

4 *To minimise the impact of development on existing solar collection devices.*

5 *To ensure that development controlled by SEPP 65* Apartment Design Guide *is deferred to in these standards.*



Figure 8C.1-1:
Internal atrium space provided to promote daylight access.

Controls

Non-residential component

1 Buildings are to be oriented to optimise the northern aspect.

2 All office workspaces are to be within 10m and in direct line of sight of a perimeter window.

3 Notches, slots or indentations in the perimeter of the building are to be at least as wide as they are deep to allow daylight that enables functional use of interior areas.

4 Overshadowing is not to compromise the development potential of adjoining yet to be developed sites.

5 Developments are to allow the retention of a minimum four hours direct sunlight between 9am and 3pm on 21st June to all existing solar collectors and solar hot water services on neighbouring buildings.

6 Three hours of direct sunlight between 9am and 3pm on 21st June is to be maintained to the living rooms, primary private open spaces and any communal open spaces within residential developments on adjoining sites.



Figure 8C1-2:
Retractable shading devices to the windows for solar access control.



Figure 8C.1-3:
Photovoltaic cells integrated into the awning design.

Residential component

7 Developments are to be designed to optimise solar and daylight access into apartments and private open spaces within the mixed use development as stipulated in SEPP 65, Apartment Design Guide Part 4A - Solar and Daylight Access.

8C.1 SOLAR ACCESS AND DAYLIGHT (continued)

Controls

Sun shading

8 All shading devices are to be integrated with building facade design *(see Figure. 8C.1-2*).

9 Consideration is to be given to the integration of solar shading with solar energy collection technology *(see Figure 8C.1-3).*

10 All developments are to utilise shading and glare control. Design solutions include:

i) providing external horizontal shading to north-facing windows, such as eaves, overhangs, pergolas, awnings, colonnades, upper floor balconies, and/or deciduous vegetation;

ii) providing vertical shading to east and west windows, such as sliding screens, adjustable louvres, blinds and/or shutters;

iii) providing shading to glazed and transparent roofs;~~.~~

8C.2 NATURAL VENTILATION

Further controls that may apply		
SECTION A **PART 8 -** Mixed Use Development PART 8C.3: Room Sizes		

Objectives

1 *To ensure a high level of internal amenity for all building occupants.*

2 *To ensure direct access to fresh air for building occupants.*

3 *To provide workspaces with opportunities for natural ventilation.*

4 *To minimise odour from commercial sources.*

5 *To ensure that development controlled by SEPP65* Apartment Design Guide *is deferred to in these standards.*

Controls

Non-residential component

1 At least 25% of window area to each external wall surface within office workspaces are to have operable windows or doors.

2 Where possible, provide dual aspect floorspace to office workspaces to aid natural cross ventilation.

3 The use of open plan office floor areas is encouraged to minimise interruptions in airflow by partitions and furniture.

4 The use of courtyard/atrium/thermal chimneys is encouraged to allow warm air to be drawn up and escape through roof ventilation.

5 Ground floor spaces are to be adaptable with provision for internalised exhaust stacks to the highest point of the building.

6 Where commercial facilities are unable to provide natural ventilation, a mechanical system is to be incorporated to ensure air change and flow within internal areas.

7 Notches, slots or indentions cannot be relied upon to achieve natural cross ventilation unless they meet the minimum building separation requirements. Notches, slots or indentations in the perimeter of the building are to be at least as wide as they are deep to allow daylight and ventilation.

Residential component

8 Buildings are to be designed to optimise natural ventilation within apartments, as stipulated in SEPP 65 Apartment Design Guide 4B - Natural Ventilation.

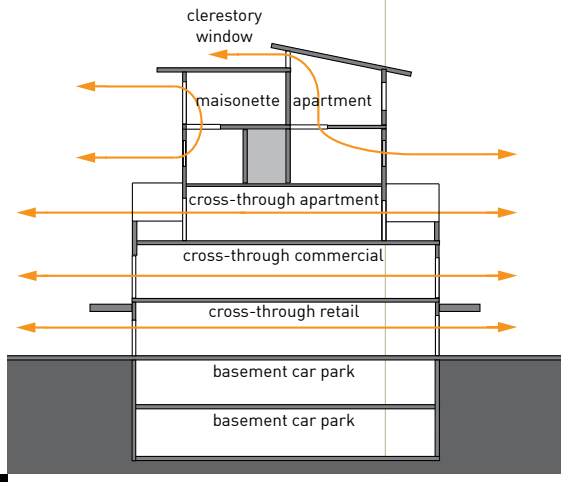


Figure 8C.2-1: Natural ventilation improves the quality of air within living space and work environment.

8C.3 ROOM SIZES

Objectives

1 *To provide workspaces that are naturally ventilated and maximise access to natural light.*

2 *To ensure adequate floor areas for non-residential use that enable flexibility of use.*

Controls

Non-residential component

1 For the non-residential component within a mixed use development the following controls apply:

i) office floors are to be a maximum of 10m from glass line to an internal face of wall. Refer to *Figure 8C.3-1*.

ii) all non-residential uses are to have a minimum internal dimension of 8m within any tenancy unit.

2 Circulation, services and storage areas are to be located at the centre of the building to maximise opportunities for external openings for daylight access and views.

3 Where atriums and courtyards are utilised, they are to have a height to width ratio of no narrower than 3:1, with a minimum dimension of 6.0m.

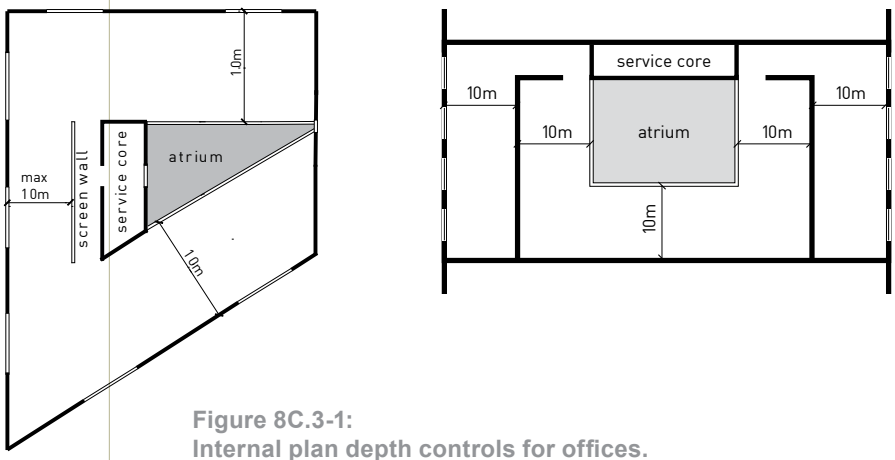
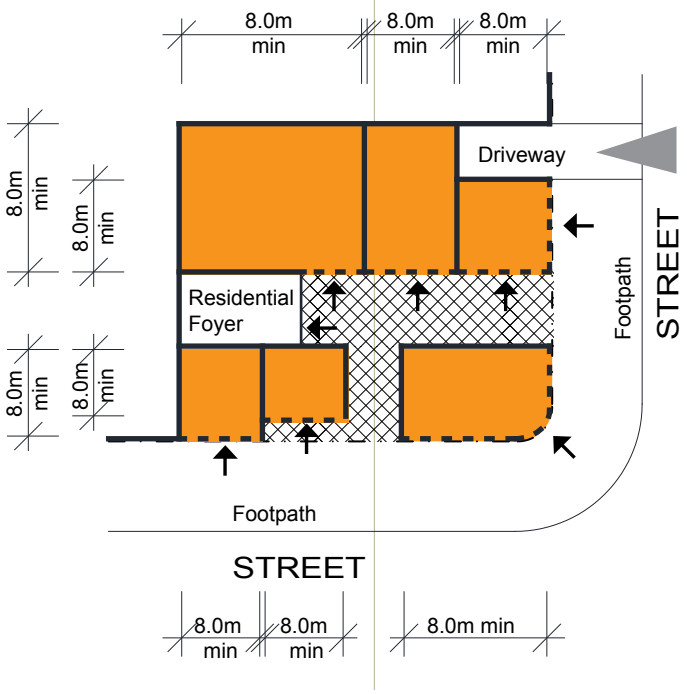


Figure 8C.3-1:
Internal plan depth controls for offices.



Legend

Non-Residential Tenancy Units (minimum 8.0m internal dimension within each tenancy unit)

Pedestrian Access

Vehicular Access

Figure 8C.3-2:
Non-residential tenancy units with minimum 8m dimension to all tenancies.

8C.3 ROOM SIZES (continued)

3 To ensure that development controlled by SEPP 65 Apartment Design Guide *is deferred to in these standards.*

Controls

Residential component

4 Apartments are to have minimum internal areas and layouts as stipulated in *SEPP 65 Apartment Design Guide 4D - Apartment Size and Layout.*

5 Apartments are to include private open space in the form of courtyards, balconies, terraces as stipulated by *SEPP 65 Apartment Design Guide Part 4E - Private Open Space.*

6 Apartments are to provide storage space as stipulated in *SEPP 65 Apartment Design Guide Part 4G - Storage.*

8C.4 APARTMENT MIX AND ACCESSIBILITY

Further controls that may apply		
SECTION A **PART 1B.1 -** Dictionary		**SECTION C** **PART 22.1 -** Equitable access

Objectives

1 *To increase housing diversity and choice within Ku-ring-gai through provision of a range of apartment sizes and types.*

2 *To increase the housing choice for seniors, people with disabilities and for families.*

3 *To promote flexible housing for all community members and for changing household requirements now and in the future as needs change due to ageing and disability.*

Controls

1 A range of apartment sizes (one, two and three bedroom) and a mix of types are to be included within the development.

Accessible Housing

2 All residential flat buildings and apartments are to be designed to Silver Level under the *Livable Housing Design Guidelines*.

3 At least 15% or part thereof, of all residential flat buildings are to be designed to Platinum Level under the *Livable Housing Design Guidelines.*

Note: For details on Liveable Housing Design Guidelines refer to www.livablehousingaustralia.org.au.

4 At least 70% of all dwellings are to be visitable.



Figure 8C.5-1:
A variety of apartment types, sizes and layouts within the same development.

8C.5 BUILDING ENTRIES

Further controls that may apply		
	SECTION C **PART 14 -** Urban Precincts and Sites	**SECTION C** **PART 22.1 -** Equitable Access

Objectives

1 *To ensure the building entry and address is a clear and identifiable element in the street and is safely accessible to all.*

2 *To ensure the building entry contributes positively to the streetscape and building facade design.*

3 *To provide entries that relate to the street and pedestrian movement and promote pedestrian activity along building frontages.*

4 *To provide legible, safe and pleasant circulation spaces at the buildings street interface.*

5 *To ensure changes in levels between the street and the development are integrated and maintain physical and visual activation and accessibility.*

6 *To provide separate, secure and identifiable entry paths for residential occupants of the building.*

Controls

1 Access to and within both commercial and residential developments are to be in accordance with the *Disability Discrimination Act 1992*.

2 Buildings are to address the street by providing:

i) level and direct main entrances to lift/building directly accessible and visible from the street; or

ii) with the path to the building entry readily visible from the street where site configuration is conducive to having a side entry.

3 Buildings with street frontages over 18m long must have multiple entries to activate the street frontages.

4 Building entries from principal active street frontages are to provide a flush transition with adjoining frontages.

5 Street footpath levels are not to be changed. All level adjustments are to occur on private land behind the shopfront glazing/entry doorway. Ramping, escalators, stairs and such like within arcades, malls and shopping centres are to be positioned so that the access and interface from the street is maximised, and street activation is to be preserved. .



Figure 8C.5-1:
Separate entries to commercial and residential premises in a mixed use development. Use of clear glazing enables passive surveillance.



Figure 8C.5-2:
Well defined residential entry that is easily distinguished from the shopfronts.

8C.5 BUILDING ENTRIES (continued)

Controls

6 The building entry is to be legible and integrated with horizontal and vertical building facade architectural elements. At street level, the entry is to be articulated with awnings, porticos, recesses or projecting bays for clear identification.

7 Entries to upper level uses must not dominate ground floor shopfronts. These entries must not occupy more than 20% of the principal active street frontage.

8 Entries and lobbies to apartments are to be separated from commercial entries and are to be clearly demarcated and provide direct access from the street.

9 All entry areas must be well lit and designed to avoid any potential concealment or entrapment areas.

10 Fire egress must not face the principal active street frontage. If this is unavoidable, the fire egress must be integrated into the lobby entrance or shopfront design.

11 Lockable mail boxes are to be:

i) provided close to the street; and

ii) be at 90 degrees to the street and to Australia Post standards; and

iii) integrated with building entries.

12 Entries are to have street numbering that is clearly visible from the street.

13 Buildings with dual street frontage are to provide a building entry to both street frontages that meets the requirements of Part 14 Urban Precincts and Sites of this DCP.

8C.6 INTERNAL COMMON CIRCULATION AREAS

Objectives

1 *To provide accessible, safe and pleasant circulation spaces for all building occupants and users.*

2 *To minimise ongoing maintenance costs by providing natural ventilation, natural light, efficient lighting and appriopriate materials to circulation areas.*

3 *To ensure that development controlled by SEPP 65* Apartment Design Guide *is deferred to in these standards.*

Controls

Non-Residential Component

1 The design of internal common circulation must provide adequate pedestrian mobility and access space and comply with the provisions in *AS1428.1* and *AS1428.2 - Design for Access and Mobility.*

2 All common circulation areas including foyers, lift lobbies and stairways must have:

i) appropriate levels of lighting with a preference for natural light where possible;

ii) short corridor lengths that give clear sight lines;

Note: Fire doors within corridors are not considered to shorten corridors.

iii) clear signage showing the location of commercial facilities, apartments, common areas as well as general direction finding;

iv) natural ventilation;

v) low maintenance and robust materials.

3 Where artificial lighting is required energy efficient lights are to be used in conjunction with timers or daylight controls.

4 Building design is to avoid blind corners or dark alcoves near lifts and stairwells, at entrances, along corridors and walkways and within car parks and provide opportunities for passive surveillance of circulation spaces.

5 Separate access points (via lift or stairs) must be provided for each different use. Both commercial and residential must have its own entry.

6 Seating areas are to be provided within the foyer/atrium of commercial components and are encouraged in common circulation areas near workspaces.

Residential Components

7 Common circulation spaces are to comply with the requirements stipulated by *SEPP 65 Apartment Design Guide Part 4F - Common Circulation and Spaces.*

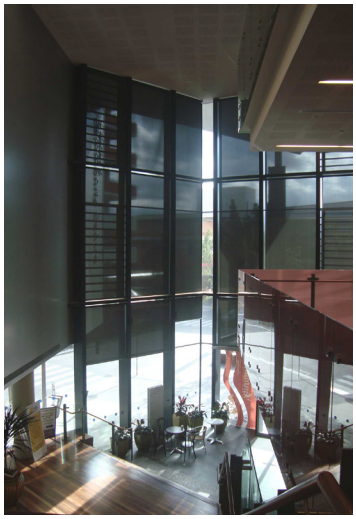


Figure 8C.6-1:
Generous ceiling height to lift lobby to promote daylight access.



Figure 8C.6-2:
Generous open common circulation space for commercial uses on upper floor levels.

8C.7 ROOF FORMS AND PODIUMS

Further controls that may apply		
SECTION A **PART 8A.5 -** Wind Impact		**SECTION C** **PART 23.5 -** Roof terraces and podiums

Objectives

1 *To provide well designed and articulated upper floor forms.*

2 *To prevent any increased overshadowing of adjoining properties.*

3 *To contribute to the overall design and environmental performance of buildings.*

4 *To encourage the use of podiums for open space.*

5 *To minimise visual impacts of service facilities on roof tops.*

6 *To ensure the design of communal open space protects the amenity of nearby residents.*





Figure 8C.7-1:
Articulated upper stories

Controls

1 The upper storeys of mixed use buildings are to be articulated with differentiated roof forms, maisonettes or mezzanine penthouses or similar (*see Figures 8C.7-1).*

2 Service elements are to be integrated into the overall design of the roof so as not to be visible from the public domain or any surrounding development. These elements include lift overruns, plant equipment, chimneys, vent stacks, water storage, communication devices and signage.

3 Roof design is to respond to solar access and prevailing weather with the use of elements such as eaves, skillion roofs, awnings or recesses with a minimum overhang of 0.6m.

4 Where solar panels are provided they are to be integrated into the roof line.

5 The incorporation of green roofs or green podiums is encouraged.

6 Lightweight pergolas, sun screens, privacy screens and planters are permitted on the roof or podium, provided they are integrated with the building and facade design and do not increase the bulk of the building, create visual clutter or impact on significant views from adjoining properties.

7 Podiums and roof terraces used for communal open space are to protect privacy within the development and neighbouring properties. In these circumstances planter boxes are to be incorporated into walls or balustrades for privacy and amenity (see *Figure 8C.7-2*). In some cases these may need to be set back from the building edge to protect neighbouring privacy.

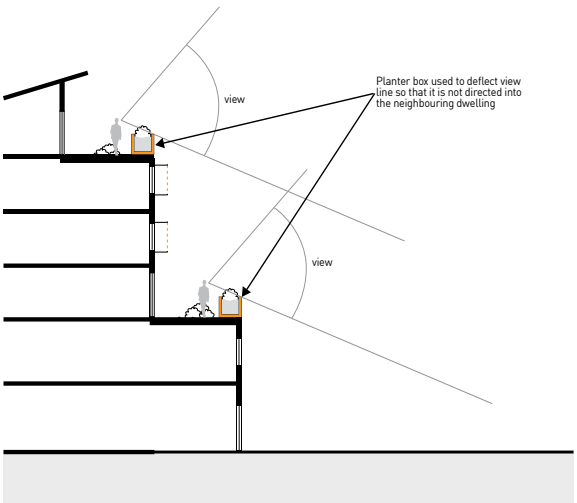


Figure 8C.7-2:
Incorporation of planter boxes into walls or balustrades of podiums and terraces.

8C.8 COMMUNAL OPEN SPACE

Further controls that may apply		
SECTION A **PART 8A.5** - Wind Impact		**SECTION C** **PART 23.5** - Roof terraces and podiums

Objectives

1 To ensure occupants have direct access to sunlight within areas of communal open space.

2 To ensure early consideration of storage of equipment, access to water, ease of rubbish removal and effective drainage for garden maintenance.

3 To provide communal open space that adds to the amenity of the development and facilitates social interaction.

4 To provide communal open space that is responsive to the site and its context.

5 To ensure high quality communal open space that is well integrated within the development.

6 To ensure the design of communal open space protects the amenity of nearby residents.

7 To ensure useability of open terraces and balconies within developments.

8 To provide safe, useable, attractive and accessible communal open space for residents.

Controls

1 Access to any communal open space is to be provided for people with a disability in accordance with Part 2 Section 7 of AS 1428.

2 The location and design of the Primary communal open space is to optimise opportunities for active and passive social and recreation activities, summer shade, solar access and orientation, summer shade, outlook, and maintain the privacy of residents on adjoining lower density residential dwelling sites.

3 To encourage use, communal open space is to incorporate:

i) shared facilities such as barbecue facilities, drinking water taps, play equipment and seating;

Note: Facilities are to be appropriate to the space and demonstrates consideration to the amenity of nearby residents.

ii) sun shading devices and wind screens;

iii) landscape elements, including small to medium trees.

4 Concealment or entrapment areas are not to be created within the communal open space.

5 Any residential communal open space is to be separate and secure from non-residential uses. Separate communal open spaces for non-residential usesare encouraged.

6 For saftey reasons, the communal open space (except for roof terraces) is to be capable of surveillance from at least two apartments and from at least two business units where communal spaces are provided for non-residential uses.



Figure 8C.8-1:
Communal open space overlooked by adjacent apartments for passive surveillance.

8C.8 COMMUNAL OPEN SPACE (continued)

Controls

7 Garden maintenance storage areas and connections to water and drainage are to be provided to communal open space.

Note: Proposals are to demonstrate entry and access to communal open spaces and common areas for maintenance purposes.

Residential Components

8 A minimum of 10m^2 of communal open space per dwelling is to be provided. This can be provided on the podium or roof area.

Note: Roof top communal open space(s) may be required in circumstances where a ground level or podium level communal open space cannot meet performance requirements.

9 At least one single area of Primary communal open space for the residents is to be provided with the following requirements:

i) a minimum area of 80m^2; and

ii) a minimum dimension of 8m; and

iii) access to direct sunlight for at least two hours between 9am and 3pm on 21st June, to at least 50% of the space, and

iv) directly accessible from the internal common circulation/lobby area.

10 Where additional parcels of communal open space are required to meet 8C.8(7) above, a minimum dimension of 5m is required.



Figure 8C.8-2:
Use of roof terrace for communal open space in a mixed use development.



Figure 8C.8-3:
Use of roof terrace for community garden in communal open space

8C.9 BUILDING FACADES AND ARTICULATION

Further controls that may apply		
SECTION A **PART 8C.10** - Ground Floor Commercial Uses	**SECTION B** **PART 14** - Urban Precinct and Sites	**SECTION C** **PART 23.3** - Sustainability of Building Materials **PART 23.4** -Materials and Finishes

Objectives

1 *To create a coherent street character on the Pacific Highway and Mona Vale Road retail strips and other active street frontages in the urban precincts.*

2 *To promote buildings of high architectural quality that contribute to the planned future character.*

3 *To ensure the 3-dimensional built form and the setback is clearly articulated to reduce the bulk and scale of the building.*

4 *To integrate building elements into the overall building form and facade design.*

5 *To create building facades that respond to the uses within the building.*

6 *To create building facades that are environmentally responsive.*

7 *To encourage pedestrian activity at street level.*

8 *To ensure materials palettes are attractive, have longevity and provide low life cycle costs.*

9 *To ensure building design minimises the impacts of weathering.*

Controls

Street Walls

1 In B2 Local Centre and B4 Mixed Use zones, mixed use buildings are to establish a consistent street wall facade along the Pacific Highway and Mona Vale Road frontages, especially along retail strips. See Figure 8C.9-1

2 Street wall requirements for other streets within the urban precincts are set out in Part 14 Urban Precincts of this DCP.

3 Street wall requirements do not apply to Mixed Use buildings in R4 zones where commercial uses are permitted under Schedule 1 of the KLEP (Local Centres).



Figure 8C.9-1:
Consistent 3 storey street wall facade to complement the traditional 'main street' facades.

Building Length

4 The continuous length of the residential component of a building on any elevation is not to exceed 36m.

5 The length of the individual component of a building facing a side or rear boundary may exceed 36m provided that the facade is recessed to an adequate depth and width to appear as distinctive building bays or wings.

Facade Articulation

6 All building facades at street level are to engage with and contribute to the activities of the street and the public domain principally through the use of glazed shopfronts.

Note: Refer to *8C.14 of this Part* for ground floor shopfront controls.

10 To provide distinct building articulation on corner sites that reinforce the street intersection and create a unique memorable building that supports urban wayfinding.

11 To ensure that building facade design contributes to the safety of the public domain.

12 To demonstrate appropriate levels of architectural detail that will achieve the desired urban character of Ku-ring-gai.

13 To enable the building facade, entries and openings to directly relate to the street frontage.

14 To provide private open space (eg. balcony, deck, terrace) that is integrated into the overall design of development.

15 To ensure that private open space design allows views and passive surveillance of the street while providing for safety and visual privacy of residents.

16 To co-locate sustainable features as integrated building elements which enhance the buildings appearance.

17 To ensure openings and articulation on the elevations do not compromise the liveability of the internal areas.

18 To provide distinct building articulation on corner sites

19 To reinforce street intersections and create landmarks.

Controls

7 Above-awning facades are to present more solid surface area than glazed area, and are to have a minimum masonry component of 30%.

8 All building facades above the ground floor are to be modulated and articulated with wall planes supplemented with architectural elements varying in depth by not less than 0.6m. Methods of achieving facade articulation and modulation that is integrated with the building include (see Figure 8C.12-4):

i) defining a base, middle and top related to the overall proportion of the building;

ii) expressing datum lines using cornices, a change in materials or building setbacks;

iii) expressing the internal building layout or structure, such as party walls or vertical bays with individual modulations;

iv) expressing the variation in floor to floor height, particularly at lower levels;

v) using a variety of window types to create a rhythm or express the building uses;

vi) using recessed balconies and deep windows to add visual depth; and/or

vii) using change of material, texture and colour to break down large flat facades, and create a rhythm;

viii) sun shading to openings.



Figure 8C.9-2:
Methods of achieving building articulation and modulation.

9 Elevations are to be well composed with attractive proportions and coherent rhythms. Changes of material, texture and colour are to be integrated into the building articulation to break down the apparent bulk and scale of the building. Large flat walls, undifferentiated window openings and applied treatments are to be avoided.

10 Blade walls are not to be the sole element used to provide articulation.

8C.9 BUILDING FACADES (continued)

Controls

11 Windows to a habitable room are to be situated so as to create opportunities for passive surveillance of the street. Snorkel windows are not permitted.

12 Targeted illumination of architectural details is encouraged.

13 All facades are to be designed to minimise on-going maintenance and weathering by:

i) selecting appropriate robust materials/finishes;

ii) making any rendered facades pre-coloured and not painted;

iii) including appropriate building edge, balcony edge, sill, head and parapet detailing that demonstrates protection from prevailing weather and harsh solar aspects.

14 The building is not to consist of a single predominant finish or material.

15 Facades are to demonstrate appropriate levels of architectural detail that will achieve the desired urban character.

16 Subterranean rooms for residential and non-residential purposes are not permitted.

17 Building facades are to be designed to respond to solar access by using solar protection elements such as eaves, louvres and other sun shading devices as environmental controls.

18 All building elements including shading devices, signage, drainage pipes, awnings/colonnades, solar devices and communication devices are to be coordinated and integrated with the overall facade design.

Note: See Part 12 of this DCP for other signage requirements.

19 Air conditioning units are to be located in the basement or on the upper most roof with appropriate screening. Air conditioning units are not to be located on the building facade or within the private or communal open spaces.



Figure 8C.9-3:
Photovoltaic cells integrated into the awning design.



Figure 8C.9-4:
Drainage pipes integrated with the overall facade design.

8C.9 BUILDING FACADES (continued)

Controls

Balconies

20 Balconies that run the full length of the building facade are not permitted.

21 Balconies are not to project more than 1.5m from the outermost wall of the building facade unless they are an integrated part of the building composition.

Note: Setback and building separation requirements apply to balcony projections.



Figure 8C.9-5:
Variety of balcony design with the incorporation of sun shading devices.

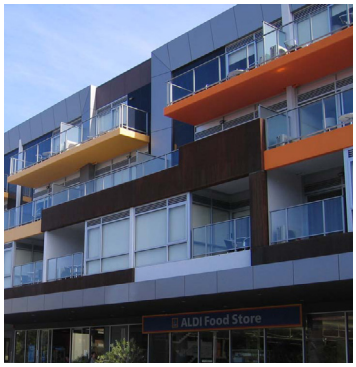


Figure 8C.9-6:
Well articulated building facade using recessed and projected balconies, and a mix of colours and materials.

Corner Sites

22 Street corners are to be emphasised architecturally by accentuating parts of the building facade. This may be through:

i) changes in height, colour or facade materials;

ii) changes at the corner;

iii) change in building articulation;

iv) facade orientation;

v) change in roof expression;

vi) splayed setbacks or curves;

vii) providing corner entries.

23 Corner buildings are to address both street frontages.



Figure 8C.9-7:
Corner articulation through roof expression.

8C.10 GROUND FLOOR COMMERCIAL USES

Objectives

1 *To support accessible pedestrian activity and enhance the amenity, safety and surveillance of the public domain.*

2 *To provide direct physical and visual connection between the private and public domain.*

3 *To ensure activation and surveillance at street level.*

4 *To provide visual interest at street level.*

Controls

1 Building entries to each individual commercial premises are to be level with adjoining footpaths, with openings (doors and windows) that allow a direct visual connection between the building and the street. See *Figure 8C.10-4*.

Note: Variations may be permitted on very steep streets.



Figure 8C.10-1:
Level access to all shopfronts.

2 Building slabs are to be stepped on sloping sites to ensure ground floor level does not exceed 0.3m above or below finished footpath level.

Note: Variations may be permitted on very steep streets.

3 Ground floor street frontages are to provide for active uses that contribute to the active street frontage.

4 Buildings on principal active street frontages are to:

i) maintain active frontage to 80% of the length of the building facade at the street level;

ii) support a mix of activities, including after hour activities;

iii) provide facades that address the street and public domain with appropriate façade treatments at street level that respond to the pedestrian scale;

iv) contain well articulated pedestrian entrances at frequent intervals;

v) provide continuous awnings;

vi) avoid the incorporation of vehicle access points; and

vii) not have projecting basements.

8C.10 GROUND FLOOR COMMERCIAL USES (continued)

Controls



Figure 8C.10-3:
Openable shopfronts with merchandise creates interest and engages the passer-by.



Figure 8C.10-4:
Cafe with an openable shoptfront contributes to street activity.

5 Buildings on supporting active street frontages (including mixed use buildings in R4 - High Density Residential zones) are to:

i) minimise the extent of blank walls and incorporate modulation or changes in texture and materials to reduce their impact;

ii) support dispersed pedestrian-oriented activities with well articulated entrances;

iii) provide facades that address the street and public domain and integrate vehicle access where provided; and

iv) provide awnings, especially at key pedestrian entry points.

6 Ground floor building design articulation for retail/commercial uses are to avoid the creation of dark alcoves or entrapment areas.

7 The sill height of street frontage windows are not to be more than 1.2m above the adjacent street paving at any point. See Figure 8C.10-2.



Figure 8C.10-2:
Sill height controls for ground floor commercial premises to achieve an active street frontage.

8 External finishes at street level are to be robust and graffiti resistant, eg. ceramic tiles and metal.

9 Clear glazing is to be provided to all windows of active street frontage.

10 Security roller shutters are not permitted on the external face of the building. Where they are deemed necessary, grilles or transparent security shutters may only be used behind the window display.

11 Openable shopfronts for restaurants and cafes are to be provided where practicable. See Figure 8C.10-3 and Figure 8C.10-4.

12 No residential dwellings are permitted on the street level frontage. Where dwellings are provided on the street level frontage, the development is considered to be a Residential Flat Building and is to comply with all controls in Part 7 Residential Flat Buildings.

8C.11 AWNINGS

Objectives

1 *To ensure that awnings are in scale with development and overall design.*

2 *To ensure that awnings are designed to be consistent throughout Ku-ring-gai and with adjacent developments awning structures.*

3 *To provide high levels of pedestrian amenity with sun and rain protection.*

4 *To create well lit, visible street frontages that deter vandalism.*

5 *To create a pedestrian scale at street level.*



Figure 8C.11-1:
Awning stepped to express building entry

Controls

1 Continuous awning is to be provided to the full length of the principal active street frontage.

2 Provide awnings along the supporting active street frontages (including mixed use buildings in R4 - High Density Residential zones) wherever practical, especially at key pedestrian entrances.

3 Awning design is restricted to suspended steel box section type along the principal active street frontages. Variations may be permitted in certain situations such as corners and building entries.

4 Large expanses of glazing within the awnings are to be avoided.

5 Awning heights are to be between 3m and 3.5m except where integration with an adjoining property's awning(s) is desired, in which event awning height is not to be greater than 4.2m. Refer to Figure 8C.11-2.

6 Awnings are to be set back a minimum of 0.6m from the face of the kerb and to wrap around the corner on corner sites. Where street trees are required, the entire length of the awning is to be set back from the inside edge of the tree hole. Cut outs for trees and light poles in awnings are not permitted.

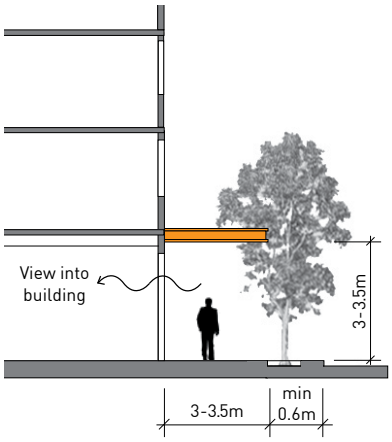


Figure 8C.11-2:
Awnings dimension controls.



Figure 8C.11-3:
Suspended steel box section type awning with under awning lighting.

7 Awning depths are to be between 3 and 3.5m along the principal active street frontages. Refer to Figure 8C.11-2.

8 Steps within an awning for design articulation or to accommodate sloping streets are to be integrated with the building design and architectural composition of the elevations. The step is not to exceed 0.7m in height. See Figure 8C.15-1.

9 Vertical canvas drop blinds are not permitted along the outer edge of awnings.

10 Provide under awning lighting recessed into the soffit of the awning or wall mounted on the building.

11 Under awning lighting is to achieve luminance levels consistent with community safety and security in *AS1228.1-2001*.

8C.12 COLONNADES

Objectives

1 *To ensure that colonnades are safe, accessible and in keeping with desired streetscape character and appropriate to the development in scale and overall design.*

2 *To ensure that colonnades respond to the pedestrian scale of the street.*

3 *To provide colonnades that increase pedestrian amenity with sun and rain protection.*

4 *To provide colonnades that facilitate opportunities for outdoor dining.*

5 *To ensure that colonnade areas are well lit and have high visibility.*

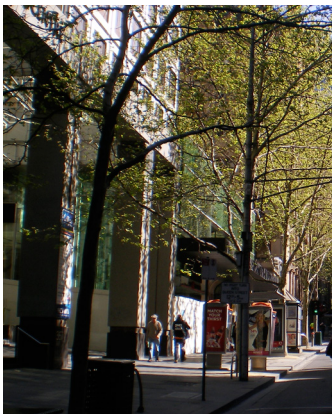


Figure 8C.12-1:
Colonnade space within property boundary.



Controls

1 All colonnade spaces are to be within the property boundary.

2 Colonnades are to have a height/width ratio no less than 1.5:1, a minimum width of 2.4m, and a minimum soffit height of 3.6m.

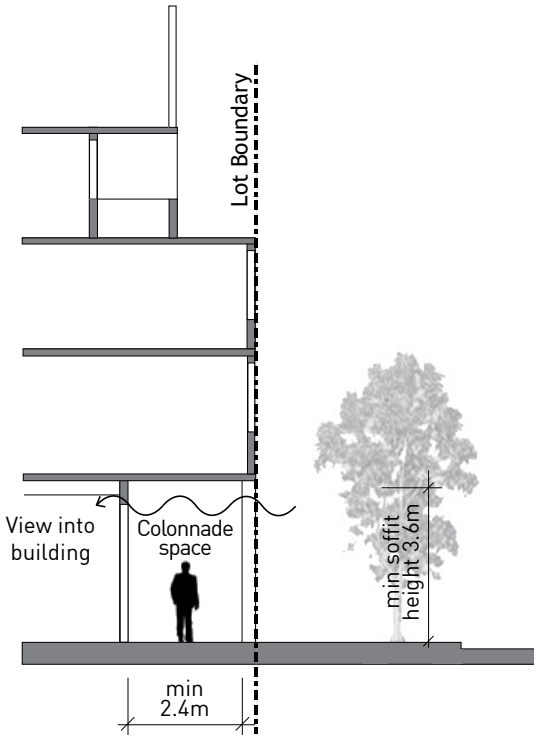


Figure 8C.12-2:
Colonnade space activates street level.

3 Colonnade heights and widths are to be continuous along a block, and should readily allow extension into neighbouring sites.

4 The size and spacing of supports are to be designed to allow pedestrian circulation and views of ground floor activity from the street, and avoid concealment areas.

5 On sloping sites an access point with a flush transition is to be provided between the colonnade area and adjoining footpaths.

6 Provide under colonnade lighting recessed into the soffit of the colonnade or wall mounted on the building, ensuring shadowed recesses are not created as potential entrapment areas.

7 Under colonnade lighting is to achieve luminance levels consistent with community safety and security in *AS1228.1-2001*.

8 Vertical canvas drop blinds are not permitted along edge of colonnades.

Figure 8C.12-3:
Colonnade space used for outdoor dining.

8C.13 INTERNAL CEILING HEIGHTS

Objectives

1 *To ensure that internal ceiling heights are coordinated with external building form requirements.*

2 *To provide internal ceiling heights that contribute to flexibility and adaptability of use in the future.*

3 *To create buildings that facilitate a 'sense of space' by maximising natural light and ventilation.*

4 *To ensure that development controlled by SEPP 65* Apartment Design Guide *is deferred to in these standards.*



Figure 8C.13-1:
Internal ceiling height responded to the parapet line of adjoining heritage building.

Controls

Non-Residential Component

1 For all new buildings in the B2 Local Centre zone, the B4 Mixed Use zone, and sites within the R4 High Density Residential zone where commercial development is permitted under Schedule 1 of the KLEP (Local Centres) 2012, the minimum ceiling heights, measured from finished floor level (FFL) to finished ceiling level (FCL), are to be:

i) 4.0m for ground floor cafe/restaraunt uses (or 4.4m from FFL to next floor FFL);

i) 3.3m for ground floor and first floor retail or commercial uses (or 3.7m from FFL to next floor FFL);

ii) 3m for non-residential uses on all other floors (or 3.4m from FFL to next floor FFL).

2 Internal ceiling heights and slab levels must be coordinated with external height requirements and key datum lines. External building elements requiring coordination is to include:

i) datum lines and parapet lines set by the context or the Built Form controls in Part 14 Urban Precincts and Sites;

ii) the cornices and string courses of adjacent heritage buildings; and/or

iii) existing exterior awning levels or colonnade heights.

Residential Component

3 The minimum ceiling heights for all areas within the residential flat building are to comply with the ceiling heights stipulated in *SEPP 65 Apartment Design Guide Part 4C - Ceiling Heights.*



Figure 8C.13-2:
Internal ceiling height requirements for mixed use buildings.

8C.14 VISUAL PRIVACY

Further controls that may apply		
SECTION A **PART 8A.4 -** Building Separation		**SECTION C** **PART 23.9 -** General Visual Privacy

Objectives

1 *To ensure high standards of visual privacy for all occupants within the development.*

2 *To minimise the impact of development on the visual privacy of neighbouring occupants of residential dwellings.*

3 *To ensure that development controlled by SEPP 65* Apartment Design Guide *is deferred to in these standards.*



Figure 8C.14-1:
Use of a mix of solid and transparent balustrades on different levels to ensure visual privacy.



Figure 8C.14-2:
Balconies with sliding panels to increase visual privacy.

Controls

Non-Residential Component

1 Buildings are to be designed to ensure privacy for residents of the development and of the neighbouring site. In addition to design options outlined in *Section C Part 3.5 of this DCP*, design measures may also include:

i) off-setting balconies in relation to adjacent balconies;

ii) using recessed balconies and/or vertical fins between adjacent private balconies;

iii) using solid or semi-transparent balustrades to balconies (*see Figure 8C.18-1*);

iv) using louvres/screen panels to windows and balconies (*see Figure 8C.18-2*);

v) incorporating planter boxes into walls or balustrades to increase the visual separation between areas;

2 Residential uses including residential entry foyers from street level, and apartments at podium level are to be separated from non-residential common areas, communal open space and the public domain. Examples include the use of:

3 Continuous transparent balustrades are not permitted to balconies or terraces for the lower 3 storeys.

4 Screening between apartments must be integrated with the overall building design.

Residential Component

5 Buildings are to be designed to ensure privacy for residents of the development and of the neighbouring site as stipulated in *SEPP 65 Apartment Design Guide Part 3F - Visual Privacy*

8C.15 ACOUSTIC PRIVACY

Further controls that may apply

SECTION B
PART 20 - Development Near Road or Rail Noise

Objectives

1 *To ensure high standards of acoustic privacy for occupants and neighbours of the development.*

2 *To ensure that mixed use development is designed and constructed to minimise the impact of external noise and facilitate comfortable living conditions for residents/ occupants.*

3 *To ensure that development within mixed use zones incorporates measures to protect the amenity of existing residents.*

4 *To minimise noise impacts of late night operation of mechanical equipment on nearby or adjoining residents.*

5 *To avoid a concentration of high noise generating premises within close proximity to residential uses.*

Controls

1 Buildings are to be designed to minimise the impact of noise through planning, construction and materials in accordance with the relevant acoustic standards in relation to noise transmission between and within buildings, including AS2107-2000: *Acoustics- Recommended design sound levels and reverberation for building interiors*.

2 In addition to specific noise sources such as traffic or rail lines, proposed developments are to consider:

i) the specific nature of the premises, (eg. pub, restaurant, hairdressers, laundromat; supermarket) and any associated outdoor areas;

ii) the proposed hours of operation;

iii) the late night operation of equipment (such as coolrooms and generators) and services within premises (such as drycleaners, cafes, restaurants, entertainment facilities, etc);

iv) any tonal, low frequency, impulsive, or intermittent noise resulting from the development;

v) the existing hours of operation of surrounding business uses;

vi) the size and patron capacity of the premises;

vii) the cumulative impact of the premises on the mix, diversity and possible concentration of late night uses in the locality.

3 The maximum $L_{Aeq\ 15\ minute}$ noise levels of any development must not exceed the levels as set out in Figure 8C.15-1, when measured at the window of a habitable room within a residential occupancy and in any case not more than 5 dB(A) above the background level ($L_{Aeq\ 15\ minute}$) during the day and evening and not audible within any habitable room of a residential premises at night.

Note: Noise assessments are to be conducted in accordance with the methods detailed in the Environment Protection Authority's NSW Industrial Noise Policy.

Amenity Criteria		
	Reccommended LAeq Noise Level, dB(A)	
Time of day[1]	*Maximum noise level -Windows open*	*Maximum noise level -Windows closed*
Day	60	50
Evening	50	40
Night	45	35

Figure 8C.15-1 Source: NSW EPA Industrial Noise Policy

Day[1]: From 7:00am to 6:00pm Monday to Saturday; or 8:00am to 6:00pm on Sundays and public holidays

Evening: The period from 6:00pm to 10:00pm

Night: The remaining time periods.

8C.15 ACOUSTIC PRIVACY (continued)

Controls

4 Noise reduction measures to achieve these outcomes may include, but are not limited to the following design criteria:

i) incorporating appropriate noise shielding or attenuation techniques into the design and construction of the building. In particular, noise shielding will be required between uses, walls and floors;

ii) using noise barrier planning principles such as using the building mass to shield noise (eg using podiums to shield noise from below); and locating non-habitable rooms towards the noise source and habitable rooms oriented to quieter areas on the site; minimising the size and number of windows and balconies oriented to the noise source.

Note: Refer to Part 20 Development Near Rail Corridors and Busy Roads.

iii) enclosing plant rooms;

iv) locating plant in basements;

v) minimising the amount of sharedW walls between apartments, commercial occupancies and/or plant;

vi) locating building services (laundries/ storage areas) and circulation zone apartment entries away from noise sensitive areas (ie. bedrooms) to provide a buffer from noise generators, such as traffic, mechanical plant equipment, and service and loading vehicle entries (*see Figure 8C.15-2*);

vii) recessing balconies and fitting sound absorption materials (*see Figure 8C.15-3*);

viii) fitting out building services, (including plant, piping and ducting) with appropriate acoustic insulation; (comment delete as it is required by BCA)

ix) replacing conventional roof design with eaves by a flat roof with parapets where requirements for weather protection are otherwise achieved;

x) using solid core doors, thicker window glass, double glazing, baffles to openable windows.

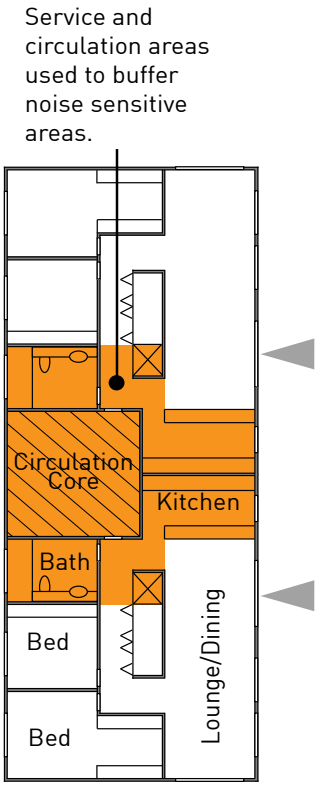


Figure 8C.15-1: Provision of buffer zone to minimise noise impacts within a dwelling.

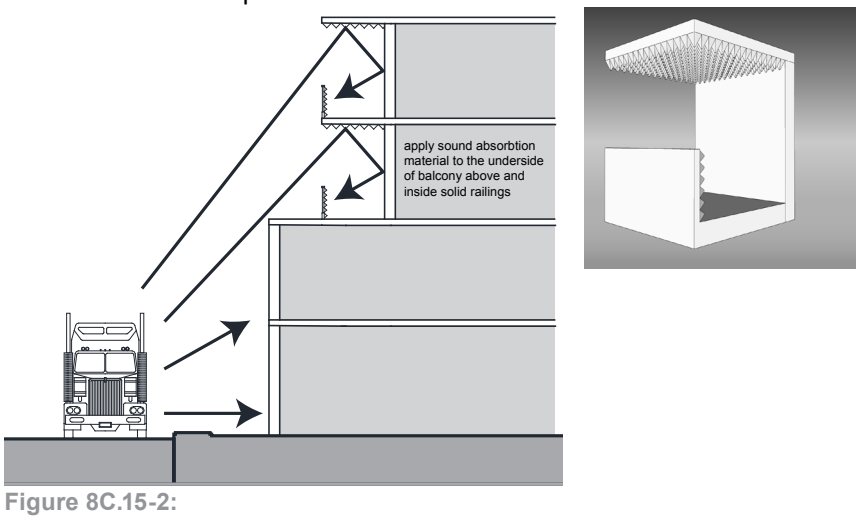


Figure 8C.15-2: Limiting reflected noise on high rise balconies and within adjacent rooms.

8C.15 ACOUSTIC PRIVACY (continued)

Controls

Commercial uses in residential zones

5 Commercial uses, where permitted in R4 (High Density Residential) zones, are to only operate within the following hours:

i) 9:00am to 6:00pm weekdays;

ii) 9:00am to 4:00pm Saturdays; and

iii) 9:00am to 1:00pm Sundays.

6 Use of mixed use buildings in R4 (High Density Residential) zones providing medical services outside of the above hours and on public holidays will be permitted in the case of emergency services.

Commercial Uses in business zones

7 Commercial uses, where permitted in B2 (Local Centre) zones are to only operate within the following hours:

i) 7:00am to 10:00pm weekdays and Saturdays; and

ii) 8:00am to 9:00pm Sundays and public holidays.

8 Loading docks associated with commercial uses in B2 (Local Centre) zones are to operate within the following hours:

i) 6:00am to 8:00pm weekdays; and

ii) 8:00am to 5:00pm Saturdays;

iii) 8:00am to 2:00pm Sundays and Public Holidays.

8C.16 LATE NIGHT TRADING

Objectives

1 *To ensure that late night premises provide adequate safety and security for patrons, nearby or adjoining residents/occupants and the general public within the vicinity.*

2 *To ensure that late night trading premises are designed, constructed and managed to minimise the impact of noise on nearby residents/ occupants.*

3 *To reduce the potential for anti-social behaviour and promote positive social activities.*

4 *To avoid a concentration of high noise late night trading premises in close proximity to residential uses.*



Figure 8C.16.1
Well lit night time street activity.

Controls

1 Development for late night trading premises are to be designed to minimise the impacts of noise production on nearby and adjoining premises.

2 In particular, proposed developments are to consider:

i) the size and patron capacity of the premises, including for associated outdoor areas;

ii) the proposed hours of operation;

iii) the existing hours of operation of surrounding business uses;

iv) the cumulative impact of the premises on the mix, diversity and possible concentration of late night uses in the locality;

v) measures to ensure adequate safety, security and crime prevention both on the site and in the public domain immediately adjacent to, and surrounding, the premises;

vi) the accessibility and frequency of public transport during the late night trading hours.

3 Crime reduction measures to achieve these outcomes may include, but are not limited to the following:

i) lighting at entry, exits and outdoor areas;

ii) locating late night trading entries, exits and outdoor areas away from noise sensitive areas (eg bedrooms);

iii) minimising the size and number of residential windows and balconies oriented towards the entries, exits and outdoor areas associated with the late night premises;

iv) providing windows from residential living areas that overlook the development to provide passive surveillance of the street.

v) providing unobstructed sightlines within and around the development.

4 Development applications for late night trading premises are to be accompanied by a detailed plan of management which addresses amenity, safety and security and demonstrates a strong commitment to effectively managing potential noise impacts on adjoining and surrounding land uses.

Note: Proposals for smaller late night premises may not be required to provide a plan of management. A pre-lodgement meeting with Council is recommended for any proposal that includes late night trading.

8C.17 EXTERNAL AIR CLOTHES DRYING FACILITIES

Objectives

1 *To ensure buildings maximise the opportunities for sun and wind drying of clothes.*

2 *To provide external air clothes drying areas that do not detract from the visual appearance of the building and common areas.*

Controls

1 Each apartment is required to have access to an external air clothes drying area, eg. a screened balcony, a terrace or common area.

2 External air clothes drying areas are to be screened from public and common open space areas. Refer to Figure 8C.17-1.

3 Where provided in common areas, drying facilities, including clothes lines, are to be provided.



Figure 8C.17-1:
Screened balconies for external air clothes drying facilities.

PART 9

NON-RESIDENTIAL AND OFFICE BUILDINGS

NON-RESIDENTIAL AND OFFICE BUILDINGS

Introduction

9A Site Design

9A.1 Building Setbacks

9A.2 Building Separation

9A.3 Deep Soil Landscaping

9B Access and Parking

9B.1 Service Access and Loading Facilities

9B.2 Car Parking Provision

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9C Building Design and Sustainability

9C.1 Solar Access

9C.2 Natural Ventilation

9C.3 Floor Depth

9C.4 Building Entries

9C.5 Internal Common Circulation

9C.6 Roof Forms, Terraces and Podiums

9C.7 Communal Open Space

9C.8 Building Forms and Facades

9C.9 Corner and Landmark Building Articulation

9C.10 Ground Floor Frontage

9C.11 Awnings and Colonnades

9C.12 Internal Ceiling Heights

9C.13 Visual Privacy

9C.14 Acoustic Privacy

9C.15 Fencing

INTRODUCTION

This Part is to be read in conjunction with KLEP (Local Centres) 2012. This section applies to all non-residential and office building developments within the B1, B2, B4 and B7 zones.

Where a development involves refurbishment works or alterations/ additions to existing buildings, new elements are to meet the requirements of this Part.

The objectives and controls in this Part guide the development of office buildings in meeting the aims and objectives within the LEP.



9A Site Design

9A.1 Building Setbacks

9A.2 Building Separation

9A.3 Deep Soil Landscaping

READ WITH
SECTION A **PART 8 -** Mixed Use Development 8A.4: Building Separation
SECTION B **PART 14 -** Urban Precinct and Sites
SECTION C **PART 21 -** General Site Design

9A.1 BUILDING SETBACKS

Further controls that may apply		
SECTION A **PART 8A.3 -** Building Setbacks	**SECTION B** **PART 14 -** Urban Precinct And Sites	

Objectives

1 *To create cohesive streetscapes with consistent building alignments and setbacks.*

2 *To facilitate building modulation and articulation of facades.*

3 *To ensure adequate areas to enable effective street tree planting and setback landscaping where appropriate.*

4 *To protect the privacy and amenity of any adjoining residential land uses.*

5 *To ensure adequate separation between buildings on different sites for sun access, acoustic control and natural ventilation.*

Controls

1 Buildings are to conform with established street and boundary setback pattern and distance and comply with relevant setback controls in Part 14 and Part 8A.1

2 The following elements may encroach into setback areas within B4 zones:

i) eaves;

ii) pergolas; and

iii) blades, fins, columns.

3 Basements are not to encroach into the street, side or rear setbacks.

4 Surface parking is not permitted within the street setback.

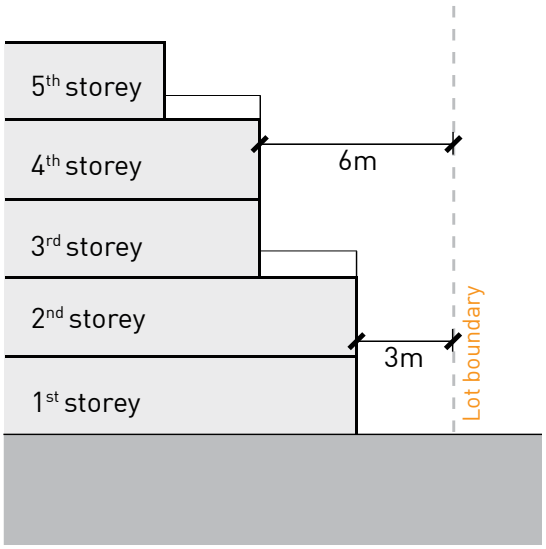


Figure 9A.1-1:
Minimum side and rear setback controls.

9A.2 BUILDING SEPARATION

Further controls that may apply		
SECTION A **PART 8A.4 -** Building Separation	**SECTION B** **PART 14 -** Urban Precinct And Sites	

Objectives

1 *To ensure that new development supports the desired character of the area with appropriate massing and spaces between buildings.*

2 *To ensure building configuration protects and enhances visual and acoustic privacy for occupants.*

3 *To provide building form and layout that minimises overshadowing of adjacent properties and open space.*

4 *To provide building configuration that facilitates the provision of useable communal open space, landscaping and view corridors.*

5 *To provide building form and layout that maximises view sharing.*

Controls

1 Buildings within B2, B4 and B7 zones are to comply with the relevant building separation controls in *Part 14 and Part 8A.2*.

2 Separation distances between building elements within a development and between adjoining properties are to be:

i) Three to five storeys:
- a minimum of 9m between commercial uses and habitable rooms or balconies of dwellings;
- a minimum of 6m between commercial uses and commercial uses or non-habitable rooms of dwellings

ii) Six storeys and above:
- 9m between commercial uses and commercial uses or non-habitable rooms of dwellings.

Nothing in this provision reduces the required setback in Part 9A.1.

3 Office developments adjacent to existing residential flat buildings built prior to 2004 or commercial buildings built prior to 2013 (ie prior to current setback requirements), are to demonstrate that the adjoining development retains adequate visual and acoustic privacy, access to daylight and views and that the massing of the building is appropriate to the character of the locality.





Figure 9A.2-1:
Landscaped open space as separation between office buildings.

9A.3 DEEP SOIL LANDSCAPING

Objectives

1 *To provide landscaping that is appropriate to the scale and context of the development.*

2 *To retain significant trees.*

3 *To minimise impervious surfaces that generate storm water runoff.*

4 *To soften the built form.*

5 *To provide amenity for the users of the site and its neighbours.*

6 *To provide shade for users of the site and for carparking.*

Controls

1 Where setbacks are required deep soil landscaping is to be provided to at least half the setback.

2 Natural ground level is to be retained throughout any required setbacks, where possible.

3 Deep soil landscaping is also to be provided along side setbacks.

4 Deep soil zones are to be configured to retain healthy and significant trees on the site and adjoining sites, where possible

5 Where landscaping is provided along the street alignment, a physical edge such as a planter box wall, is to be no higher than 1m from the finished level of adjacent public pathways.



Figure 9A.3:
Mixed planting in side setback includes tall trees

9B Access and Parking

9B.1 Service Access and Loading Facilities

9B.2 Car Parking Provision

9B.3 Bicycle Parking Provision

READ WITH

SECTION C
PART 22 - General Access and Parking
- 22.3: Basement Car Parking
- 22.4: Visitor Parking
- 22.5: Parking for People with a Disability
- 22.7: Bicycle Parking and Facilities
- 22R.2: Car Parking Rates

PART 23: General Building and Sustainability
- 23.4: Waste Management

9B.1 SERVICE ACCESS AND LOADING FACILITIES

Further controls that may apply		
		SECTION C **PART 23.7 -** Waste Management

Objectives

1 *To provide adequate and accessible on-site service areas and loading facilities.*

2 *To provide size and number of service areas and loading docks in proportion to the scale and intensity of the proposed use.*

3 *To ensure that loading facilities do not detract from the street scape and the amenity of nearby public spaces and residential areas.*

Controls

Service access

1 On-site service vehicle access are to be provided and designed in accordance with the following:

i) a driveway is to be established that is of adequate strength, width and design for the intended service vehicle characteristics;

ii) the driveway is to be designed such that service vehicle movement is in a forward direction, both when entering and exiting the site;

iii) entrance heights are to allow access for service vehicles;

iv) service ducts, pipes and other overhead obstructions are to be located to maintain minimum finished ceiling heights required for service vehicle access; and

v) on-site manoeuvrability is to be unimpeded for all site users.

2 Generally, service vehicle access is to be combined with parking access. Separate access may be required in major office developments.

3 Where a waste and recycling room is provided within the basement, the minimum finished ceiling height is to be 4.5m along the path of travel from the street to the commercial waste collection and manoeuvring area. This clearance is to be kept free of any overhead ducts, services or other obstructions.

Loading facilities

4 Service vehicles turning into or out of a road or driveway are to be able to complete their turning manoeuvres without crossing the centre line of the public road.

5 On-site internal loading facilities is to be provided for all developments with loading and unloading requirements.

9B.1 SERVICE ACCESS AND LOADING FACILITIES (continued)

Controls

6 Loading docks are to be:

i) accessed via a rear lane or side street where these are available, and accessible to heavy vehicles;

ii) conveniently located in such a way that minimises conflict with pedestrians and other traffic; and

iii) screened from the public street.

Note: Refer to RTA Guidelines (RMS).

7 Gradients in service areas are to be kept to a minimum. The maximum gradient measured in any direction at any one point, is to be 1:6.5 (15.4%) where only forward movement is to take place or 1:8 (12.5%) where reverse manoeuvres will occur.

8 Circulation roadways and loading area dimensions are to comply with the provisions in *AS2890.2: Off-Street Parking (Part 2:Commercial Vehicle Facilities)*.

9 The design of the apron area in front of the loading dock(s) is to take into account the type of vehicle to be used. Reference is to be made to *AS2890.2* for apron dimensions.

10 Turning provisions are to be made within the site for the manoeuvring of vehicles using the loading and unloading facilities in accordance with Austroads Design Vehicular and Turning Templates.

Note: Refer to RTA guidelines (RMS)- *RTA Guide to Traffic Generating Developments* and relevant Australian Standards.

9B.2 CAR PARKING PROVISION

Further controls that may apply		
		SECTION C **PART 22.3 -** Basement Car Parking **PART 22.4 -** Visitor Parking **PART 22.5 -** Parking for People with a Disability **PART 22R.2 -** Car Parking Rates

Objectives

1 *To provide adequate car parking for the building's users and visitors, with consideration of building type and proximity to public transport.*

2 *To locate and design car parking which is integrated into the design of the site and the building.*

3 *To locate multi-level car parking in a way that protects streetscape address and visual amenity.*

4 *To limit surface car parking and ensure it is incorporated into the landscape design of the development site.*

5 *To ensure shading of outdoor car park areas through the use of landscaping.*

Controls

Car parking design

1 All car parking areas are to be provided within the basement of development.

2 Basement car parking areas are to be consolidated under building footprints.

Note: Basements may be permitted to extend under the space between buildings on the same site.

3 The basement car park is not to project more than 1m above existing ground level to the floor level of the storey immediately above. See *Figure 9B.2-1*

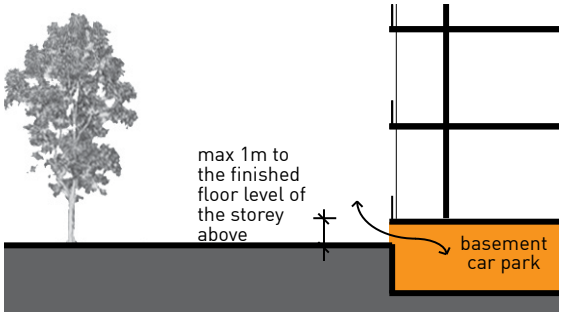


Figure 9B.2-1:
Controls for basement car park projection above existing ground level.

4 Car parking spaces, circulation areas, roadways and ramps are to comply with AS2890.1.

5 Multi-storey car parking above ground level may be permitted where it is housed within the building and concealed behind office or other active uses, so that the parking structure is not visible from the street or adjacent properties. Refer to *Figure 9B.2-1 and 9B.2-2.*

6 Multi-storey car parks are to have a minimum floor to ceiling height of 3.5m at ground or entry level, and 3m on any other above ground level, to enable flexibility for change in use. See *Figures 9B.2-2 and 9B.2-3.*

9B.2 CAR PARKING PROVISION (continued)

Controls

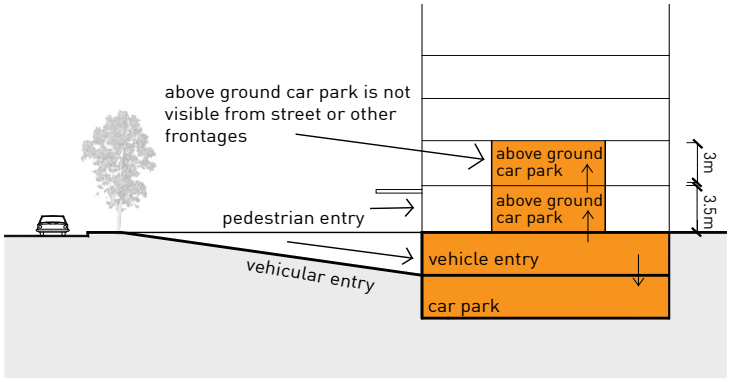


Figure 9B.2-2:
Multi-storey car park is housed within the building to facilitate active street frontages.

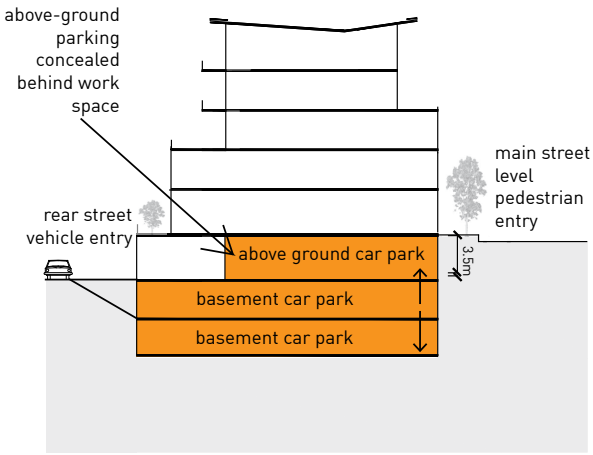


Figure 9B.2-3:
Above ground car parking is permitted on steep sites.

7 Any surface car parking is to be located behind the building line and screened from view.

8 The landscape design of surface car parks is to provide for adequate watering.

9 Illuminated areas of surface car parks or driveways is to be screened to minimise light spillage and loss of amenity to adjacent residential areas.

9B.2 CAR PARKING PROVISION (continued)

Controls

10 Surface parking areas are to:

i) have a maximum of 5 parking bays with minimum 2m wide deep soil landscape islands between parking bays and around the perimeter of the area.

ii) have broad canopy plant species selected and located in these areas to provide screening and shade, without blocking signs or reducing driver visibility or creating entrapment areas. See *Figure 9B.2-4.*

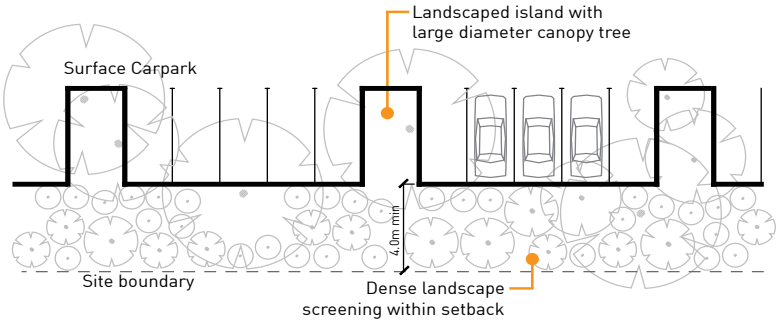


Figure 9B.2-4:
The use of vegetation in a typical car park to provide screening and shade.

Car parking rates

11 For all non-residential development the parking provisions are to meet the requirements of *Part 22 of this DCP.*

12 For all non-residential premises, where the development is within 400m walking distance of a train station entry and within a Local Centre located on the train line (Turramurra, Pymble, Gordon, Lindfield and Roseville), the following parking rate ranges apply:

Premises	Parking Space Requirement Range
Office and business premises	1 space per 33m^2 GFA to 1 space per 45m^2 GFA Suggested division: 90% employee; 10% visitor Plus 1 space if resident/manager or caretaker Plus 1 courier space for development in excess of 200m^2 GFA
Retail	1 space per 26m^2 GFA to 1 space per 33m^2 GFA Suggested division: 30% employee: 70% visitor

Note: A Traffic Impact Assessment is to accompany development applications that seek to vary the parking rates. This includes commercial or strata funded car share schemes in lieu of parking spaces.

Note: Any spaces provided which exceed the upper range are to be included in the calculation of gross floor area.

9B.2 CAR PARKING PROVISION (continued)

Controls

13 For all non-residential development located more than 400m from a train station, car parking is to be provided in accordance with the parking rates in *Part 22R.2.*

14 A minimum of 1 space or 1-2% (whichever is greater) is to be provided for accessible car parking for people with a disability.

15 10% of total parking within office developments is to be provided for visitors.

16 Consideration is to be given to accommodation of other road users, such as motor cycles and minibuses.

17 Parking provision at a rate less than 1 per 45m^2 GFA may be considered if accompanied by firm and ongoing proposals to encourage alternative means of transport. This may include strategies such as:

i) Transport Access Guides (TAG);

ii) Staff discount/subsidy towards public transport costs;

iii) Dedicated shuttle bus between the development and railway station;

iv) Adoption and implementation of a car pool/car sharing scheme;

v) Use of taxis or public transport for work related journeys;

vi) Priority parking for staff who pool with 2 or more passengers.

Any proposed alternate scheme is to establish a plan with measurable targets and is to be regularly publicised and monitored.

18 At least one car share space is to be provided.

Note: any proposed reduction in car parking on the basis of providing car share space/s is to be justified by the proponent through supporting studies.



Figure 9B.2-5:
Broad canopy trees shading for at grade car parking.

9B.3 BICYCLE PARKING PROVISION

Further controls that may apply		
		SECTION C **PART 22.7 -** Bicycle Parking and Facilities

Objectives

1 *To provide safe and easily accessible bicycle parking.*

2 *To provide amenities related to use of bicycles and public transport.*

Controls

1 For all office buiidings and office components of mixed use buildings, provide on-site, secure bicycle parking spaces and storage at the following rates:

i) 1 bicycle locker per 200m^2 of gross floor area (GFA) for staff; and

ii) 1 bicycle parking space (in the form of a bicycle rail) per 750m^2 over 1000m^2 GFA (minimum) for visitors.

2 At least one shower with changing and locker facilities is to be provided on each floor within office buildings and office components of mixed use buildings. .



Figure 9B.3-1: Bicycle Storage Area.

9C Building Design and Sustainability

9C.1 Solar Access
9C.2 Natural Ventilation
9C.3 Floor Depth
9C.4 Building Entries
9C.5 Internal Common Circulation
9C.6 Roof Forms, Terraces and Podiums
9C.7 Communal Open Space
9C.8 Building Forms and Facades
9C.9 Corner Building Articulation
9C.10 Ground Floor Frontage
9C.11 Awnings and Colonnades
9C.12 Internal Ceiling Heights
9C.13 Visual Privacy
9C.14 Acoustic Privacy
9C.15 Fencing

READ WITH

SECTION A
PART 1 - Start Here
1B: Dictionary
PART 8 - Mixed Use Development
8C.14: Ground Floor Commercial Use
8C.15: Awnings
8C.16: Colonnades
PART 12 -Signage And Advertising

SECTION B
PART 14 - Urban Precinct and Sites
PART 20 - Development Near Road or Rail Noise

SECTION C
PART 23 - General Building and Sustainability
23.5: Roof Terraces and Podiums
23.8: General Acoustic Privacy
23.4: Material Finishes and Colour

9C.1 SOLAR ACCESS

Objectives

1 *To ensure a high level of internal amenity for all occupants with direct access to daylight.*

2 *To minimise the impact of overshadowing on living areas, and on private and communal open space areas of neighbouring buildings.*

3 *To minimise the impact of development on existing solar collection devices.*

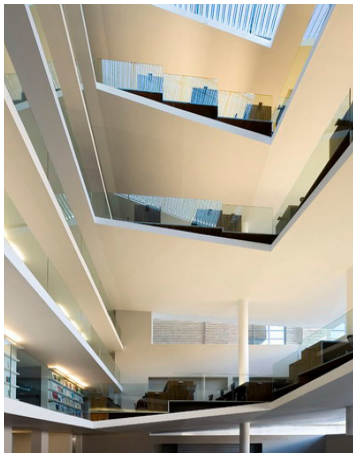


Figure 9C.1-1:
Internal atrium space to promote daylight access.

Controls

1 Buildings are to be oriented to optimise the northern aspect.

2 Use light shelves, reflectors, lightwells, skylights, atriums and clerestories where possible to maximise the quantity and quality of natural light within internal areas.

3 Developments are to allow the retention of a minimum of 4 hours direct sunlight between 9am to 3pm on 21st June to all existing neighbouring solar collectors and solar hot water services.

Office shading

4 At least 90% of all workspaces are to be within 10m and in direct line of sight of a perimeter window.

5 All developments are to allow the retention of at least three hours of sunlight between 9am and 3pm on 21st June to the living areas and the principal portion of the private and communal open space of any residential development on adjoining lots.

6 Where existing overshadowing by buildings is greater than this, sunlight is not to be reduced by more than 20%.

Sun shading

7 All developments are to utilise shading and glare control. For example:

i) provide external horizontal shading to north-facing windows, such as eaves, overhangs, pergolas, awnings, colonnades, upper floor balconies, and/or deciduous vegetation;

ii) provide vertical shading to east and west windows, such as sliding screens, adjustable louvres, blinds and/or shutters;

iii) provide shading to glazed and transparent roofs;

iv) use low glare high performance glass with an overall 3 star Window Energy Rating Scheme rating

Note: Refer to *www.wers.net*

v) avoid the use of reflective films;

vi) use a glass with reflectance below 20%.

8 All shading devices are to be integrated with building facade design.

9 Consideration is to be given to the integration of solar shading with solar energy collection technology.

9C.2 NATURAL VENTILATION

Objectives

1 To enable opportunities for natural ventilation.



Figure 9C.2-1:
Atrium to provide natural ventilation.

Controls

1 Wherever possible, provide dual aspect floor space to aid cross ventilation.

2 The use of open plan floor areas is encouraged to minimise interruptions in air flow by partitions and furniture.

3 Wherever possible, courtyard / atrium / thermal chimneys are to be provided to enable warm air to be drawn up and escape through roof ventilation.

Offices

4 All workspaces are to have operable windows or doors which open to at least 30% of the window or door areas.

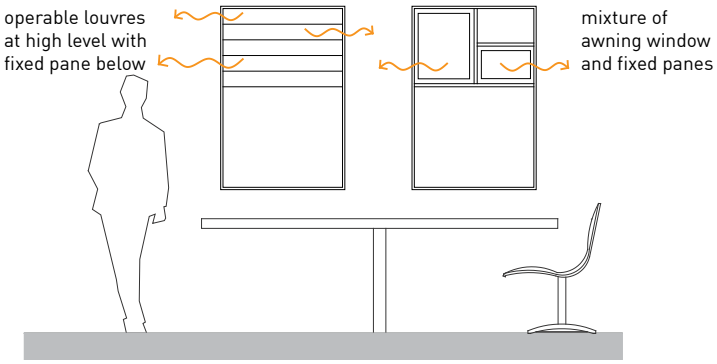


Figure 9C.2-2:
Operable windows enabling ventilation.

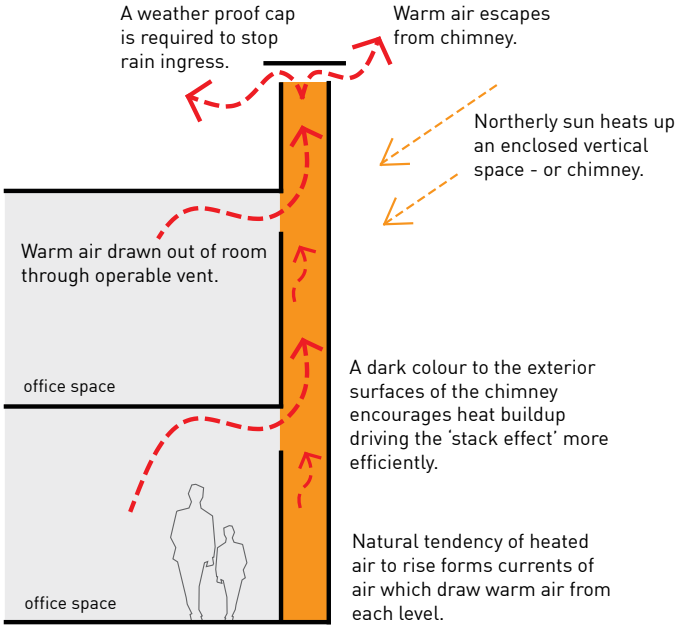


Figure 9C.2-3:
Section showing thermal chimney 'stack effect'.

9C.3 FLOOR DEPTH

Objectives

1 *To provide good internal amenity for occupants through provision of sun access and natural ventilation.*



Figure 9C.3-1:
Internal atrium space to promote daylight access.

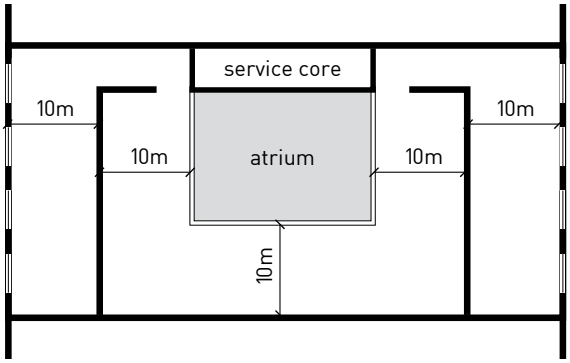
Controls

1 Circulation, services and storage areas are to be located at the centre of the building to maximise opportunity for external openings for daylight access and views.

2 Atriums and courtyards are encouraged to promote access to natural light.

Offices

3 The maximum internal plan depth of office floors is to be 10m from glass line to internal face of wall. See *Figure 9C.3-2*.



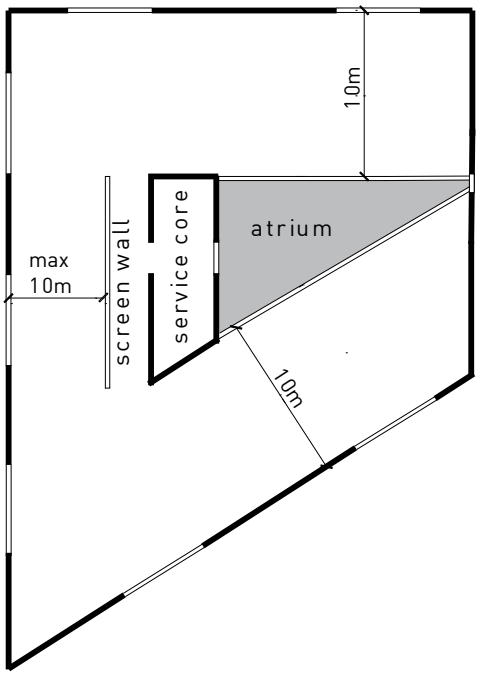


Figure 9C.3-2:
Internal plan depth controls for offices.

9C.4 BUILDING ENTRIES

Further controls that may apply		
SECTION A **PART** 8C.14: Ground Floor Commercial Uses		

Objectives

1 *To ensure that the building entry is clear and easily identifiable in the street, and is accessible to all.*

2 *To ensure that the building entry contributes positively to the building facade design, streetscape and enhances the active street frontage.*

Controls

1 Provide access to and within all developments in accordance with the *Disability Discrimination Act 1992*.

2 Buildings are to address the street either:

i) with main entrances to lift lobbies directly accessible and visible from the street; or

ii) with the path to the building entry readily visible from the street where site configuration promotes a side entry.

3 Building entries are to be integrated into building facade design. At street level, the entry is to be articulated with awnings, porticos, recesses or projecting bays for clear identification.

4 Building entrances from primary street frontages are to be level with adjoining footpaths.

Note: Footpath levels are not to be changed. All level adjustments are to occur on private lands.

5 All entry ramps for disabled access are to be located inside the building facade and integrated into the lobby entrance design. Measures to enable disabled access are not to dominate the front facade.

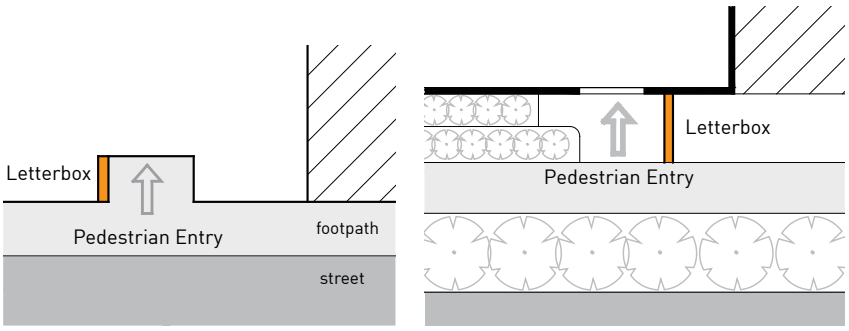


Figure 9C.4-2:
Letterbox to be positioned at 90þ to the street.

9C.4 BUILDING ENTRIES (continued)

Controls

6 All entry areas are to be well lit and designed to avoid any potential concealment or entrapment areas.

7 Fire egress is not to face the primary street frontage. If this is unavoidable, the egress is to be integrated into the lobby entrance design.

8 Lockable mail boxes are to be provided close to the street and under a shelter. They are to be integrated with building entries at 90° to the street and to Australia Post standards.

9 Entries are to have street numbering that is clearly visible from the street.

10 Entries to ground floor retail development are to comply with *Part 8C.14*





Figure 9C.4-1:
Office building entry using different colour, materials.

9C.5 INTERNAL COMMON CIRCULATION

Objectives

1 *To provide accessible, safe and pleasant circulation spaces for all occupants and users.*

2 *To minimise ongoing maintenance costs by providing natural light and efficient lighting to circulation areas.*





Figure 9C.5-1
Well designed foyer/atrium with seating areas provided.

Controls

1 The design of internal common circulation space is to comply with the provisions in *AS1428.1* and *AS1428.2* to provide adequate pedestrian mobility and access.

2 All common circulation areas including foyers, lift lobbies and stairwells are to have:

i) appropriate levels of lighting with a preference for natural light where possible;

ii) short corridor lengths that give clear sight lines;

iii) clear signage to offices and facilities;

iv) natural ventilation; and

v) low maintenance and robust materials.

3 Where artificial lighting is required, energy efficient lights are to be used in conjunction with timers or daylight controls.

4 Building design is to avoid blind corner or dark alcoves near lifts and stairwells, at entrances, along corridors and walkways, and within car parks.

Offices

5 Seating areas are to be provided within the foyer/atrium and are encouraged in common circulation areas near workspaces.

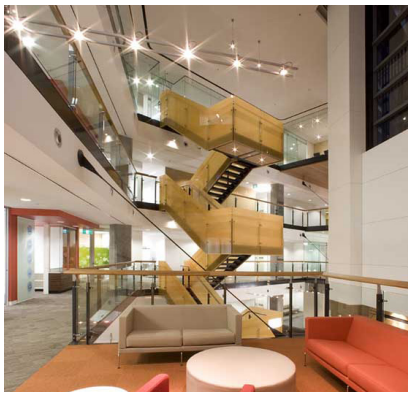




Figure 9C.5-2:
Well designed internal common circulation areas.

9C.6 ROOF FORMS, TERRACES AND PODIUMS

Further controls that may apply		
		SECTION C **PART 23.5 -** Roof Terraces and Podiums

Objectives

1 *To ensure that the design of the top floor of buildings minimises visual bulk.*

2 *To provide articulation that prevents any increased overshadowing.*

3 *To encourage the use of the roof top areas for open space.*

4 *To contribute to the overall design and environmental performance.*



Figure 9C.6-1:
Expressive roof form to articulate building.



Figure 9C.6-3:
Communal eating area on roof terrace .



Figure 9C.6-4:
Communal garden on terrace

Controls

1 Roof forms are encouraged to articulate and express building elements or location.

2 Service elements are to be integrated into the overall design of the roof so as not to be visible from the public domain or any surrounding development. These elements include lift overruns, chimneys, vent stacks, communication devices and signage.

3 Where solar panels are provided they are to be integrated into the roof line.

4 Flat roofs/roof terraces are to be used for communal open space for recreation use.

5 The incorporation of green roofs and podiums is encouraged.

6 Where podiums and roof terraces are used for open space, planter boxes are to be incorporated into walls or balustrades for privacy and amenity. See *Figure 9C.6-5*.

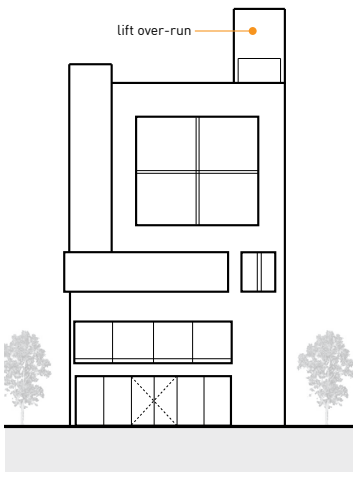


Figure 9C.6-2:
Lift over-run designed to complement building.

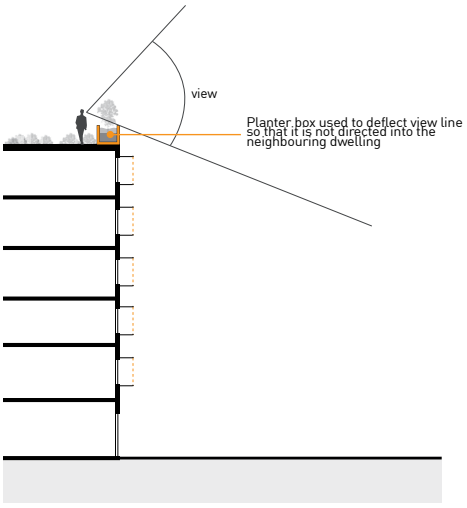


Figure 9C.6-5:
Incorporation of planter boxes into walls or balustrades of roof terraces

9C.7 COMMUNAL OPEN SPACE

Further controls that may apply		
		SECTION C **PART 23.5 -** Roof Terraces and Podiums

Objectives

1 *To provide useable, attractive and accessible communal open space that adds to the amenity of the development and facilitates social interaction.*

2 *To provide communal open space that is responsive to the site and its context.*

3 *To ensure high quality communal open space that is well integrated within the development.*

Controls

Offices

1 An area of communal open space is to be provided for staff recreation, appropriate to the needs of the particular premises.

2 Communal open space is to be located at ground level behind the building line or on roof terraces and podiums.

3 Access to communal open space is to be provided for people with a disability in accordance with Part 2 Section 7 of AS1428 Access within the largest area of communal open space is to be provided for people with a disability.

4 The location and design of communal open space is to optimise opportunities for social and recreation activities, solar access and orientation, summer shade, outlook and the privacy of adjoining residential sites.

5 Ground level communal open space is to be integrated with significant natural feature(s) of the site and soft landscaping areas.

6 The communal open space is to be capable of surveillance from workspaces for safety reasons.

7 Concealment or entrapment are not to be created within the communal open space.

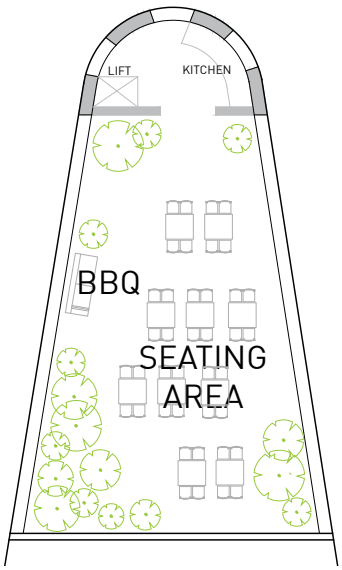




Figure 9C.7-1:
Roof top garden used as communal open space.

9C.7 COMMUNAL OPEN SPACE (continued)

Controls

8 Communal open space is to be well lit with an energy efficient lighting system to be used in conjunction with timers or daylight controls. All light spill is prohibited.

9 Shared facilities such as barbecue facilities and seating are to be provided within the communal open space.

10 Garden maintenance storage areas and connections to water and drainage is to be provided to communal open space.

11 Where communal open space is provided on roof terraces and podiums, the design considerations are to include:

i) incorporating sun shading devices and wind screens to encourage usage;

ii) incorporating landscaping elements including small to medium trees;

iii) a maximum wind speed of 10m/sec. This may be achieved by:

- Use of building facade design and setbacks to deflect downwards drafts;
- Awning design to deflect winds away from footpath level;
- Use of vegetation and tree canopy as buffer to the street level from winds..

9C.8 BUILDING FORMS AND FACADES

Further controls that may apply		
SECTION A **PART 12 -** Signage and Advertising		**SECTION C** **PART 23.4 -** Materials, Finishes and Colours

Objectives

1 *To promote buildings of high architectural quality that contribute to the desired local character.*

2 *To create building facades that reduce the bulk and scale of the building.*

3 *To create building facades that are environmentally responsive.*

4 *To integrate building elements into the overall building form and facade design.*

5 *To ensure that building facade design contributes to the safety of the public domain.*



Figure 9C.8-1: Segmenting of building facade to create interesting elements.

Controls

1 Buildings are to have a maximum floor plate of 1200 sqm.

2 Where sites require larger floor plates, they are to be expressed as separate building elements of not more than 1200m^2.

3 The continuous length of a single building on any elevation is not to exceed 60m. Where the building length is proposed to be greater than 60m, a recessed or articulated area is to be provided sufficient to present to the street as a separate building.

4 All building facades at ground level are to engage with and contribute to the activities of the street principally through the use of glazed frontages.

Note: Refer to *9C.10 of this Part* for ground floor frontage controls.

5 Monolithic structures with repetitive elements are to be avoided by segmenting building facades into vertical elements with individual modulations.

6 Building elements are to be expressed through use of rhythm and patterns of windows, material, colour and texture to create dynamic facades. For example, use of recessed balconies and deep windows to create contrasting areas giving the facade visual depth.

7 The building layout or structure is to be expressed within the facade.

8 Building facades are to be designed to respond to solar access by using solar protection elements such as overhangs and other sun shading devices as environmental controls.

9 All building elements including shading devices, signage, drainage pipes, awnings/colonnades and communication devices are to be coordinated and integrated within the overall facade design.

Note: See *Part 12 of this DCP* for signage requirements.

10 Balconies that run the full length of the building facade are not permitted.

11 Balconies are to be partially recessed and not project more than 1.2m from the outermost wall of the building facade.

12 Blade walls are not to be the sole element used to provide articulation.

9C.9 CORNER BUILDING ARTICULATION

Further controls that may apply		
SECTION A **PART 1B -** Dictionary		

Objectives

1 *To provide distinct building articulation on corner sites that reinforce the street intersection and create landmark.*

2 *To provide landmark buildings that are recognised from a distance.*

Controls

1 Corner buildings are to address both street frontages.

2 Street corners are to be emphasised by giving visual prominence to parts of the building facade. This may be achieved through

i) a change in building articulation

ii) a change in building material of colour

iii) a change in height

iv) roof expansion

v) staged setbacks or curves

vi) corner entry

3 Buildings in landmark positions are to be of a high architectural quality and contribute significantly to the local built environment.

Note: Refer to *Part 1B of this DCP* for the definition of a landmark building.



Figure 9C.9-1:
Corner articulation using height and colour changes.

9C.10 GROUND FLOOR FRONTAGE

Objectives

1 *To provide ground floor facades that enhance public domain amenity and safety.*

2 *To create active street frontages that facilitate direct physical and visual connection between the private and public domain.*

3 *To support pedestrian activity and enhance the amenity, safety and surveillance of the public domain.*

Controls

1 Buildings are not to have a continuous length of blank wall of more than 30% of the length of the building facade at the street level.

2 Ground floor building articulation is to be designed to avoid the creation of entrapment areas.

3 External finishes at street level are to be robust and graffiti resistant, eg. ceramic tiles and metal.

4 Provide predominantly clear glazing to all street frontage windows with a minimum 3 star Window Energy Rating Scheme rating.

Note: Refer to *www.wers.net*.

5 Security roller shutters are not permitted on the external face of the building. Where they are deemed necessary, grilles or transparent security shutters are to be located internally.

6 Where ancillary services such as cafes are provided, they are to be located within the foyer/atrium area and have good visual connection with the foyer and building entry.

7 Ground floor frontages to retail units are to comply with Part 8C.14.

8 Ground floor frontages are to provide for active uses that contribute to the active street frontage.

9 Building slabs are to be stepped on sloping sites to ensure ground floor level does not exceed 0.3m above or below finished footpath level.

Note: Variations may be permitted on very steep streets.

10 Building entries to each individual commercial premises are to be level with adjoining footpaths, with openings (doors and windows) that allow a direct visual connection between the building and the street.

Note: Variations may be permitted on very steep streets.

9C.10 GROUND FLOOR FRONTAGE (continued)

Objectives



Figure 9C.10-2:
Office building is to have active street frontage.

Controls

Offices

11 Office buildings within B2 and B4 zones are to comply with *Part 8C.14 of this DCP.*

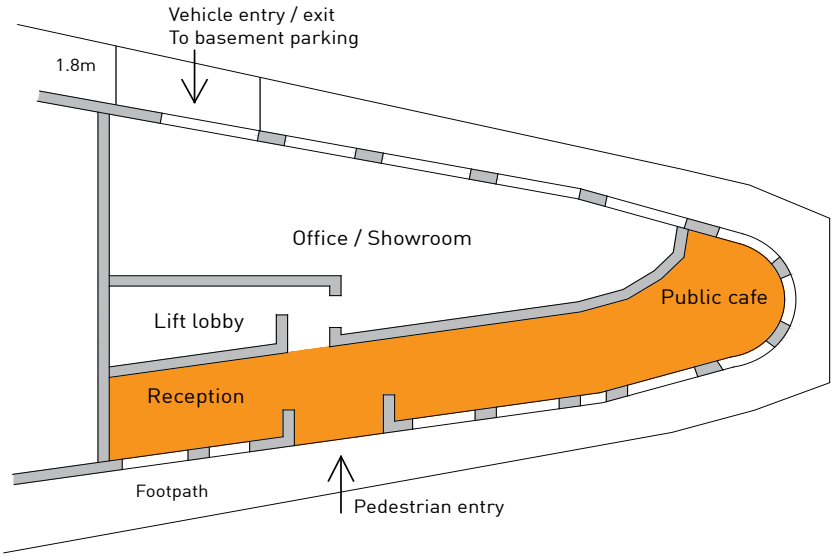


Figure 9C.10-1:
The use of glazed frontages on street level to provide passive surveillance.

9C.11 AWNINGS AND COLONNADES

Further controls that may apply		
SECTION A **PART 8C.15 -** Awnings **PART 8C.16 -** Colonnades	**SECTION B** **PART 14 -** Urban Precinct And Sites	

Objectives

1 *To ensure that awnings and colonnades are in keeping with desired streetscape character and with the overall development in scale and overall design.*

2 *To provide awnings and colonnades that increase pedestrian amenity with sun and rain protection.*

3 *To create well lit, visible street frontages that deter vandalism.*

Controls

1 Where an awning is provided, under awning lighting is to be recessed into the soffit of the awning or wall mounted on the building.

2 Under awning lighting is to achieve luminance levels consistent with community safety and security in *AS1228.1- 2001*. The lighting is to be high energy efficiency with LED diode technology preferred unless an alternate technology with equivalent or higher energy efficiency is used.

3 All colonnade spaces are to be within the property boundary.

4 The size and spacing of supports are to be designed to allow pedestrian circulation and views of ground floor activity from the street.

5 On sloping sites a level access point is to be provided between colonnade area and adjoining footpaths.

6 Awnings and colonnades to retail units are to comply with Part 8C.15 and 8C.16.

Offices

7 Office buildings within B2 and B4 zones are to comply with the controls within *Part 14, Parts 8C.15 and 8C.16 of this DCP*.

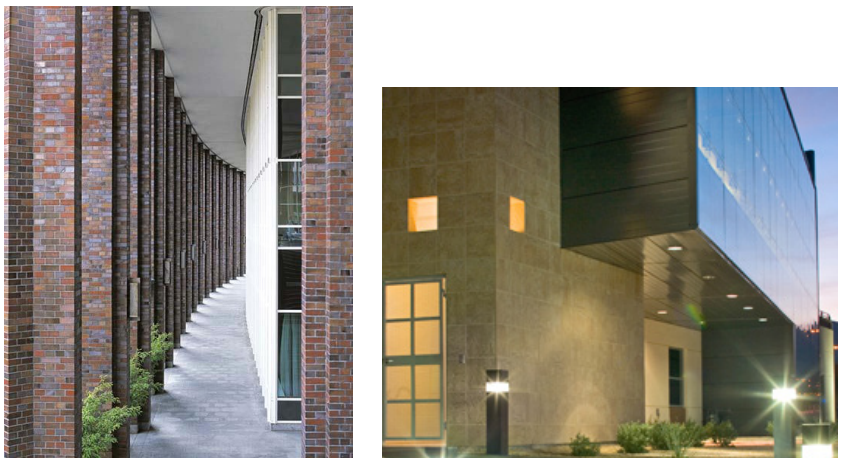


Figure 9C.11-1:
Building form used as awning and colonnade.

9C.12 INTERNAL CEILING HEIGHTS

Objectives

1 *To ensure internal ceiling heights that contribute to flexibility and adaptability of use in the future.*

2 *To ensure internal ceiling heights are appropriate for the intended use.*

Controls

Offices

1 All office developments are to comply with the following minimum ceiling heights, measured from finished floor level (FFL) to finished ceiling level (FCL):

i) 3.5m for ground floor / street level retail or commercial uses;

ii) 3m for all other floors for commercial use.

2 Internal ceiling heights and slab levels are to be coordinated with external height requirements and key datum lines. External building elements requiring coordination include:

i) heights, datum and parapet lines set by the context or structure plan;

ii) cornices and string courses of adjacent heritage buildings;

iii) exterior awning levels or colonnade heights.

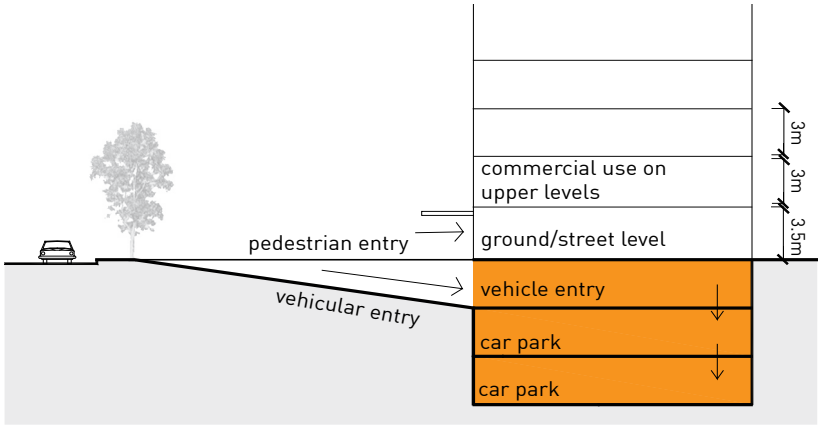


Figure 9C.12-1:
Finished floor levels to office buildings.

9C.13 VISUAL PRIVACY

Objectives

1 To ensure high standards of visual privacy for residents and neighbours

Controls

1 Buildings are to be designed to ensure privacy for neighbouring residents without compromising access to light and air. Measures to achieve this include:

i) off-setting windows in adjacent buildings;

ii) recessing balconies or providing vertical fins between adjacent balconies;

iii) using louvres/screen panels;

iv) providing vegetation as a screen between spaces;

v) incorporating planter boxes into walls or balustrades to allow plant screening;

vi) utilising pergolas or shading devices to limit overlooking of lower building levels or communal and private open space.



Figure 9C.13-1:
Operable external blinds to provide visual privacy and sun shading.

9C.14 ACOUSTIC PRIVACY

Further controls that may apply		
	SECTION B **PART 20-** Development Near Road or Rail Noise	**SECTION C** **PART 23.8 -** General Acoustic Privacy

Objectives

1 *To ensure high standards of acoustic privacy for all occupants of the development.*

2 *To mitigate the impact of noise and vibration from the operation of commercial development.*

3 *To ensure office building adjoining main roads are designed and constructed to minimise the impact of external noise on the occupants.*

Controls

1 Where an office development adjoins a residential development, mechanical plant equipment and building services are to be located away from the residential building and have appropriate acoustic insulation.

2 The maximum LAeq (1 hour) noise levels as measured at the windows of commercial workspaces are not to exceed the following:

Day: 55 dB(A)

Night: 45 dB(A)

Note: Day is the period from 7:00am to 9:00pm Monday to Saturday; or 8:00am to 8:00pm on Sundays and public holidays.
Night is the remaining period.

3 Noise reduction measures to achieve these outcomes may include, but are not limited to the following:

i) incorporating appropriate noise shielding or attenuation techniques into the design and construction of the building. In particular, noise shielding will be required between uses, walls and floors;

ii) enclosing plant rooms;

iii) locating plant in basements;

iv) fitting out building services, (including plant, piping and ducting) with appropriate acoustic insulation;

v) minimising the amount of shared walls between commercial occupancies and/or plant;

vi) locating building services (laundries/ storage areas) and circulation zones) away from noise sensitive areas (ie. workspaces) to provide a buffer from noise generators, such as traffic, mechanical plant equipment, and service and loading vehicle entries

vii) using solid core doors, thicker window glass, double glazing, baffles to openable windows.

4 An Acoustic Impact Assessment report prepared by a suitably qualified and experienced acoustic consultant is to be submitted.

9C.15 FENCING

Objectives

1 To provide an open landscaped street character.

Controls

1 Street fencing is not supported. Where setbacks to the street are required, boundaries are to be delineated by soft landscaping including, but not limited to, shrubs and trees of varied mature height.

2 Where landscaping is provided along the street alignment, a physical edge, such as a planter box or retaining wall is to be no higher than 1m above finished ground level.

3 Side and rear fencing are to be avoided. If side or rear fencing is required, it is to be a maximum of 1.2m high and visually transparent. (A transparent fence has an open to solid ratio of not less than 1:3).

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PART 10

CHILD CARE CENTRES

Introduction

10A Site Design

10A.1 Location

10A.2 Site Planning

10A.3 Landscaping

10B Access and Parking

10B.1 Vehicle Access and Parking

10B.2 Accessibility

10C Building Design and Sustainability

10C.1 Solar Access and Ventilation

10C.2 Noise

10C.3 Indoor Play Spaces

10C.4 Back-up Facilities

10C.5 Staff and Parent Accessible Area

10C.6 Outdoor Play Spaces

10C.7 Transition Area

10C.9 Dual-Use and Multi-Use Facilities

INTRODUCTION

Child Care Centres to which this Part applies

This part applies to all types of child care centres except the following:

i) Home Based Care (except in bush fire prone land)

ii) Family Day Care

iii) Mobile Care Services

iv) Out-of school-hours (OOSH) Care Services

Note: Child care services not covered by this part may require Council approval prior to operation. Please contact Council's Community Service Department if you wish to obtain information relating to the establishment and operation of these services.

Note: Child care centres are regulated by the *Education and Care Services National Regulations 2011*, under the *New South Wales Children* (*Education and Care Services National Law Application) Act 2010.*

Note: Home Based Care, Mobile and Occasional Care Services are regulated by the *Children (Education and Care Services) Supplementary Provisions Act 2011* and *Children (Education and Care Services) Regulation Provisions 2012.*

Note: For all definitions and abbreviations refer to Part 1B Dictionary.

Purpose of this Part

This part has been created to guide the design development of high quality child care centres in Ku-ring-gai so as to:

i) meet the aims and objectives within KLEP (Local Centres) 2012;

ii) encourage a positive, proactive approach to identifying and responding to the child care needs of the community; and

iii) provide a clear planning framework for guidance towards the establishment of centres that incorporate these aims.

Obtaining consent from Council

This part complements the provisions of the *Children (Education and Care Services National Law Application) Act 2010* and the *Education and Care Services National Regulations 2011*.

All child care centres require consent from Council and a license from the Department of Education and Communities (DEC) before they may operate. In the consideration of a development application (DA), Council will assess matters such as the design of the centre and how the centre fits into its surrounding environment. DAs will be assessed against the objectives and controls of this DCP. The DA is to be prepared in accordance with Council's Development Application Guide (available from Council's Customer Service Centre).

Once Council has granted a consent, a license application should be prepared and submitted to DEC (refer to the Regulations 2011 for details). In assessing the licence application, DEC will consider how the centre is likely to operate and the ability of the proposal to meet the provisions

of the Regulations 2011. As DEC considers the licence application after consent has been granted, it is required that when the DA is lodged applicants provide Council with a signed statement as required under Part 2.2 'Service Approvals' of the Regulation 2011.

Note: Part 2.2 'Service Approvals' of the Regulations 2011 states that applicants applying for a license from DEC, is to provide the department with a statement in writing signed by the applicant and by a person who is entitled to use the title "architect", "architectural draftsmen" or architectural assistant" under the *Architects Act 1921* or who is accredited by the Building Designers Association of NSW Inc. in relation to the design of the class of building concerned, that the premises complies with the Part 4.3 'Physical Environment' facilities and equipment requirements of the Regulations 2011 applicable to centre based children's services. A statement of any respect in which the premises do not comply with these requirements signed in this manner is also to be provided.

It should be noted that compliance with the numerical controls contained in this part does not necessarily guarantee that Council will grant consent to an application.

Obtaining further information

Information relating to the DEC requirements for establishing child care centres can be found at *www.dec.nsw.gov.au.*

Council staff from Council's Development and Regulation and Community Services Departments may be consulted prior to submitting an application in order to obtain advice on your proposal. Fees may apply for this consultation.

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PART 10A

SITE DESIGN

10A Site Design

10A.1 Location

10A.2 Site Planning

10A.3 Landscaping

10A.1 LOCATION

Objectives

1 *To locate child care centres to protect health and safety of the facilities' users.*

2 *To locate child care centres so as not to adversely affect local traffic management and local amenity.*

3 *To encourage child care centres to be located so as to enable safe access.*

Controls

Preferred locations for a Child Care Centre

1 Preferred locations for the establishment of child care centres are where the facility will:

i) share two or less common boundaries with surrounding properties zoned for residential purposes;

ii) have a frontage to a park or other open space; and

iii) be located close to local shopping facilities, public transport and other community facilities.

Locations where a Child Care Centre is not encouraged

2 Proposals to establish new child care facilities within 500m of a mobile phone base station, as measured from the transmitter to the nearest point of the subject site, are to be accompanied by a report that demonstrates that the site is safe for use. The report is to:

i) show that the site will not be exposed to Radio Frequency fields in excess of the criteria stated in the *Australian Radiation Protection and Nuclear Safety Agency's (ARPANSA) 'Radio Protection Standard* – maximum exposure levels to radiofrequency fields – 3kHz to 300GHz';

Note: For more information, visit the ARPANSA website at: *www.arpansa.gov.au*

ii) be prepared using the 'Radio Frequency EME Exposure Levels – Prediction' methodology; and

iii) be prepared by a suitably qualified person.

3 Proposals to establish new child care centres within 70m of a power line[1] carrying in excess of 33 kilovolts[2] (as measured from the ground point directly above an underground power line or directly below an overhead power line to the nearest point of the subject site) are to be accompanied by a report that demonstrates the site is safe for use. The report is to:

i) show that the site will not be exposed to Electromagnetic Field Exposure (EMF) in excess of the limits stated in the International Commission on Non-ionising Radio Protection's (ICNIRP) Guidelines for Limiting Exposure to Time-Varying Electric, Magnetic and Electromagnetic Fields (up to 300GHz)[3];

ii) be prepared in accordance with the methodology set out in the guidelines; and

iii) be prepared by a suitably qualified person.

Note: The ARPANSA recommended publication '*Electromagnetic Fields and Human Health: Power Lines and FAQs*' prepared by Professor John E Moulder states "depending on the type of line and its current, magnetic fields become less than those produced by a typical residence at a distance of 20-70m".

10A.1 LOCATION (continued)

Controls

Note: 33 kilovolts is the typical voltage carried by a distribution line from a substation or transmission line to a neighbourhood area. Applicants should consult Transgrid and Integral Energy for information relating to the location of power lines and power line easements in excess of 33 kilovolts.

Note: For more information, visit the ICNIRP website at: *www.icnirp.org*

4 Proposals to establish new child care centres on or adjoining a site deemed by Council to be "potentially contaminated land" are to be accompanied by evidence that the site is safe or can be made safe for the proposed use.

Note: Refer to Council's Contaminated Land Policy 2016 for information outlining these requirements and a list of activities that may cause a site to be considered 'potentially contaminated land'.

5 Proposals to establish new child care centres within 125m of a major roadway is to be accompanied by reports that demonstrates the site is safe for use.

Note: The distance is to be measured from the edge of the road reserve, closest to the proposed site, to the nearest point of the subject site.

The reports is to:

i) provide a comparison between the air, noise and soil qualities experienced by the centre and the guidelines set by the NSW Department of Environment and Conservation's Environment Protection Authority (EPA); and

Note: For more information, visit the EPA website at: *www.environment.nsw.gov.au*

ii) be prepared by an environmental scientist and/or an environmental engineer.

Note: A major roadway for the purposes of this DCP includes:

- Archbold Road
- Bobbin Head Road (between Pacific Highway to Burns Road)
- Boundary Street (between Pacific Highway and Clive Street/Eastern Valley Way)\
- Burns Road (between Eastern Road and Warrimoo Avenue)
- Eastern Arterial Road
- Eastern Road (between Burns Road and Junction Road)
- Comenarra Parkway
- Fox Valley Road (between Pacific Highway and Comenarra Parkway)
- Horace Street
- Illoura Avenue (Between the railway bridge to Millewa Avenue)
- Junction Road
- Killeaton Street (between Warrimoo Avenue and Mona Vale Road)
- Kissing Point Road (between Pacific Highway to The Comenarra Parkway)
- Lindfield Avenue (between Havilah Road and Tryon Road)
- Lady Game Drive
- Link Road

10A.1 LOCATION (continued)

Controls

- Mona Vale Road
- Pacific Highway
- Railway Avenue
- Redleaf Avenue
- Ryde Road
- Telegraph Road
- Yanko Road
- Main Road 328, Section of Boundary Street, between Pacific Highway and Babbage Road, within the Local Centre boundary; and
- Secondary Road 2043, Section of Horace Street, Link Road, Killeaton Street within the Local Centre boundary.

Note: The list above is by no means exhaustive. Council may order that air, noise and/or soil testing be carried out or that a report be prepared demonstrating the impacts that traffic generated by the centre will have on the roadway where child care centres are proposed in the vicinity of other roads that carry a high Section of traffic.

6 Where a new child care centre is to be established in a cul-de-sac or road with no through public access, the applicant is to demonstrate that there will be no significant impact to residential amenity or vehicular manoeuvrability.

7 Where a new child care centre is to be established in a residential street, the applicant is to demonstrate that there will be no significant impact to residential amenity or traffic movement.

10A.2 SITE PLANNING

Objectives

1 *To integrate the child care centre and ensure it is compatible with the scale and character of surrounding areas.*

2 *To be sympathetic to the amenity of neighbouring properties.*

3 *To provide attractive, site responsive and practical designs.*

4 *To design the centre for the appropriate management of water on the site.*

5 *To ensure the child care centre is sympathetic and safe, and minimises risk to life and property in the event of a bushfire*

6 *To ensure that the elevated location does not compromise the safety of the users of the child care centre.*

7 *To ensure that child care centres in business zones are well designed and meet the needs of children in terms of amenity, health, access and safety.*

Controls

Child Care Centres in Residential Areas

1 Development is to be appropriately located on the site having regard to the existing setbacks of adjoining properties, setback pattern of the street and block within which the proposal is situated, as well as Council's minimum and average setback requirements.

2 The centre is to be designed to minimise potential noise and overlooking of adjoining residences by:

i) facing doors and windows of the centre away from sensitive areas such as bedrooms, living rooms and private open space; and

ii) facing play equipment away from common boundaries with residential properties.

Note: The BCA contains specific and detailed building requirements to which the design of child care centres are to conform. These requirements cover considerations such as accessibility, fire escapes, and the provision and design of toilets and hand washing facilities.

Note: Child care centres are referred to as 'Early Childhood Centres' that are part of the 'Class 9B' building classification category of the BCA.

Built Form

3 Minimum front, side and rear setbacks are to comply with the setback requirements of the predominant adjoining residential development type of that location.

4 The overall building height is to be consistent with nearby dwellings.

5 Street facade treatment, including windows, doors and other articulation, is to be consistent with the predominant adjoining residential development type.

6 The main entry to the child care centre is to face a public street.

7 Landscaping requirements are to be consistent with the predominant adjoining residential development type.

Child Care Centres on Bushfire Prone Land

8 Where a child care centre is proposed on bushfire prone lands it is to be accompanied by a report demonstrating that the development will be safe in the event of a bushfire and include a satisfactory bushfire evacuation plan.

Note: A Bush Fire Safety Authority will be required under section 100B of the Rural Fires Act 1997.

10A.2 SITE PLANNING (continued)

Child Care Centres in Business Zones

9 The child care centre is to be located at ground level where achievable and in areas where the opportunity for natural landscaping comprising deep soil planning is possible.

10 Where child care centres are located at first floor level (or above) the application is required to address child safety, privacy, and amenity impacts for the surrounding users as well as for occupants of the child care centre.

11 Where centre facilities are provided for use by children above ground level:

i) a safe refuge area is to be provided which open directly to a dedicated fire-isolated stair; and

ii) the minimum floor area of refuge is to be calculated at the rate of 0.25m^2 per person (staff and children).

12 Consideration is to be given to isolating the children from the effects of noise, pollution and winds and providing access to natural light and air.

10A.3 LANDSCAPING

Objectives

1 *To be sympathetic with the landscape character of the surrounding areas.*

2 *To ensure landscaping is compatible with the streetscape and adjoining residential properties.*

Controls

General

1 The landscape design of new child care centres is to minimise the visual impact of the building within the streetscape.

2 Screen planting is to be provided to adjoining dwellings where required.

3 The landscape design of the child care centre is to reflect the prevailing landscape character of the area in terms of scale and planting style and species selection.

4 No area within the child care centre is to contain plant species that have the following characteristics:

i) plants known to be poisonous or that produce toxins;

ii) plants with high allergen properties;

iii) plants with thorns, spikes or prickly foliage; and

iv) plant species that Council considers may place the health, safety and welfare of the centre's users at risk.

Note: Refer to *Part 10C.6* for landscaping and planting requirements in outdoor play spaces.

5 The child care centre is to be designed to provide for the protection and retention of significant canopy trees.

Low Density Residential Areas

6 Where adjoining land in a low density residential zone or land approved for use for a low density residential purpose:

i) a minimum of 2 metres of landscaping is to be provided to the primary street frontage; and

ii) a minimum of 1 metre of landscaping for each of the side boundaries is to be provided; and

iii) a minimum of 1 metre landscaping at the rear boundary is to be provided.

7 On single frontage sites where a 2 metre landscaped setback to the primary street frontage cannot be achieved, Council may consider a reduced landscaped area where there is a minimum of 40% soft landscaping in the front setback area, subject to the provision of adequate screening and amenity planting including provision of medium height trees that can attain minimum 6-8m in height.

10A.3 LANDSCAPING (continued)

Controls

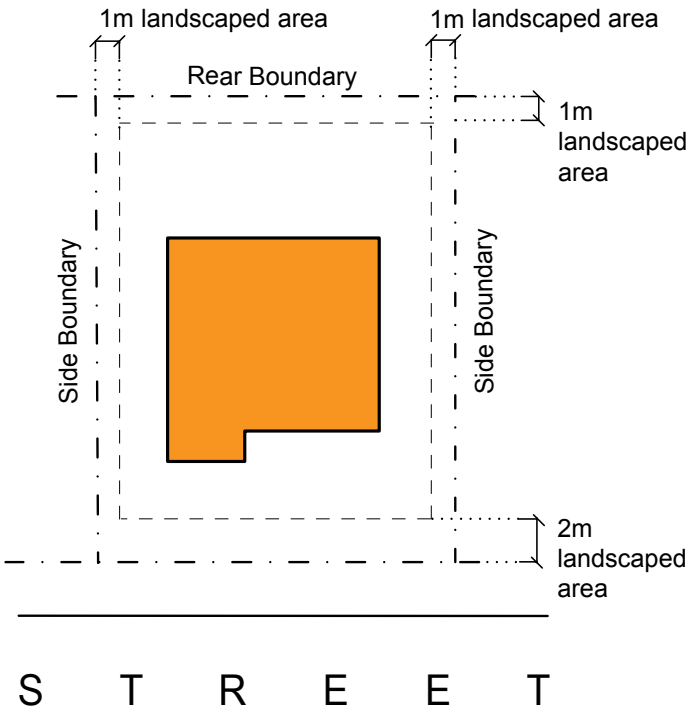

Figure 10A.3-1:
Single frontage sites: minimum landscaped area for low density residential areas

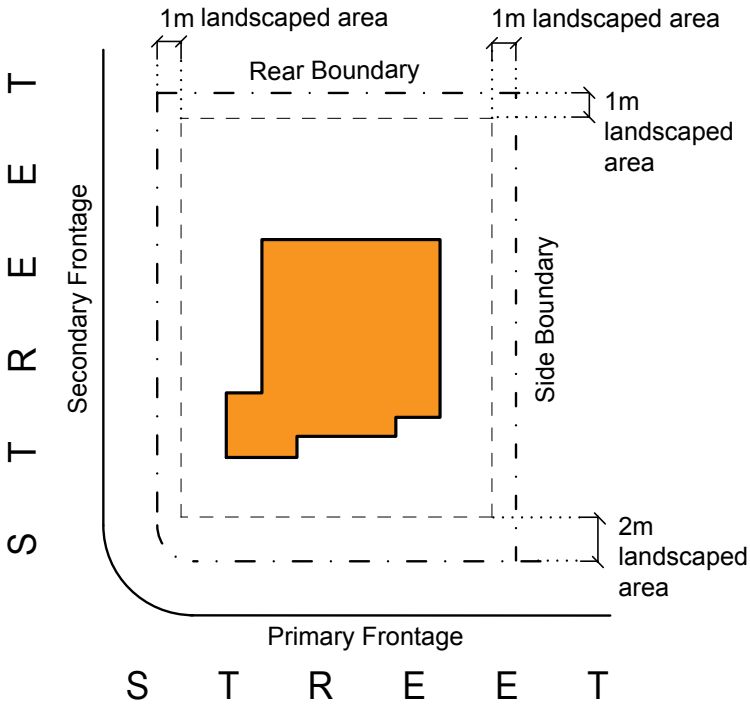

Figure 10A.3-2:
Corner sites: minimum landscaped area for low density residential areas

10A.3 LANDSCAPING (continued)

Controls

8 Lots with the following sizes are to support a minimum number of medium trees (6-8 metres) to tall trees (10-13 metres):

Lot size	Number of trees
Less than 850m^2	1
850m^2 to 1,000m^2	3
1,001m^2 to 1,500m^2	5
Over 1,500m^2	7 or as directed

Note: Council may consider a reduction of this standard where existing trees are retained.

Note: Council may require street tree planting in accordance with the Public Domain Plan.

Note: A list of trees which attain the required height, suitable for a variety of locations is available from Council and on Council's website *www.kmc.nsw.gov.au*.

Note: Refer to *Section C Part 22.2* and *Section B Part 19* of this DCP for the proportion of trees required to consist of locally occurring native species, and other planting controls to protect biodiversity.

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10B Access and Parking

10B.1 Vehicle Access and Parking

10B.2 Accessibility

READ WITH

SECTION C
PART 22 – General Access And Parking
22.1: Equitable Access
22.2: General Vehicle Access

10B.1 VEHICLE ACCESS AND CAR PARKING

Further controls that may apply		
		SECTION C **PART 22.2 -** General Access and Parking

Objectives

1 *To provide safe vehicular access and on-site manoeuvrability.*

2 *To provide car parking that satisfies the demand generated by the centre.*

3 *To design car parking areas that are compatible with the character of the surrounding area.*

4 *To locate and design car parking to minimise disruption to local traffic.*

5 *To ensure car parking does not affect the safety of the children.*

6 *To ensure car parking does not create adverse impact on the visual quality and character of low density residential areas.*

Controls

1 Newly constructed child care centres are to provide car parking within the basement of the building where practicable.

2 One parking space per four children in care is to be provided, of which at least one space is to be accessible for people with a disability. Refer to *Section C Part 23.2.*

Note: This figure includes staff parking.

Note: If the number of children were to increase after approval, additional car parking space will be required.

3 Accessible parking is to be clearly marked and located as close as possible to the primary entrance to the building.

4 New child care centres proposed on sites adjoining a major roadway (as listed in *Part 10A.1*) are not to have vehicular access from that road unless it can be adequately demonstrated that alternative vehicular access to that development is neither practicable nor can be provided by another road (not being a road listed in *Part 10A.1)*

Note: Depending on the size of the centre, such access arrangements may require the concurrence of Council's Traffic Committee and the Roads and Maritime Services.

5 Car parking spaces, circulation areas, roadways and ramps are to comply with AS2890.1.

6 Car parking areas are to include a designated footpath from the car park to the building entrance and to the footpath on the street to ensure the safety and welfare of pedestrians.

7 Car parking areas are to be designed in a manner that allows vehicles to travel in a forward direction at all times except when entering or leaving a parking space.

8 Where a child care centre is located on a corner site such that vehicles may exit the site via an alternate street to that by which they entered, the car parking and vehicular access area is to be designed in a manner that discourages "shortcuts" being taken through the site by drivers who are not visiting the centre.

Note: In order to achieve this, on-site traffic calming measures may be required.

9 Car parking is to be located away from outdoor play areas of the centre.

10 Where a child care centre is located within a commercial building or mixed use development, the parking spaces are to be located and grouped together and conveniently located near the access point to the centre.

10B.2 ACCESSIBILITY

Further controls that may apply		
		SECTION C **PART 22.1 -** Equitable Access

Objectives

1 To ensure the centre is accessible to all potential users of the facility.

Controls

1 Accessibility to and within the building is to be provided in accordance with the *Disability Discrimination Act 1992* and the BCA.

2 A continuous path of travel to and within the building in accordance with *AS1428.2: Design and Access for Mobility* is to be provided.

3 All key areas of the site are to be linked by pathways that are accessible to prams, wheelchairs and the like.

4 In a residential area, child care centres are to be located on the ground floor of the building.

5 In commercial and business areas, child care centres may be located at first floor level (or above) only where:

i) it can be demonstrated that there are no viable alternatives for the location of a child care centre at ground level in the building or the surrounding area due to the built form of the building and the density of the surrounding area.

ii) suitable access to designated play areas is available;

iii) effective emergency evacuation procedures will be provided.

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10C Building Design and Sustainability

10C.1 Solar Access and Ventilation
10C.2 Noise
10C.3 Indoor Play Spaces
10C.4 Back-up Facilities
10C.5 Staff and parent Accessible Areas
10C.6 Outdoor Play Spaces
10C.7 Transition Areas
10C.8 Co-Located Child Care Centres

READ WITH
SECTION A **PART 4 -** Dwelling House **PART 5 -** Secondary Dwellings **PART 6 -** Multi- Dwelling Housing **PART 7 -** Residential Flat Building **PART 8 -** Mixed Use Development **PART 9 -** Non Residential and Office Building

10C.1 SOLAR ACCESS AND VENTILATION

Further controls that may apply		
SECTION A **PART 4 -** Dwelling House **PART 5 -** Secondary Dwellings **PART 6 -** Multi- Dwelling Housing **PART 7 -** Residential Flat Building **PART 8 -** Mixed Use Development **PART 9 -** Non Residential and Office Building		

Objectives

1 *To ensure the design and siting of child care centres maintain a reasonable level of daylight and sunlight to the child care centre and adjoining properties.*

Controls

1 The child care centre is to be designed and sited to achieve solar access for a minimum period of four hours between 9:00am and 3:00pm on 21st June. These requirements apply to the common areas of the centre including indoor and outdoor play spaces.

2 The design of the child care centre is not to affect solar access to adjacent dwellings in accordance with the standards of the adjacent dwelling type. Refer to *Section A of this DCP* for all types of residential development.

3 Wherever possible, children's sleeping areas, toilets, staff rooms and internal play spaces are to have access to natural lighting during daylight hours.

Note: Council may require that outdoor areas that are shaded during daylight hours, be artificially lit to ensure safety.

4 The child care centre is to be designed in a manner that utilises natural cross ventilation as the primary ventilation control system.

Note: Refer to *Section A Parts 4-9* for ventilation controls of the relevant building type.

Note: Artificial ventilation control measures may be required in some areas where natural ventilation is not feasible.

10C.2 NOISE

Objectives

1 To minimise the impact of the child care centre on the acoustic privacy of neighbouring developments.

Controls

1 Where a child care centre is to be located on a site adjoining a residential property, noise generated by the centre is not to be more than 5dB(A) above the L90 (ambient background) noise level, as measured at any point on the adjoining residential property.

Note: Council may order an acoustic assessment be undertaken by a suitably qualified acoustic consultant that is to include recommended noise attenuation measures.

10C.3 INDOOR PLAY SPACES

Objectives

1 *To cater for a range of indoor play activity.*

2 *To provide storage for play equipment.*

3 *To ensure efficient and effective access and supervision.*

4 *To ensure a visual and physical link between indoor and outdoor areas.*

5 *To stimulate and enhance children's learning within indoor and outdoor environments.*

Controls

General

1 The child care centre is to provide at least 3.25m² of unencumbered indoor play space per child.

2 Indoor and outdoor play spaces are to be designed so as to allow maximum and convenient supervision.

3 Clear pedestrian access is to be provided from the indoor play space to the back-up facilities of the centre.

4 Indoor play spaces are to be designed so as to allow sub-spaces (eg home corners, dolls and reading areas) to be set up.

5 The design of the indoor play space is to allow for efficient access to and supervision of frequently used back-up facilities, such as children's toilet facilities, nappy changing areas and cot rooms.

6 A craft preparation area, easily accessible by staff, is to be provided at the edge of the indoor playspace.

7 Where a child care centre is located in a business zone and situated above ground level, indoor areas are to be well portioned to provide flexibility of uses and should be uninterrupted by internal features such as columns.

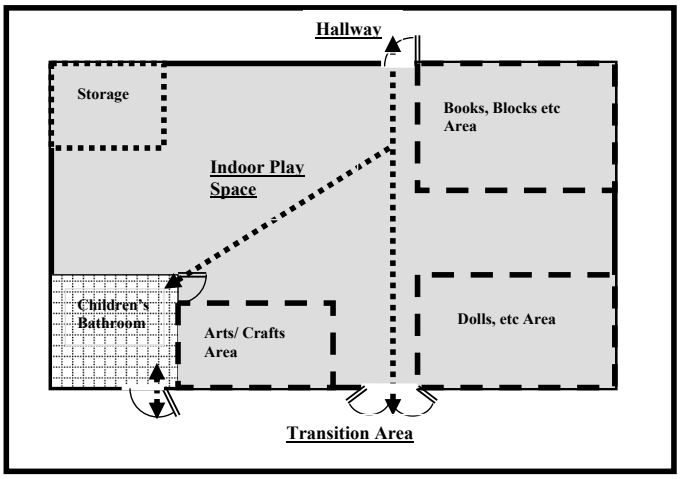


Figure 10C.3-1:
Example of possible indoor play space demarcation

10C.3 INDOOR PLAY SPACES (continued)

Controls

Storage

8 A storeroom or storage area, suitable for the storage of large equipment (such as gym mats) is to be directly accessible from each indoor play space.

9 A storage area, adjoining the play space, is to be provided for the storage of all bedding material to ensure beds are at the closest possible distance from their place of use.

10C.4 BACK-UP FACILITIES

Objectives

1 *To provide healthy, comfortable and functional back-up facilities that cater for all users of the facility.*

Controls

Cot Rooms

1 Cot rooms are to have a minimum floor area of 2.5m² per cot with a minimum gap of 800mm between each cot.

2 Cot rooms or other designated sleep areas are to be provided in accordance with the *Education and Care Services National Regulations 2011*.

3 Cot rooms are to be located away from the indoor and outdoor play spaces and other high noise areas of the centre.

4 Where it is not possible to locate cot rooms away from high noise areas, adequate acoustic insulation measures for the room are to be implemented.

Note: Council may order an acoustic assessment, to be undertaken by a suitably qualified acoustic consultant, that includes recommended noise attenuation measures. Measurements are to be taken from 1.5m above the ground level of the proposed outdoor play space.

Child-accessible Toilet Areas

5 All child-accessible toilet areas are to be 12.5m², as a minimum overall area, with an additional 2.5m² for each additional toilet over the baseline figure of 3 toilets.

6 Child-accessible toilets and hand washing facilities are to be provided in accordance with the requirements of the BCA.

7 Mirrors constructed of safety glass are to be provided on top of the junior hand basins.

8 Separate doorways from indoor and outdoor play spaces are to be provided to allow direct access to the child-accessible toilet area.

9 Child-accessible toilet areas are to be designed with a clear line of sight allowing maximum supervision from indoor and outdoor play spaces.

Nappy Changing Areas

10 Nappy changing areas are to be located away from food and craft preparation facilities.

11 Nappy changing areas are to be provided with a lockable gate or other means that restricts unsupervised access by children.

12 Nappy changing areas are to be designed with windows or similar that allow staff to supervise indoor and outdoor play spaces while using the area.

10C.4 BACK-UP FACILTIES (continued)

Controls

Bottle Preparation Areas

13 Bottle preparation areas are to provide adequate space for the following:

i) a sink and drainage board;

ii) an open bench;

iii) a microwave oven;

iv) a refrigerator; and

v) shelving for bottle equipment.

14 Bottle preparation areas are to be provided with a lockable gate, or other means, that will restrict unsupervised access by children.

15 Bottle preparation areas are to be located at the edge of the indoor play spaces.

10C.5 STAFF AND PARENT ACCESSIBLE AREAS

Objectives

1 *To design functional, comfortable practical and well positioned staff and parent areas.*

2 *To provide the highest levels of health and safety for the users of the facility.*

Controls

General

1 The following minimum dimensions apply for Staff and Parent Accessible Areas:

Area	Minimum Dimension
Internal Foyer	15m²
External Foyer	10m²
Director's Office	10m²
Administration Area	6m²
Staff Room	16m² with an additional 2m² for each additional staff member
Adult Toilet Facilities	10m²
Kitchen	16m² with an additional 6m² for general storage space
Laundry	10m²

2 All staff and parent accessible areas are to be provided with a lockable gate, or other means, that restrains or restricts unsupervised access by children.

Internal and External Foyer Areas

3 An internal foyer area is to be provided to:

i) Adjoin the main entry point of the child care centre;

ii) Adjoin the administration area / director's office; and

iii) be of a functional size, proportionate to the number of users of the centre.

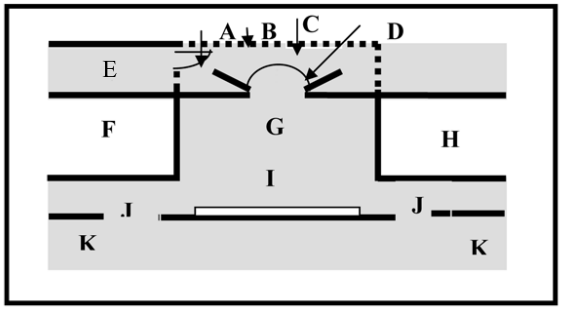
4 The internal foyer area is to be provided with a lockable gate, or other means, that restricts unsupervised access by children from play spaces.

5 An external sheltered foyer area is to be provided and:

i) be of a functional size for protection from weather conditions; and

ii) be designed to clearly identify the main entry to the centre.

Director's Offices / Administration Areas



A Gate
B Fenced
C Covered Entry
D Double Entry Door
E Entry Path
F Director's Office
G Foyer
H Administration Area
I Notice Board
J Passage
K Playrooms

Figure 10C.5-1:
Example of a child care centre foyer divided into a variety of play spaces

10C.5 STAFF AND PARENT ACCESSIBLE AREAS (continued)

Controls

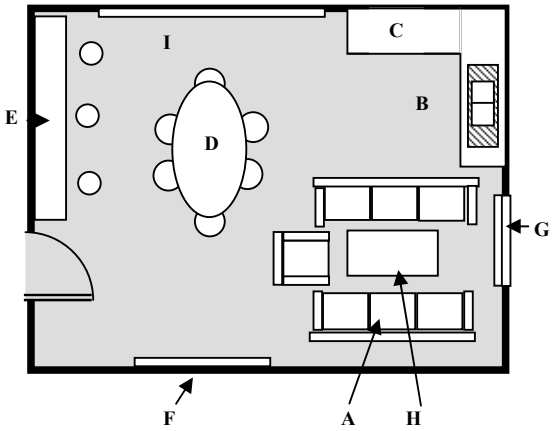
6 The director's office / administration area is to be of a functional size in relation to the number of children in care, allowing space for a photocopier, parent and staff meeting area and other administrative office furniture.

7 The director's office / administration area is to immediately adjoin the internal foyer area and allow for maximum supervision of this area.

Staff Rooms

8 The staff room is to be located away from the high noise areas of the centre such as indoor and outdoor play spaces.

9 Where it is not possible to locate the staff room away from areas of high noise, adequate noise insulation measures for the room are to be implemented.



A Staff Seating
B Amenities
C Lockers
D Meeting Area
E Programme Preparation Area
F Notice Board
G Window
H Low Table
I Pin Board

Figure 10C.5-2:
Example of a staffroom layout

10 The staff room is to be of a functional and comfortable size to accommodate the number of staff at the centre.

Adult Toilet Facilities

11 Toilet facilities are not to directly open to the kitchen or other food preparation area.

Kitchens and Food Preparation Facilities

12 Kitchens and other food preparation facilities are to be provided in accordance with the provisions of the BCA.

13 Kitchens and other food preparation facilities are to be designed and located so as to minimise noise transfer to children's rest areas.

14 Kitchens and food preparation facilities that allow children to observe

10C.5 STAFF AND PARENT ACCESSIBLE AREAS (continued)

Controls

food preparation are to be designed so as to enable supervision of the children at all times and not put their safety and welfare at risk.

Laundries

15 Laundries are to be provided away from the indoor play space and food preparation areas of the child care centre but are to be easily accessible from baby and toddler play spaces.

Cleaner's Storage Area

16 A storage area for all cleaning equipment of the centre is to be provided.

10C.6 OUTDOOR PLAY SPACES

Objectives

1 *To offer a safe, functional and educational environment.*

2 *To preserve the amenity and privacy of adjoining residential properties.*

3 *To provide a variety of outdoor play spaces offering a range of play experiences.*

4 *To ensure adequate storage provisions for play equipment.*

5 *To stimulate and enhance children's learning within indoor and outdoor environments.*

6 *To ensure adequate outdoor and indoor play spaces are provided that allow children to practice fundamental movement skills.*

Controls

General

1 Outdoor play spaces are to:

i) provide more than 7m² of unencumbered outdoor play space per child; and

ii) provide storage space for play equipment of 0.5m² for each child attending the centre.

Note: When calculating outdoor play space, areas occupied by items such as storage sheds or other fixed items that prevent children from using the space; or other elements such as steep slopes are to be excluded .

2 Outdoor play spaces are to be located in either the side or rear setback of the site.

Note: Where it is not possible to locate outdoor play spaces in the side or rear setback of the centre, the applicant will be required to demonstrate that appropriate safety precautions have been implemented.

3 Where a child care centre caters for children aged above and below 3 years of age, separate outdoor play spaces are to be provided for children aged under 3 years and children aged between 3 and 5 years.

4 Where separate outdoor play spaces are provided, a clear line of sight for direct access for supervision between the areas is to be available to staff.

5 Outdoor play spaces for children aged 3-5 years is to include a variety of spaces that allow children to engage in a range of activities, set out below:

i) an open play space that:
- provides adequate space for children to develop gross motor skills through activities such as running and jumping;
- incorporates a variety of natural ground surfaces such as grass or mulch; and
- utilises topographical variations such as mounds.

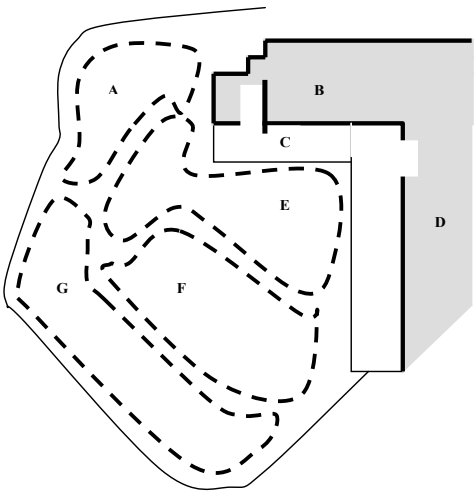
ii) an active play space that:
- dedicates space for climbing structures, digging areas and other play equipment;
- utilises topographical variation; and
- integrates natural and artificial ground surfaces.

iii) a quiet play space that:
- can be used for quiet activities such as teaching and finger painting;
- has a stable ground surface; and
- adjoins the transition area of the centre.

Note: Examples of quiet play spaces include sandpits, gazebos and amphitheatres.

10C.6 OUTDOOR PLAY SPACES (continued)

Controls



A Infant and Toddler
B Infant and Toddler Playroom and Services
C Transition Area
D Older Children
E Quiet Area
F Open Area
G Active Area

Figure 10C.6-1:
Example of a child care centre play ground divided into a variety of play spaces

Child Care Centres in Business Zones

6 Outdoor play areas are to be located away from driveways/ sources of noise and fumes.

7 Where outdoor spaces are provided above ground level, appropriate measures are to be implemented for the protection of those spaces from adverse wind and other climatic conditions.

8 Where it is impracticable to provide the required outdoor space, Council may permit a proportion of the required space to be provided indoors only where:

i) the area provided is in addition to other indoor space requirements;

ii) the indoor area is designed and equipped to allow children to participate in activities that promote gross moto skills; and

iii) the space is provided with natural light through windows and skylights.

Play Equipment

9 All outdoor play equipment is to comply with the relevant Australian Standards, including *AS/NZS4486.1 1997: Playgrounds and Playground Equipment.*

10 Softfall surfaces are to be used to surround play equipment and other areas where children may be at risk of falling from an elevated height. Softfall surfaces are to comply with the relevant Australian Standards, including *AS/NZS 4422 1996: Playground Surfacing*.

10C.6 OUTDOOR PLAY SPACES (continued)

Controls

Shade

11 Outdoor play spaces are to be shaded in accordance with the NSW Cancer Council's Shade for Children's Services or any document that replaces it.

Planting

12 Where the outdoor play space of the centre adjoins a residential property, screen planting along the common boundary with the residence is to be provided.

13 Plantings in outdoor play spaces are to include an attractive variety of trees, shrubs and other soft landscaping measures that contribute to the educational value of the centre through a mixture of colours, textures and forms.

14 Tree plantings are to be used to contribute to achieving the requirements of shading in accordance with the *NSW Cancer Council's Shade for Children's Services* or any document that replaces it.

Fencing

15 The perimeter of all outdoor play spaces is to be fenced to a minimum height of 1.2m.

16 Where the child care centre is located in a business zone and situated above ground level, adequate fencing is to be provided for the safety of children and to prevent objects from being thrown over the edge.

17 Where the outdoor play space of the child care centre shares a common boundary with a residential property, fencing along the boundary is to be a minimum of 1.8m in height and constructed of a material that ensures the privacy of the residence (eg. overlapped timber).

18 The construction of fences in outdoor play spaces is not to present a foothold below 900mm as measured from the ground level.

19 Where the child care centre is to be located on a site commonly affected by high winds, the fence is to be designed to act as a windbreak.

20 Gates leading to and from the outdoor play spaces are to be equipped with child-proof, self-locking mechanisms.

21 Acoustic fences are encouraged to protect visual privacy and acoustic amenity of neighbouring properties.

10C.6 OUTDOOR PLAY SPACES (continued)

Controls

Noise

22 The outdoor play space of the child care centre is not to be exposed to an average noise level in excess of 55 dB(A) originating from external sources, during the centre's operating hours.

Note: Council may order an acoustic assessment that, includes recommended noise attenuation measures, be undertaken by a suitably qualified acoustic consultant. Measurements are to be taken from 1.5m above the ground level of the proposed outdoor play space.

Storage

23 Storage facilities for outdoor play equipment are to be provided. This storage may be part of the main building or a separate structure sited in the outdoor play space.

Note: If the storage facility is sited separately (not forming part of the main building), the structure is not to obstruct supervision of the outdoor play space and will not contribute to calculations of play space areas.

24 Outdoor storage areas are not to be accessible to unsupervised children.

25 Outdoor storage structures that do not form part of the main building are to be of a solid construction that can be locked when not in use.

10C.7 TRANSITION AREAS

Objectives

1 *To assist with the integration of indoor and outdoor play spaces.*

2 *To provide transition areas that are safe, comfortable and of a functional size.*

3 *To provide undercover areas that cater for a range of weather conditions.*

Controls

1 Child care centre are to have a transition area that shall:

i) provide 3-4m² of unencumbered play space per child; and

ii) incorporate craft facilities and craft storage areas.

2 The transition area is to be designed to allow indoor and outdoor activities to be conducted undercover.

3 The transition area is to adjoin the child care centre's main building.

4 The transition area is to be located between the indoor and outdoor play spaces.

5 The roof coverage of the transition area is to be a minimum of 4m in width.

6 The transition area is to have direct frontage to the outdoor play spaces.

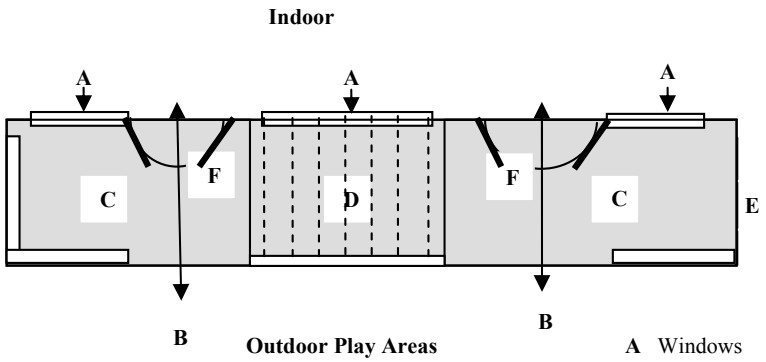
7 The transition area is to be designed in a manner that offers protection from unfavourable weather conditions, including strong winds and rainfall.

8 The transition area is to be designed in a manner that utilises natural temperature controlling measures, including cross ventilation.

9 Roofing materials used in the transition area are not to allow excessive heat to build up during summer months.

10 The transition area is to be designed in a manner that does not inhibit supervision between indoor and outdoor play spaces.

Note: The transition area may be included in the overall outdoor play space calculation for the centre.



A Windows
B Main Access to Outdoor Playground
C Covered Transition Area
D Pergola Cover Area
E Low Barriers
F Double Doors

Figure 10C.7-1: Example of a verandah transition area

10C.8 DUAL-USE AND MULTI-USE FACILITIES

Objectives

1 *To ensure adequate separation between single residential dwellings and dual-use child care centres.*

2 *To encourage dual-use equipped residential dwellings that are self-contained.*

3 *To encourage multi-use facilities that are compatible with child care centres.*

Controls

General

1 Any components of the multi-use and dual-use facility that are not part of the child care centre are to complement the operation of the child care centre. Such activities include toy libraries, baby health care services or the like.

Dual-Use facilities located on sites for residential purposes

2 Dual use facilities which involves a residential component may only be located on sites zoned for residential purposes.

3 The residential dwelling and child care centre component of the dual use facility is to be contained within a single building.

4 Any existing or proposed swimming pools are to be securely fenced, meeting the requirements of the *Swimming Pools Act, 1992*.

5 Clearly defined, separate entrances are to be provided for both the residential dwelling and the child care centre components of the building.

6 The dual use facility is to be designed so as to ensure a high level of amenity for the occupants of the residential dwelling. This is to be achieved by positioning living rooms, bedrooms and other habitable rooms away from common walls with the child care centre.

7 A minimum 25m² of private open space is to be provided for the residential dwelling of the dual use facility.

8 The residential dwelling of the dual use facility is to be equipped with the following that are solely for use by the dwelling's occupants:

i) a kitchen;

ii) a laundry;

iii) a bathroom; and

iv) storage space that is to be in accordance with the storage requirements in this DCP for the relevant dwelling type.

Note: Access between the residential dwelling and child care centre of the dual use facility is permissible; however, this is to be designed so that children attending the centre cannot access the residence.

9 In addition to the parking requirements for the child care centre, a minimum of one off-street car parking space is to be provided for the exclusive use of the residential dwelling.

PART 11

SEX INDUSTRY PREMISES

SEX INDUSTRY PREMISES

Introduction

11.1 Submitting a Development Application

11.2 Initial limits on development consent

11.3 Sex Services Premises

11.4 Home Occupation (Sex Services) Premises

INTRODUCTION

Controls

This part of the DCP provides controls for both “Sex Services Premises” and “Home Occupation (Sex Services) Premises”. These controls are provided to ensure that the design and location of sex industry premises do not result in a loss of amenity or create adverse social and environmental impacts. Under KLEP (Local Centres) 2012, Sex Services Premises are permissible with consent in all business zones. Additionally, Home Occupation (Sex Services) Premises are permissible with consent in the B2 and B4 zones. Clause 6.12 of the KLEP (Local Centres) 2012 provides standards in relation to the location of sex service premises.

Objectives and controls in this part guide the development of sex services premises in meeting the aims and objectives within the KLEP (Local Centres) 2012 Specific planning controls are elaborated upon within this part of the DCP. Additionally, Council will assess any application for a sex services premises against the relevant matters set out in Section 17 of the *Restricted Premises Act, 1943*.

Public health complaints in relation to the operation of sex industry premises are the responsibility of the NSW Department of Health. Occupational Health & Safety issues are matters handled by the Work Cover Authority. The Australian Federal Police and the Department of Immigration deal with issues of illegal immigrant sex workers.

The NSW Department of Health is responsible for safe health practices in the workplace, ensuring safe sex practices, dealing with public health complaints and advising sex workers working with sexually transmissible conditions.

However, as a consent authority, Council may undertake inspections of sex industry premises so as to determine compliance with *NSW Public Health Act* and Regulations, *Protection of the Environment Operations Act* and conditions of development consent made in accordance with the relevant planning controls.

11.1 SUBMITTING A DEVELOPMENT APPLICATION

Further controls that may apply		
		SECTION C **PART 23.1 -** Social Impact

Objectives

1 *To ensure that safety and amenity issues are considered early in the design phase.*

2 *To ensure the appropriate design, location and operation of sex industry premises within Ku-ring-gai.*

3 *To minimize any physical amenity impacts of sex industry premises upon adjoining land uses.*

4 *To avoid any detrimental change to the social character, identity, or perceived image of urban centres within Ku-ring-gai.*

Controls

1 Before submitting a development application for a sex industry premises, applicants are to refer to Ku-ring-gai Council's 'DA Guide'. In addition to the requirements of the DA Guide, the submission of a development application for a sex industry premises is to provide the following:

i) A 'location plan' or 'site analysis plan' which identifies:
- the location of uses identified in clause 6.12 of KLEP (Local Centres) 2012; and
- the separation distance from other sex service premises required by this DCP.

Note: The distance is to be shown in metres and be at a scale of 1:500 or larger.

ii) A statement indicating how the proposal complies with Section 17 of the *Restricted Premises Act, 1943*.

iii) The 'Statement of Environmental Effects' must include the proposed number of sex workers and details of proposed support staff where relevant (e.g. receptionist, security and lighting, etc).

iv) A 'Crime Prevention through Environmental Design' (CPTED) report.

Note: Required for Sex Service Premises only.

v) Architectural plans indicating the number, size, and use of each room in the premises.

vi) A Plan of Management detailing the operation and management must be submitted for both commercial and home occupation (sex services) premises. The Plan of Management must provide details on measures to be undertaken to safeguard workers, clients and the general public. Such details are to address, but are not limited to, issues relating to the storage and handling of contaminated waste, health provisions, hours of operation, the number and hours of security personnel, and the lighting of access ways and car parking areas.

Note: Any development application related to sex services premises or home occupation (sex services) premises may be referred to other relevant government agencies (ie. NSW Police) and Council departments for comment where considered appropriate.

Note: Details of 'escort agencies' are to be included in the Plan of Management if it is proposed to operate from a sex services premises.

11.2 INITIAL LIMITS ON DEVELOPMENT CONSENT

Objectives

1 To ensure the ongoing operation of the sex services premises is not detrimental to the amenity or safety of the surrounding area or the staff or clients of the premises.

Controls

1 Development consent granted for sex services premises and home occupation (sex services) premises may be initially limited to a period of twelve (12) months, when Council will re-evaluate the proposal in terms of any complaints received regarding the approved operation, and compliance with any conditions of development consent.

11.3 SEX SERVICES PREMISES

Further controls that may apply		
		SECTION C **PART 23.6 -** Building Services

Objectives

1 *To avoid the clustering of sex services premises within Ku-ring-gai.*

2 *To ensure sex services premises are located so as not to impact adversely on the environment, public areas, and other sensitive uses.*

3 *To ensure that the layout and design of sex services premises is such that their potential impacts and 'presence' in the locality is minimised.*

4 *To ensure the privacy and comfort of patrons.*

5 *To ensure the design and external appearance of the premises and any associated structure(s) do not have an adverse impact on the architectural character of the surrounding built environment.*

6 *To ensure adequate and appropriate access to the premises and its facilities is provided for persons with a disability.*

7 *To maximise the safety and security of staff, clients and the general public by upholding principles of Crime Prevention Through Environmental Design (CPTED).*

Controls

Location

1 To avoid clustering, sex services premises are not to be located within 500 metres of the entrance to a building which contains an existing known sex services premises (measured from the building entrance of the proposed sex services premises). Council may also consider the presence of any sex services premises within a neighbouring Local Government Area (LGA) immediately adjoining the site.

2 Sex services premises proposed to be situated at ground or street level are to comply with the following:

i) The premises is to be located behind another tenancy which is not a sex services premises;

ii) The premises is to be separate and independently operated from the front tenancy; and

iii) The premises is not to be internally linked to the front tenancy.

Design of Premises

3 Works to existing buildings are to be carried out in such a way as to avoid the creation of potential entrapment spots where intruders may hide. This includes, but is not limited to, avoiding the creation of recesses in the building form; and securing external storage areas such as waste storage. For existing buildings where no new works are proposed, appropriate lighting is to illuminate existing entrapment spots.

4 All premises are to have either an intercom or a duress alarm in each working room that is used for sexual activity. Alarms are to connect back to a central base (such as reception) that is to be monitored at all times.

5 Intruder alarm systems, security screens, door and window locks and intruder resistant materials that comply with relevant Australian Standards, are to be provided.

6 New development is not to create large blank walls facing or abutting the street. Walls are to be modulated to avoid the creation of a large flat surface susceptible to graffiti.

7 Any security grilles used on windows are to be openable from inside in case of emergency.

11.3 SEX SERVICES PREMISES (continued)

Objectives

8 To ensure that sex services premises do not cause disturbance in the neighbourhood because of their scale (including the number of sex workers and support staff), operating hours or any other factor.

9 To ensure advertising where permitted is discreet and inoffensive.

10 To ensure that adequate parking is provided for people working on the premises and clients using the facility so that the establishment of a sex service premises does not give rise to car parking congestion on the street.

11 To ensure that the location of parking does not adversely affect the surrounding locality.

12 To ensure the safety and security of car parking areas.

Controls

8 The premises is to be provided with an adequate reception area/ waiting room with a minimum area of 20m^2 to prevent clients from loitering outside.

9 Not more than 5 rooms are to be provided in which acts of prostitution are to take place.

10 The privacy of patrons is to be considered through the design and internal layout of the premises.

11 Staff facilities are to include a communal lounge or rest area and a bathroom for staff use only.

12 Toilet and bathroom facilities are to be provided within the premises and not be shared with any other premises within the building.

13 Every working room is to be provided with separate sanitary facilities compromising a toilet, shower and hand basin directly accessible from that room for the use of both sex workers and their clients.

14 All common areas, facilities and at least one (1) suite and its facilities (including a toilet / en suite) are required to be designed to be suitable for use by a person with a disability.

Amenity

15 The premises and its activities are not to have an adverse affect on surrounding and adjoining land uses and business in the locality or within the same site.

16 The premises and its activities are to avoid unacceptable visual impact and possible offence to the public. Sex workers are not to display themselves in windows, doorways or outside a sex services premises.

17 The sex services premises is not to be of a colour which draws undue attention.

18 To ensure the privacy of patrons and ensure no potential offence is caused to adjoining or surrounding premises, the interior of a sex services premises is not to be visible from adjoining or surrounding premises or the public domain (which includes streets, parks and footpaths).

19 Sex services premises are to be designed to minimise noise transmission, measures include:

i) grouping room uses according to the noise level generated;

ii) using storage or circulation zones within the premises to buffer noise from adjacent apartments, mechanical equipment or corridors and lobby areas; and

iii) incorporating appropriate noise shielding or attenuation techniques into the design of the building where appropriate.

11.3 SEX SERVICES PREMISES (continued)

Controls

Accessibility and Entrances

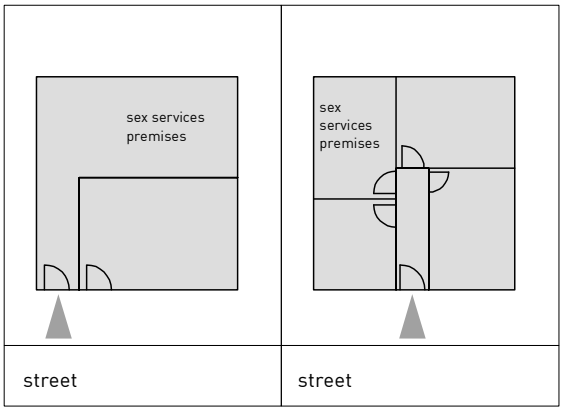


Figure 11.3-1:
Acceptable front entries for sex services premises.

20 Access for people with a disability is to be provided in accordance with all relevant legislation and standards, including *AS1428 – Design for Access and Mobility* and the *Disability Discrimination Act 1992*.

21 Premises are to be designed so that there is only one (1) entrance to the premises which is to be located at the front of the building (or from the primary street access if the premises is located on a corner). Examples of acceptable front entry designs are shown in the Figure 11.3-1.

22 Casual surveillance of the entrance is essential to ensure the safety of all workers and visitors to the premises. Accordingly, the entrance to the sex service premises is to be designed to facilitate the privacy of workers and clients, without compromising personal safety.

23 Adequate lighting of the entrance is essential to ensure the safety of sex workers and clients who are leaving and arriving at the premises, but not to the extent where it becomes a prominent feature in the streetscape (eg. by high intensity lighting or the use of excessively bright colours). To ensure the safety of all workers and visitors any proposed landscaping is not to obstruct the visibility and passive surveillance from public areas of the entrance.

24 External lighting is to be vandal resistant. Vandal resistance may be achieved by being high mounted and/or protected. Lighting is to be directed towards access / egress routes rather than towards buildings (including the subject or neighbouring buildings).

Note: External lighting is not to result in spillage of light onto adjoining properties.

25 Pathways are to be direct (i.e. straight) and blind corners are to be avoided (including on stairs, in corridors or in other situations where movement can be predicted). If blind corners cannot be avoided then they are to be treated with mirrors to improve sightlines.

11.3 SEX SERVICES PREMISES (continued)

Controls

26 All barriers beside pathways are to be low in height or visually permeable (i.e. 'see-through') including landscaping, fencing and the like.

Advertising signs and structures

27 In addition to the provisions set out in Part 12, sex services premises are to adhere to the controls set out below:

i) One (1) sign per premises only;

ii) Signage may identify only the name of the person who conducts the business or the registered name of the business;

iii) A clearly visible street number is to be displayed;

iv) No merchandising relating to the sex services premises is to be erected, displayed or exhibited at any entry or in an access corridor (including any stairwell) to the premises;

v) No signs may display words or images, which are in the opinion of the Council, sexually explicit, lewd or otherwise offensive. Council is to be satisfied that the content, size, shape, and lighting of the sign is not likely to interfere with the character or amenity of the neighbourhood;

vi) Signs may be externally lit by spotlights only. Internally illuminated signs or 'flashing signs' are not permitted;

vii) A clear and legible sign is required advising clients that 'only' persons over the age of 18 will be permitted'. 'Proof of age may be required' must be clearly visible upon entry to the premises; and

viii) The sign is to be located at ground floor level outside the entrance to the premises, with a maximum size of 0.25m^2.

28 Where there is an inconsistency between this section and Parts 12 of this *DCP*, the controls set out above prevail to the extent of any inconsistency.

Car Parking

29 On site parking must be provided for sex services premises at the rate of 1 space per 2 employees working at any one time in the premises, plus 1 space per room where acts of prostitution are conducted.

30 Reduced parking requirements may be considered if it can be demonstrated by the applicant that adequate on-street car parking and/or public transport services exist close to the premises and any public transport services operate at the times at which the premises are proposed to be open. It will also be necessary to demonstrate that a variation to the requirements for the provision of

Controls

on-site parking will not adversely affect the amenity of any adjoining residential locality or properties.

31 On-site parking spaces are to be arranged in a grid pattern rather than a herringbone configuration.

32 Car parking spaces, circulation areas, roadways and ramps are to comply with AS2890.1.

33 Lighting is to be used in all outdoor car parks and in all vehicular and pedestrian access ways to and from the development. Details of the lighting, including its location, is to be provided with the development application. Where casual surveillance cannot be provided (i.e. carpark), electronic surveillance is to be installed.

11.4 HOME OCCUPATION (SEX SERVICES) PREMISES

Objectives

1 *To avoid the clustering of home occupation (sex services) premises.*

2 *To ensure home occupation (sex services) are located so as not to impact adversely on the environment, public areas, and other sensitive uses.*

3 *To ensure that the layout and design of home occupation (sex services) premises is such that their potential impacts and "presence" in the locality is minimised.*

4 *To ensure the privacy and comfort of patrons.*

5 *To ensure the design and external appearance of the premises and any associated structure(s) do not have an adverse impact on the architectural character of the surrounding built environment.*

6 *To maximise the safety and security of staff, clients and the general public by upholding principles of Crime Prevention Through Environmental Design (CPTED).*

Controls

Location

1 To avoid clustering, home occupation (sex services) premises are not to be located within 150 metres of the entrance to a building which contains an existing known home occupation (sex services) premises (measured from the building entrance of the proposed home occupation (sex services) premises. Council may also consider the presence of any home occupation (sex services) premises within a neighbouring Local Government Area (LGA) immediately adjoining the site.

Design of Premises

2 Toilet and bathroom facilities are to be provided within the premises and not shared with any other premises within the building.

3 Works to existing buildings are to be carried out in such a way as to avoid the creation of potential entrapment spots where intruders may hide. This includes, but is not limited to, avoiding the creation of recesses in the building form and securing external storage areas such as waste storage. For existing buildings where no new works are proposed, appropriate lighting must illuminate existing entrapment spots.

4 Any security grilles used on windows are to be openable from inside in case of emergency.

Amenity

5 The premises and its activities are to not have an adverse effect on surrounding and adjoining land uses and business in the locality or within the same site.

6 The premises and its activities are to avoid unacceptable visual impact and possible offence to the public. Sex workers are not to display themselves in windows, doorways or outside a home occupation (sex services) premises.

7 The home occupation (sex services) premises is not to be of a colour which draws undue attention.

8 To ensure the privacy of patrons and ensure no potential offence is caused to adjoining or surrounding premises, the interior of a home occupation (sex services) premises is not to be visible from adjoining or surrounding premises or the public domain.

Accessibility and Entrances

9 Casual surveillance of the entrance is essential to ensure the safety of all workers and visitors in the premises. Accordingly, the entrance of home occupation (sex service) premises is to be designed to allow workers to see who approaches their dwelling without the need to open the front door.

PART 12

SIGNAGE AND ADVERTISING

Introduction

12.1 Signage General

12.2 Identification Signs - Building

12.3 Identification Signs - Business

12.4 Advertising Structures

12.5 Advertising on Heritage Items or in Heritage Conservation Areas

12.6 Advertising on Outdoor Dining Furniture or Footpath Trading Activities

12.7 Illumination of Signs

12.8 Special Signs

12.9 Temporary Signs

12.10 Maintenance

SIGNAGE AND ADVERTISING

INTRODUCTION

This Part guides the design and placement of signs. It seeks to ensure that the built form remains dominant, individually and as an overall urban fabric, without being diminished by signage.

12.1 SIGNAGE GENERAL

Objectives

1 *To ensure that signage and advertising communicate effectively and contribute to the character of the public domain.*

2 *To ensure signage and advertising do not dominate the building or public domain.*

3 *To integrate signage with the building design by responding to scale, proportions and architectural detailing.*

4 *To enhance the visual quality of the streetscape.*

5 *To ensure signage and advertising structures do not disrupt vehicular or pedestrian traffic flow.*



Figure 12.1-1:
Building identification sign

The following controls apply to all types of signage including:

i) advertising structures;

ii) building identification signs; and

iii) business identification signs.

Controls

1 Where located on a building, signage is to be integrated with the architecture and/or structure of the host building. Building façade detail, ventilated inlets or outlets and projecting features of the building are to remain unobscured by signage.

2 Signage and advertising are to be constructed of non-combustible, graffiti resistant and easily cleaned materials.

3 Shopfront window signs:

i) permanent in nature on ground floor shop windows are not to cover more than 25% of the window area between the window sill and the level of the door lintel;

ii) temporary in nature (up to a fortnight), particularly those using fluorescent and iridescent paints, are not to cover more than 60% of the window surface area; and

iii) for office premises are to be limited to one sign for each premises.

4 The following signage is not permitted:

i) flashing signs, moving signs, balloon signs, inflatable signs or the like, or any bunting, flag signs or those made of canvas, calico, textile or the like;

ii) signs advertising a third party, activity or trade other than that associated with the building to which the sign is attached;

iii) hoarding signs, painted bulletins or advertisements in the nature of posters (except newsagents headlines) or stickers affixed to the exterior of the building;

iv) signage above awning level, except for building identification signs;

v) signage affixed to or attached to telephone booths, trees, poles, signs, shelters, sheds, bins and the like;

vi) fluorescent colours on signs or buildings;

vii) sky, roof or fin signs;

viii) internally and externally illuminated signs, other than those permitted under 12.7 of this Part (except where internally lit signs do not cause any spillage of light onto neighbouring properties or can be proven not to cause any detraction from the amenity of the locality);

ix) freestanding signs/pole signs (except service stations)

Note: All signs are to comply with *SEPP 64 – Advertising and Signage*.

12.2 IDENTIFICATION SIGNS - BUILDING

Objectives

1 *To limit the number and visual dominance of signage on buildings.*

2 *To integrate signage with the building design.*

3 *To enable way finding for building users.*



Figure 12.2-1:
Street name and number displayed prominently near the building entry

For the definition of Building Identification Signs, refer to the *KLEP (Local Centres) 2012 Dictionary*. All signs are to be consistent with General Signage controls in *Part 12.1*.

Controls

Business Zones

1 A building identification sign is the only signage permitted above the ground floor of a building.

2 A maximum of one building identification sign is permitted per street frontage and is not to be a painted sign.

3 Building identification signs are to have a maximum size of $6m^2$.

4 Building identification signs are to be mounted flat against an exterior wall or parapet and are to not protrude more than 300mm from the face of the wall.

5 The street number is to be displayed at a prominent position on the ground floor, or a sign is to be provided on the awning fascia of the property.

6 Multiple occupancy buildings and developments are to identify the entrance with a sign or directory board with the street number of the development, name of the site and the occupants.

7 Building identification signs are to be non-illuminated.

Residential and Environmental Living Zones

8 A building identification sign is the only signage permitted above the ground floor of a building.

9 A maximum of one building identification sign is permitted per street frontage and is not to be a painted sign.

10 Building identification signs are to be attached to gateways, fences or building facades only.

11 The street number is to be displayed at a prominent position on the ground floor or a sign is to be provided on the awning fascia of the property.

12 Building identification signs are to be non-illuminated.

12.3 IDENTIFICATION SIGNS - BUSINESS

Objectives

1 *To encourage the effective identification of businesses and shops.*

2 *To control the number and quality of business identification signs.*

For the definition of Business Identification Signs, refer to the *KLEP (Local Centres) 2012 Dictionary*. All signs are to be consistent with General Signage controls in *Part 12.1*.

Controls

Business Zones

1 A maximum of two business identification signs are permitted for each shopfront (e.g. one under awning sign and one top hamper sign).

2 A co-ordinated presentation of signs is required where there are multiple occupancies or uses within a single building development. New buildings containing more than one ground floor tenancy are to provide signs co-ordinated in colour, size and design to be suspended under the awning.

3 Under awning signs are to:

i) be either illuminated or non-illuminated;

ii) be limited to one per shopfront;

iii) not exceed 2.5m in length;

iv) be erected in a horizontal location at right angles to the building façade;

v) have a minimum clearance of 2.6m to the underside of the sign, measured from the ground/pavement level;

vi) be separated by at least 3m from other under awning signs;

vii) not project beyond the awning fascia; and

viii) be set back at least 600mm from the face of the kerb.



Figure 12.3-1:
Two signs allowed for each shopfront.

12.3 BUSINESS IDENTIFICATION SIGNS (continued)

Controls

4 Top hamper signs are to:

i) be non-illuminated;

ii) not extend below the top level of the head of the doorway or display window above which it is attached;

iii) not be more than 3.7m above the finished ground level;

iv) have a maximum length of 4m;

v) not project more than 150mm from the building façade;

vi) allow a proportion of wall surface area of the top hamper to be exposed; and

vii) be set back from side boundaries to satisfy fire regulations.

Residential and Environmental Living Zones

5 A maximum of one business identification sign will be permitted per premises.

6 A business identification sign is not to be located more than 3m above ground level (existing).

7 A pole or pylon sign is to be located at a maximum height of 2m.

8 Signs are to be located wholly within the property boundaries of the land to which the sign relates.

9 Business identification signs are to be non-illuminated.



Figure 12.3-2: Under awning business identification signs along the main street.

12.4 ADVERTISING STRUCTURES

Objectives

1 *To avoid visual clutter.*

2 *To maintain the desired character of the locality.*

3 *To ensure that signs complement the architectural style and use of buildings.*

For the definition of Advertising Structures, refer to the *KLEP (Local Centres) 2012 Dictionary*. All signs are to be consistent with General Signage controls in *Part 12.1*.

Controls

1 Flush wall signs are to:

i) not project above the top of the wall to which they are attached;

ii) not extend above awning height;

iii) be of a size and shape that relate to the architectural design of the building to which they are attached;

iv) be limited to one sign per building street frontage.

2 Fascia signs are to:

i) not project above or below the fascia or return end of the awning to which it is attached;

ii) be of a size and shape that relates to the architectural design of the building to which they are attached;

iii) be limited to one sign per premises or one per street frontage.

3 Advertising structures of a portable nature such as sandwich boards, A-frames or the like are not permitted.

4 Variable Message Signs (VMS) advertising and stationary vehicles, including trailers, containing advertising are not to be parked on public roads when used principally for the purpose of advertising other than:

i) directly in front of the business premises;

ii) directly in front of the residential premises of the business owner.

Note: Refer to RMS 'Use of Variable Message Signs' for further information.

12.5 ADVERTISING ON HERITAGE ITEMS OR IN HERITAGE CONSERVATION AREAS

Objectives

1 *To ensure the conservation of existing significant signage on Heritage Items and within HCAs.*

2 *To ensure new signage is compatible with, and does not detract from, the Heritage Item or HCA streetscape with minimum impact on built fabric.*

All signs are to be consistent with General Signage controls in Part 12.1.

Controls

1 All signs on Heritage Items or in Heritage Conservation Area (HCAs) are to be:

- i) of a design that is in sympathy with the character of the Heritage Item or HCA;
- ii) appropriately located;
- iii) located not to obscure or detract from significant fabric or views of the Heritage Item or HCA streetscape;
- iv) of appropriate size and scale to the Heritage Item or HCA streetscape, and not be the dominant visual element on the building or in the HCA streetscape;
- v) non-illuminated.

2 Installation of a sign on a Heritage Item or within an HCA is to be:

- i) carried out in a reversible manner without damage to significant fabric;
- ii) attached to fabric of lesser significance;
- iii) freestanding signs may be permitted for Heritage Items to avoid adverse impacts on built fabric.

3 Original or significant signs on a Heritage Item or within an HCA are to be retained.

4 Painting of whole buildings, facades, windows and shopfronts in corporate colours is not permitted.

12.6 ADVERTISING ON OUTDOOR DINING FURNITURE OR FOOTPATH TRADING ACTIVITIES

For the purposes of this part, furnishing means furniture, appliances, and other moveable articles in an outdoor dining area, but excludes planter boxes, utensils, dining sets and the like.

Objectives

1 To encourage effective identification of businesses.

2 To allow limited advertising of third parties.

3 To maintain the character of the public domain.

Controls

1 Business identification and/or the third party advertising of one (1) advertiser may appear on the furnishings of the area.

2 Details of third party advertising on outdoor dining furnishings are to be submitted to Council with the application for an outdoor dining permit.

3 Where business identification signs are provided on planter boxes, they are to be fully incorporated into the design of the planter boxes.

4 Where display stands are provided on the footpath trading area, only business identification signage is permitted on the front face of the display stands. Third party advertising is not permitted.

12.7 ILLUMINATION OF SIGNS

Objectives

1 *To protect the amenity of the users of nearby buildings, including the residential components of mixed use buildings.*

2 *To ensure signage contributes to the desired character of the public domain.*

3 *To ensure signage is energy efficient.*

4 *To ensure signage does not reduce safety for pedestrians or vehicles.*

Controls

Non-Residential and Mixed Use Buildings

For mixed use developments, the requirements below apply only to the non-residential portion of mixed use development.

1 Illuminated signs may be considered subject to specific controls such as the inclusion of automatic timing devices, to turn lights on/off at times designated by the Council;

2 Illumination is to be concealed within, or integral to, the sign through use of neon or an internally lit box, or by sensitively designed external spot-lighting;

3 Illuminated signs are to use LED diode technology or a lighting source of equivalent or higher efficiency;

4 Illumination is not to be hazardous or a nuisance to pedestrians or vehicular traffic and not to produce any light spill;

5 Cabling to signs are to be concealed.

6 Consideration is to be given to avoid the use of illuminated red, green and amber colours in proximity to signalised intersections, to avoid the likelihood of motorist misinterpretation.

12.8 SPECIAL SIGNS

Objectives

1 *To control the number and quality of signs.*

2 *To encourage the effective identification of businesses.*

3 *To protect and enhance the visual quality of the streetscape.*

Controls

Office and Commercial Buildings

1 For corporate centres, signage is restricted to the corporate logo only, which is to be non-illuminated and erected on the main frontage of the building. The area of the sign is not to exceed 25% of the solid wall area, at the top most level on which it is displayed, excluding glazed area.

2 Corporate logos are permitted on the facade of office and commercial buildings as building identification signage.

Service Station Signage

3 The following requirements apply to service station signage, including pole signs and emblem/price signs:

i) The top of the sign or pole is not to be higher than 6m above finished ground level; and

ii) The sign is to be totally contained within the allotment.

4 Canopy fascia signs are to be limited to trade name details and corporate identification.

5 Subsidiary signs are to be of a number, size and style compatible with the size of the operation and to the satisfaction of Council. The details of all subsidiary signage is to be included in any application to Council.

6 Illuminated signs and floodlighting of work and service areas are not to be used outside of approved trading times and are not to produce light spill at any time.

7 Total sign area for the site is not to exceed a total area calculated at a ratio of $1m^2$ over 3m of lineal frontage to the primary street/road.

12.9 TEMPORARY SIGNS

Objectives

1 *To provide opportunities for effective communication of events and property sales.*

2 *To avoid visual clutter.*

3 *To ensure signage does not dominate the public domain.*

4 *To ensure signage does not reduce pedestrian and vehicle safety.*

Controls

Real Estate and Property Promotional Signs

1 Only one sign per real estate company, or one promotional sign, may be erected on any premises.

2 The sign is to only advertise the premises and/or land to be sold, leased, or under construction.

3 Direction signs not more than 0.8m2 in area may be erected on inspection day in front of the property during the advertised hours of inspection.

4 All signage is to be erected within the confines of the property to which it refers. Bunting and sandwich boards may be used on the day of sale by auction provided that they are within the property and promptly removed after the sale.

5 The erection of signs on telegraph poles, street trees, sign posts, road traffic facilities or the like, is not permitted.

6 All signs are to be removed within fourteen days of sale or auction of the property and in no instance is any sign to be used for general advertising.

7 The maximum size of signboards is as follows:

i) Where residential development is being advertised for sale, it is to be in accordance with size requirements in *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008,* Subdivision 12-Real Estate Signs;

ii) Where commercial or industrial premises are being advertised the maximum signboard size is 4.5m^2; and

iii) Where premises other than those listed in i) and ii) above are being advertised for sale the maximum signboard size is 2.5m^2.

8 Internally illuminated signs are not to be located above the awning or ground floor.

Sporting and Special Events Signs

9 Temporary signs for sporting and special events, such as cultural and entertainment activities, including banner type signs, will be considered on individual merit. Council recognises these activities as an important element in community use of commercial precincts and consideration will be given to allow departures from provisions of this DCP provided that such departures do not significantly impact on the locality. This may include banner type signs.

10 Signs are not to be displayed prior to Council approval being obtained except for circumstances listed in Schedule 2 of the *KLEP (Local Centres) 2012.* No application fee is prescribed for genuine non-commercial advertising of cultural or community entertainment activities.

12.9 TEMPORARY SIGNS (continued)

Controls

11 All applications are to contain the following information:

i) precise location of the proposed signage;

ii) type and nature of the sign;

iii) purpose of advertising;

iv) evidence showing the organisation is a local charitable or community service organisation; and

v) intended time of display.

12 Temporary signage may only be displayed for a period of not more than fourteen days prior to the event and to be removed on the day following the event.

13 A maximum of two organisations will be permitted to display signage at any one set of approved banner poles.

14 A maximum of four locations within the Ku-ring-gai area may be approved for display of signage by any one organisation or event.

15 Approval may only be granted for display of advertising by recognised local organisations or a charitable or community service nature.

Note: All unauthorised advertising will be removed and impounded by Council.

Other Temporary Advertising Structures

16 Council may permit in exceptional circumstances signs not otherwise conforming to this DCP, subject to those signs being approved as temporary advertising structures.

17 Temporary signs are not to be erected or displayed on private land or public land visible from a public place unless a written application has been made to Council, and a written approval has been issued.

18 Any conditions Council places on approvals for temporary advertising structures are to be complied with, or the approval will be cancelled by notice in writing and the sign removed within the time specified by the notice.

19 An approval for a temporary sign is not to exceed two months duration and shall be subject to renewal at the expiry of that period.

20 The prescribed application fee to accompany each application.

Note: Real estate signs (in both residential and business zones) are also permissible as exempt development under Schedule 2 of the KLEP (Local Centres) 2012.

12.10 MAINTENANCE

Objectives

1 To maintain the character and safety of the public domain.

Controls

1 A sign is not to be altered in any way (except for removal) after approval, unless permission in writing for such alteration is obtained beforehand from Council.

2 All signs are to be maintained to the satisfaction of Council at all times.

PART 13

TREE & VEGETATION PRESERVATION

TREE AND VEGETATION PRESERVATION

Introduction

13.1 Tree and other vegetation works

13.2 Exemptions for tree and other vegetation works

13.3 Heritage items or heritage conservation areas

13.4 Application for tree and other vegetation works

INTRODUCTION

Further controls that may apply		
	SECTION B **PART 19C -** Development within HCAs: Alterations and Additions	

Council has a vision for a healthy and livable place where people respect each other, conserve the magnificent environment and society for the children and grandchildren of the future (as set out in Ku-ring-gai Councils Strategic Community Plan 2030). Our urban forest is an integral component of that vision.

The established tree canopy and significant areas of bushland in Ku-ring-gai are defining characteristics and are essential to the areas 'look and feel'. Our urban forest is an asset that provides vital ecological, environmental, heritage, social, visual and physical amenity values.

Ku-ring-gai's urban forest supports over 700 native plants and over 300 vertebrate species, including many species listed as threatened under state or federal legislation. This includes 10 threatened flora species, two threatened populations and 21 fauna species, known to occur or commonly recorded, with many more recorded infrequently or considered transient visitors to the area.

Today Council reserves and natural spaces, the tree lined suburbs, parks and gardens provide important corridors between the three national parks and smaller reserves within and around Ku-ring-gai.

Under Ku-ring-gai LEP (Local Centres) 2012, a number of areas containing significant vegetation or habitats have been zoned E1 - National Parks and Nature Reserves, E2 – Environmental Conservation, E4 – Environmental Living and/or are covered by the overlay clauses:

i) Biodiversity protection Part 6.3 of KLEP (Local Centres) 2012 and Biodiversity controls Part 18 of this DCP; or

ii) Riparian land and adjoining waterways Part 6.4 of KLEP (Local Centres) 2012 and Riparian Land Part 17 of this DCP.

There are also other remnant and scattered trees associated with threatened ecological communities and threatened species habitat throughout the local government area.

Tree and other vegetation works within these areas require consideration of the above mentioned zoning, LEP and DCP provisions, and threatened status to ensure ecological values are protected. This may include consideration under the NSW Threatened Species Conservation Act 1995 and/or the Environmental Protection and Biodiversity Conservation Act 1999.

This Part defines requirements and responsibilities with respect to the protection, retention and replacement of trees and other vegetation in Ku-ring-gai by:

iii) providing controls in relation to the management and long term survival of Ku-ring-gai tree and other native vegetation resource; and

iv) establishing a framework for the submission of applications for tree and other vegetation works in Ku-ring-gai.

INTRODUCTION (continued)

This part is made in pursuant to Clause 5.9 and Clause 5.10 of the KLEP (Local Centres) 2012 and prescribes the trees and other vegetation to which these clauses apply.

A person who contravenes, or causes or permits to be contravened, the provisions the Act and of this Part are guilty of an offence under the provisions of the Environmental Planning and Assessment Act 1979

Injuring a tree or other vegetation does not require consent under this Part, where actions are required or authorised under separate legislation, including:

- bush fire hazard reduction work authorised by the Rural Fires Act 1997. Under Clause 5.11 of the KLEP (Local Centres) 2012, these works may be carried out without consent under this Part
- clause as prescribed in Clause 5.9(8) of the KLEP (Local Centres) 2012. For example this Clause does not apply to works prescribed by the Electricity Supply Act 1995, Roads Act 1993, Forestry Act 1916, Noxious Weeds Act 1993 or the Surveying and Spatial Information Act 2002.
- approval to harm marine vegetation is provided under part 7of the Fisheries Management Act 1994.
- a license to harm or pick threatened species, populations or ecological communities or damage habitat is provided under Section 91 of the Threatened Species Conservation Act 1995.
- works required as part of other works for which a development application is required, the works will be assessed as part of the Development Application (approved under Part 4 Environmental Planning and Assessment Act 1979).

13.1 TREE AND VEGETATION WORKS

Objectives

1 *To manage Ku-ring-gai's tree and vegetation resources in a sustainable manner.*

2 *To protect and enhance biodiversity values and identify replenishment opportunities.*

3 *To recognise, protect and enhance the aesthetic and heritage values of trees.*

4 *To secure and maintain local character and amenity.*

5 *To sustain and enhance the tree canopy.*

6 *To prohibit unnecessary injury to, or destruction of, trees and vegetation.*

7 *To encourage responsible management of trees and vegetation within an urban environment.*

8 *To protect the stability of waterways.*

Controls

Prescribed Trees and Vegetation

1 The prescribed tree and vegetation that are protected by Clause 5.9 and Clause 5.10 of KLEP (Local Centres) 2012 and this section of the DCP include

- tree
- other vegetation:

"tree" means:

i) any perennial plant with at least one self-supporting woody, fibrous stem, whether native or exotic, of 5 metres or more in height; and

ii) any plant that has a trunk diameter of 150mm or more measured at ground level.

"other vegetation" means

i) vegetation that is either a remainder of the natural vegetation of the land or, if altered, is still representative of the structure and floristics of the natural vegetation. Including any of the following:

- trees (including any sapling or shrub),
- understorey plants,
- groundcover (being any type of herbaceous vegetation),
- plants occurring in a wetland.

Actions that cause injury

2 The injury of any tree(s) or other vegetation protected under this DCP is prohibited without the written consent of Council. Except in accordance with the exemptions prescribed in Part 13.2.

3 Actions that cause injury to tree(s) or other vegetation include:

i) removing including cut down, take away or transplant a tree(s) or other vegetation from its place of origin;

ii) pruning, damaging / tearing live branches and roots;

iii) lopping (height reduction) a tree;

iv) drilling or poisoning a tree or vegetation, including but not limited to:

- the application of substances damaging to trees and other vegetation such as herbicides, other toxic chemicals; or
- spilling and or directing contaminants such as oil, petroleum, paint, cement and similar to the root zone;

v) ringbarking, or otherwise damaging the bark, which may result in a detrimental impact on the tree health including but not limited to:

- the attachment of objects using invasive fastenings, tree climbing spikes;
- the fastening of materials around the trunk of trees.

vi) exotic vines growing to the trunk and branches of trees which

13.1 TREE AND VEGETATION WORKS (continued)

Controls

is, or will result in, a detrimental impact on tree or vegetation health;

vii) damaging the root zone of a tree or other vegetation by way of compaction, including storage and stockpiling of materials;

viii) changing of ground levels within the root zone of a tree or other vegetation by way of excavation, trenching, filling or stockpiling;

ix) severing tree or other vegetation roots with a diameter of 50mm or greater.

13.2 EXEMPTIONS FOR TREE AND VEGETATION WORKS

Controls

This section explains when approval from Council is required to carry out tree or vegetation works, pursuant to the provisions of Clause 5.9 of the KLEP (Local Centres) 2012. These exemptions do not apply on land that is a heritage item or within a heritage conservation area. Works on heritage items and within heritage conservation areas are addressed within Part 13.3

Exemptions

The following are exempt works:

1 Tree branches directly over roof lines

i) removal of tree branches which directly overhang the roof of a residence or commercial building, if pruned back to the nearest branch junction or collar to clear the roofline;

ii) detached garages, carports and ancillary buildings are not included in this exemption.

Note: Pruning must be consistent with the Australian Standard for Pruning of Amenity Trees (AS4373-2007), and must not result in a detrimental impact to the future health or stability of the tree or compromise the form of the tree

2 Trees and other vegetation within 3m of an existing dwelling

i) trees and other vegetation within 3m of any existing dwelling are exempt. The 3m distance is measured from the centre of the trunk of the tree / base of the plant at ground level to the external wall of the dwelling.

- provided the owner of the land on which the trunk of the tree is located is in agreement and gives consent prior to the tree works.

Note: Trees (Disputes between Neighbours) Act 2006 may apply

ii) trees and other vegetation within 3m of verandahs, carports, detached garages, and ancillary buildings, cantilevered and pier supported structures such as balconies and decks are excluded from this exemption.

3 Removal of tree branches near electrical wires

i) removal of branches within 0.5m of electrical service lines to properties. This exemption applies to tree branches only, not tree trunks.

4 Minor pruning

i) pruning of trees and other vegetation provided:

- branches pruned, are not more than 50mm in diameter; and
- roots pruned are not more than 50mm in diameter.

Note: pruning is consistent with the Australian Standard for Pruning of Amenity Trees (AS 4373-2007).

5 Removal of dead wood

i) completely dead branches attached to tree(s) and other vegetation within the property may be removed.

13.2 EXEMPTIONS FOR TREE AND VEGETATION WORKS (continued)

Controls

Note: pruning is consistent with the Australian Standard for Pruning of Amenity Trees (AS 4373-2007).

6 Removal of dead or dying trees and other vegetation

i) removal of completely dead or dying trees and other vegetation provided that prior to any work being carried out:

- Council has advised the applicant of its satisfaction that the subject tree(s) or other vegetation is dead or are dying and is not required as the habitat of native fauna.

7 Removal of risk to human life or property

i) the removal of tree(s) which is structurally unsound and or unstable, which displays a high degree of hazard, provided that prior to any work being carried out:

- Council has advised the applicant, of its satisfaction that the subject tree(s) is posing an imminent risk to human life or property.

Note: an arborist's report and testing may be required for significant trees.

8 Trees and other vegetation on Council owned and managed land

i) tree and other vegetation works may be undertaken by Council or Council's authorised agents, on Council owned or managed land, providing these works are consistent with Council's policies and internal guidelines.

13.2 EXEMPTIONS FOR TREE AND VEGETATION WORKS (continued)

Controls

9 Exempt tree and other vegetation species:

i) removal of species listed under the NSW Noxious Weeds Act 1993.

Note: Refer to the NSW Department of Primary Industries for information on noxious weeds.

ii) within table below:

Common Name	Botanical Name
Cootamundra Wattle	*Acacia baileyana*
Queensland Silver Wattle	*Acacia podalyriifolia*
Golden Wreath Wattle	*Acacia saligna*
Box Elder	*Acer negundo*
Tree of Heaven	*Ailanthus altissima*
Evergreen Alder	*Alnus jorullensis*
Cocos Palm	*Aracastrum romanzoffianum*
Nettle tree	*Celtis* spp.
Cotoneaster	*Cotoneaster* spp.
Loquat	*Eriobotrya japonica*
Common Coral Tree	*Erythrina crista-galli*
Indian Coral Tree	*Erythrina indica*
Coral Tree	*Erythrina x sykesii*
Rubber Tree	*Ficus elastica*
Liquidamber	*Liquidambar stryraciflua* **(only if less than 12m in height)**
African Olive	*Olea europaea subsp. Africana*
Crested Wattle	*Paraserianthes lophantha*
Lombardy Poplar	*Populous nigra italica*
Firethorn	*Pyracantha spp.*
Black Locust	*Robinia pseudoacacia*
Golden Robinia	*Robinia pseudoacacia "Frisia"*
Umbrella Tree	*Schefflera actinophylla*
Broad-leaf pepper tree	*Schinus terbinthifolius*
Rhus	*Toxiocodendron succedaneum*

13.3 HERITAGE ITEMS OR HERITAGE CONSERVATION AREAS

This section explains approval requirements to carry out tree or vegetation works on land that is or forms part of a heritage item or is in within a heritage conservation area.

To identify if your tree, vegetation or land has heritage significance please view: http://www.kmc.nsw.gov.au/Plans_regulations/Building_and_development/

Under Clause 5.10 of the KLEP (Local Centres) 2012, development consent is required to undertake works in relation to a tree or vegetation that is or forms part of a Heritage Item or is within a Heritage Conservation Area. However, development consent may not be required in the following circumstances:

1 Works in relation to a tree or other vegetation may be carried out with the written consent of Council where Council is satisfied that:

   i) the proposed works is of a minor nature,

   ii) is for the maintenance of the Heritage Item or place within the Heritage Conservation Area; and

   iii) would not adversely affect the heritage significance of the Heritage Item or Heritage Conservation Area.

2 For the purpose of 1i) above, the following tree works in relation to a tree or other vegetation that is or forms part of a Heritage Item or is within a Heritage Conservation Area may be regarded by Council as being of a minor nature:

   i) Tree branches directly over roof lines

   - removal of tree branches which directly overhang the roof of a residence or commercial building, if pruned back to the nearest branch junction or collar to clear the roofline. Detached garages, carports and ancillary buildings are not included

   Note: Pruning must be consistent with the Australian Standard for Pruning of Amenity Trees (AS4373-2007) and must not result in a detrimental impact to the future health or stability of the tree or compromise the form of the tree.

   ii) Minor pruning

   - pruning of trees and other vegetation provided:

     - branches pruned, are not more than 50mm in diameter, and
     - will not result in less than 10% of the canopy being removed once every growing season
     - roots pruned are not more than 50mm in diameter.

13.3 HERITAGE ITEMS OR HERITAGE CONSERVATION AREAS (continued)

Note: Pruning is consistent with the Australian Standard for Pruning of Amenity Trees (AS4373-2007).

Removal of dead wood

- removal of completely dead branches attached to a tree(s) and other vegetation within the property.

Note: Pruning is consistent with the Australian Standard for Pruning Amenity Trees (AS4373-2007)

iii) Dead or dying trees and other vegetation

- removal of completely dead or dying trees and other vegetation.

3 The removal of a tree(s) which is structurally unsound and or unstable, which displays a high degree of hazard, provided that prior to any work being carried out, Council has advised the applicant of its satisfaction that the subject tree(s) is posing an imminent risk to human life or property

Note: an arborist's report and testing may be required for significant trees

Note: Removal of branches within 0.5m of electrical service lines to properties under Work permitted under section 48 of the Electricity Supply Act 1995 do not require written consent from Council. However, this exemption does not apply to a property subject to an interim heritage order, or a listing on the State Heritage Register, under the Heritage Act 1977.

13.4 APPLICATION FOR TREE AND OTHER VEGETATION WORKS

Controls

1 An application is required to be completed and forwarded to Council for all works on trees or other vegetation where an exemption under Section 13.2 does not apply.

2 Further information on types of applications, fees, assessment time frames and criteria for approvals, can be found on Council's web site www.kmc.nsw.gov.au.

3 The applications are only to be made by the owner of the site on which the vegetation or the trunk of the tree is located or their authorised agent (Council will require proof of authority to be submitted),

4 A Development Application is required where the proposed works:

i) are within the core riparian zone of Category 1 or 2 Riparian Lands and the works will disturb soil within 2m of the channel or within the channel itself;

ii) will affect large stands of trees or other vegetation; or

iii) are in relation to a tree or other vegetation that forms part of a heritage item or within a heritage conservation area.

Replacement trees and vegetation

5 Council will require the planting of replacement trees and/or vegetation and may specify the number, species, provenance, location and stock size of the replacement trees and vegetation.

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SECTION B

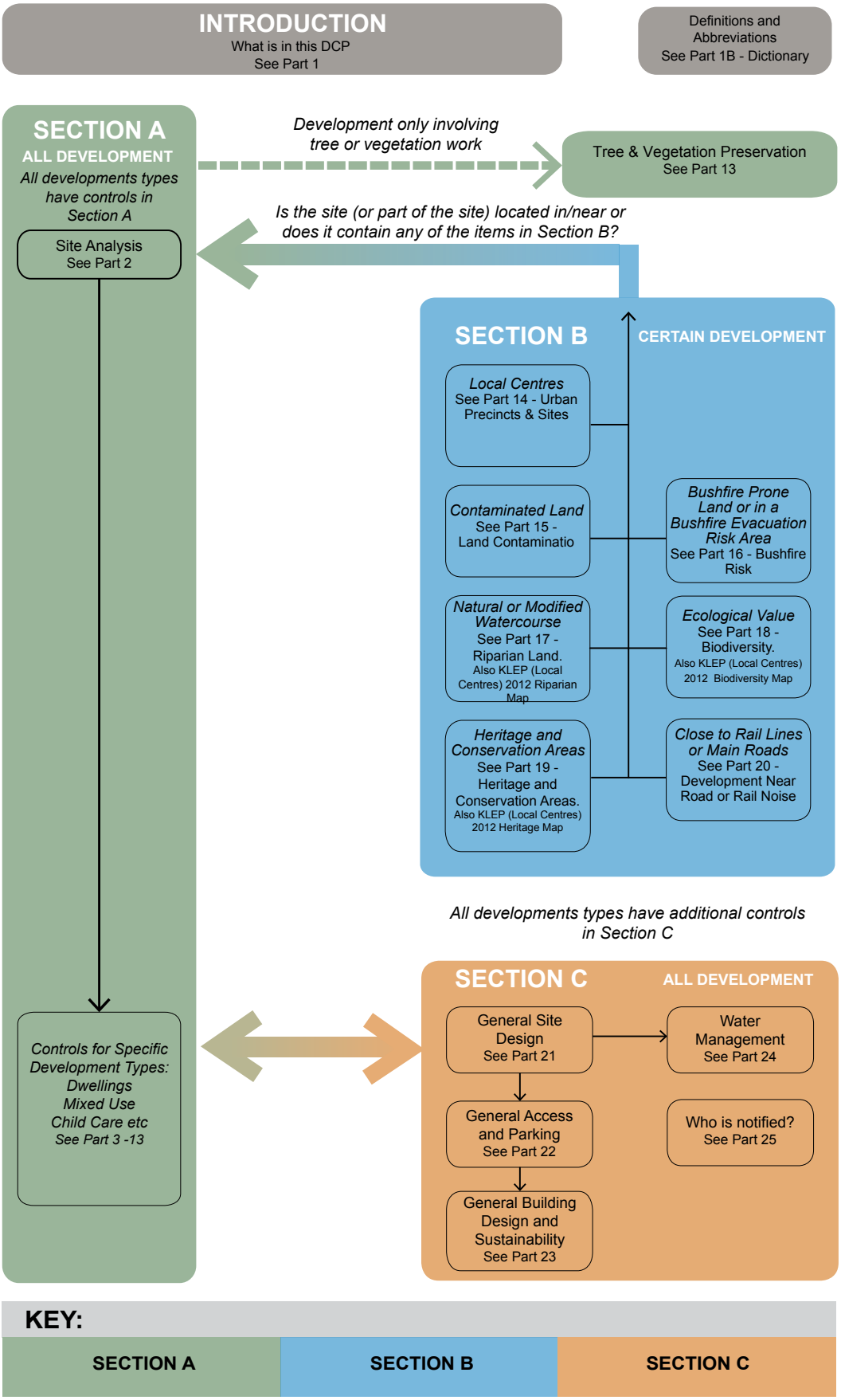
Ku-ring-gai Local Centres Development Control Plan

ADOPTED - 28/11/17

EFFECTIVE - 07/12/17

SECTION B

HOW TO USE THE DCP



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Further controls that may apply:		
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Part 14 provides guidance for development on land identified as an *urban precinct* or *site* to meet the aims and objectives within the *KLEP(Local Centres) 2012*.. This part also relates to the provisions in the *Ku-ring-gai Contributions Plan 2010* and, the *Ku-ring-gai Public Domain Plan 2010* (KPDP). This Part applies to new buildings located within a urban precinct or site.

A number of components within each precinct/site are considered. These are:

- Urban Precincts
- Public Domain and Pedestrian Access
- Community Infrastructure
- Building Setbacks
- Built Form
- Heritage
- Environmental Protection and Bushfire Protection.

For each of the urban precincts or sites, a set of site-specific performance-based provisions are provided to guide development in addition to the development controls in Section A, B and C of this DCP .

Note: Refer to *Ku-ring-gai Contributions Plan 2010*.

Note: Refer to *Ku-ring-gai Public Domain Plan.*

Urban Precincts

A set of performance-based provisions is provided comprising:

- Development objectives
- A Planned Future Character statement describing the desired form and function of the precinct.
- Controls to support the objectives

A development proposal within an identified precinct is to respond to the precinct's objectives and controls, and demonstrate how the provisions are addressed.

Public Domain and Pedestrian Access

This section identifies works that will either extend the publicly accessible areas or improve the amenity of public areas within a precinct. While it is expected that, in most cases, these lands will remain in private ownership and control, a high degree of public access will be required.

This work will be funded privately as part of the costs of redevelopment of a site. The type of work may include, among others, awnings or colonnades; new pedestrian access ways; building entrance forecourts;

or new lane ways.

The *Ku-ring-gai Public Domain Plan 2010* (KPDP) provides guidelines and concept plans to guide the implementation of this work to ensure it is fully integrated within the broader public domain in terms of finishes and materials as well as accessibility.

Council may seek the dedication of these lands, at no cost, depending on the circumstances. Such works will generally not be offset against development contributions unless specifically valued by the Contributions Plan.

Community Infrastructure

An important aspect of the DCP identification of new key community infrastructure to be provided within precincts or sites. The intention is to identify these elements upfront to assist with the site planning process of a Development Application. Community infrastructure is defined as those works listed in the *Ku-ring-gai Contributions Plan 2010* (KCP 2010) Works Programmes.

Within each *precinct* or *site* there is a range of new community infrastructure works proposed. These include works such as footpath embellishment, road works and traffic management works, creation of new urban spaces, construction of new community buildings and the like.

This Part of the DCP provides information to assist applicants determine how each of the proposed community works are to be funded and how they may affect site planning. There are a number of identified funding sources for the proposed infrastructure. These are colour coded with symbols as follows:

a. **Land Acquisition for public purposes** – this Part makes reference to areas of land for new roads or new parks. These lands are to be acquired by Council with funds from the KCP 2010.

b. **Provision of community facilities** – this Part identifies new community facilities including library buildings and multi-purpose community buildings. The construction and fit out of these facilities are partially funded by the KCP 2010. The facilities themselves may be constructed by Council where they are freestanding on Council land or alternatively constructed as part of a private development and funded as in-kind development contributions or provided through a Voluntary Planning Agreement (VPA).

c. **Embellishment works on public land** – this Part identifies public domain areas, footpaths and parks that will be upgraded and embellished by Council. These lands include those areas that are currently owned by Council; lands that are to be acquired by Council in the future; or lands that are to be dedicated to Council. The construction works are proposed to be funded by the KCP 2010 and all materials and finishes are undertaken in accordance with the

INTRODUCTION

guidelines within the *Ku-ring-gai Public Domain Plan 2010* (KPDP 2010).

Building Setbacks

Parts 4 to 11 of this DCP contains detailed provisions that apply to the main building types that are likely to be developed. These provisions include standard setbacks for building types such as mixed use buildings, residential flat buildings and non-residential buildings.

Within each precinct, variations to the standard building type setbacks are proposed for a range of reasons including, but not limited to the following:

- To provide opportunities for street tree plantings or footpath widening in appropriate locations
- To allow widening of lanes and streets in identified locations
- To provide for an increase in the area of the public domain
- To enable a consistency of built character

The Building Setbacks Plan identifies where there is a requirement for land, within a setback area, to be dedicated to Council at no cost in accordance with the KCP 2010. Where necessary this Part makes allowance for the relaxation of development controls such as in deep soil requirements across the development site. The intent is to ensure there is no loss of development potential on the sites where dedication is required. Typically a setback may be required to allow for footpath widening, roadway widening or a new pedestrian access way through the site. It is noted that where the works to the land to be dedicated are costed in the KCP 2010, the works may be provided as works-in-kind (ie. as an offset to development contributions).

The Building Setbacks Plan makes reference to areas of land for new roads or new parks. In most cases specific setback requirements are applicable to these lands.

Built Form

This section provides objectives and controls relating to site specific built form requirements within a precinct or site.

The development controls in this section must be read in conjunction with the relevant development controls relating to building design contained in

Parts 4 to 11 of this DCP. Where there is an inconsistency between this Part and another control in the DCP then **this Part will prevail to the extent of the inconsistency.**

Building Entries, Car Parking and Service Access

This section provides site specific requirements for the design of buildings in relation to building foyers and lobbies, vehicle access, and circulation to and from a site.

These controls are particularly applicable to areas of high pedestrian activity where the objective is to minimise pedestrian and vehicle conflicts in streets, and to activate the main commercial streets.

The development controls in this Part must be read in conjunction with the relevant development controls relating to vehicle access and parking contained in Parts 7, 8 and 9 of this DCP. Where there is an inconsistency between a control in this Part and another control in the DCP then **this Part will prevail to the extent of the inconsistency**.

Other Design Controls

This section includes:

- Controls where there are site-specific issues relating to Heritage Items or Heritage Conservation Areas;
- Controls where there are site-specific issues relating to an Area of Biodiversity Significance;
- Controls where there are site-specific issues relating to Bush Fire Prone Land.

The development controls in this section must be read in conjunction with the relevant general development controls contained in Parts 15-21 of this Section. Where there is an inconsistency between this Part and another control in volumes A or C of this DCP then **this Part will prevail to the extent of the inconsistency**.

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PART 14A

ST IVES LOCAL CENTRE

14A St Ives Local Centre

14A.1 St Ives Local Centre Context

14A.2 Public Domain and Pedestrian Access

14A.3 Proposed Community Infrastructure

14A.4 Setbacks

14A.5 Built Form

14A.6 Building Entries, Car Parking and Service Access

14A.7 Precinct S1: St Ives Shopping Village

14A.8 Precinct S2: Stanley Street Shops

14A.9 Precinct S3: Buildings in R4 zones

14A.1 ST IVES LOCAL CENTRE CONTEXT

Further controls that may apply		
SECTION A **Part 7 -** Residential Flat Buildings **PART 8 -** Mixed Use Development		

Objectives

1 *To create distinct precincts that provide a range of services, facilities and experiences.*

2 *To create vibrant local centres with distinct and memorable characters.*

3 *To create an improved interface between the St Ives Village Shopping Centre and the Village Green.*

4 *To protect and enhance the St Ives Village Green for both active and passive recreation uses.*

5 *To meet the diverse social needs of the local population by providing a range of activities including education, professional services and medical services.*

6 *To support the viability of the strip shops along Mona Vale Road and Stanley Street.*

7 *To create a leisure area for St Ives supporting outdoor cafes and late night activities such as restaurants and bars.*

8 *To enhance the community area on Porters Lane.*

9 *To encourage restaurants, cafes, outdoor dining and offices fronting on to rear lanes to contribute to increased activty and passive surveillance.*

Controls

1 All development within the St Ives local centre, as outlined in *Figure 1A.1-1*, is to be designed to support and enhance the planned future character of the centre. This is to be done through the general requirements and Precinct specific requirements as stipulated in this DCP.

Note: Refer to Ku-ring-gai's *Public Domain Plan 2010, Open Space Aquisition Strategy 2007* and the *Ku-ring-gai Contributions Plan 2010* on Councils website: *http://www.kmc.nsw.gov.au/Home.*

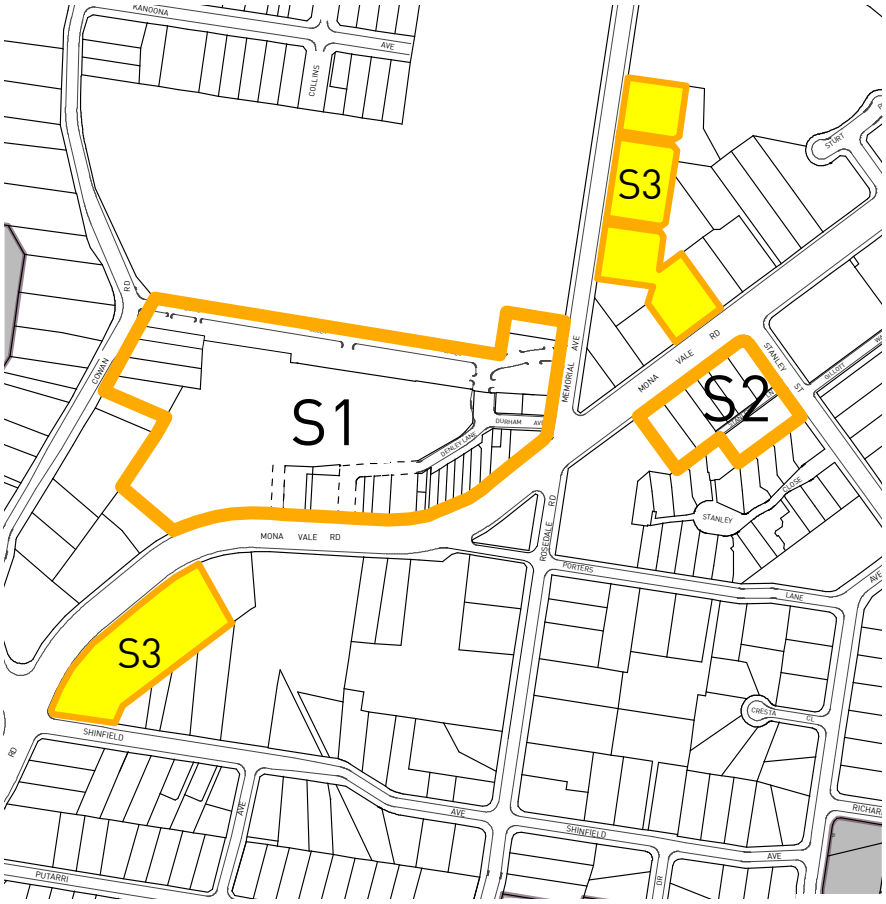


Figure 14A.1-1:
St Ives Urban Structure plan.

Legend

Core Urban Precinct (B2 and B4 zones)
- Fringe Urban Precinct (R4 zone)

14A.2 PUBLIC DOMAIN AND PEDESTRIAN ACCESS

Objectives

1 *To provide opportunities for new supermarkets to support and anchor the local centre.*

2 *To increase the pedestrian permeability of the local centre.*

3 *To encourage new shopping arcades; pedestrian laneways; new footpaths; and new street connections.*

4 *To improve pedestrian amenity by providing continuous sun and rain protection to footpath areas.*

5 *To provide a consistently high quality and visually pleasing streetscape environment.*

6 *To improve and enhance accessibility of the commercial precincts particularly for pedestrians, pram walkers, people with disabilities, cyclists and public transport users.*

7 *To improve commercial activity in the local centre by promoting street-level activity.*

8 *To facilitate opportunities for outdoor dining in quiet locations away from the main roads and highways.*

9 *To improve the saftey and passive surveillance of the public domain by encouraging street level activity.*

Controls

1 All development within the St Ives local centre, as outlined in *Figure 1A.2-1,* is to be designed to support and enhance the planned future character of the centre. This is to be done through the Public Domain and Pedestrian Access requirements for each Precinct as stipulated in this DCP.

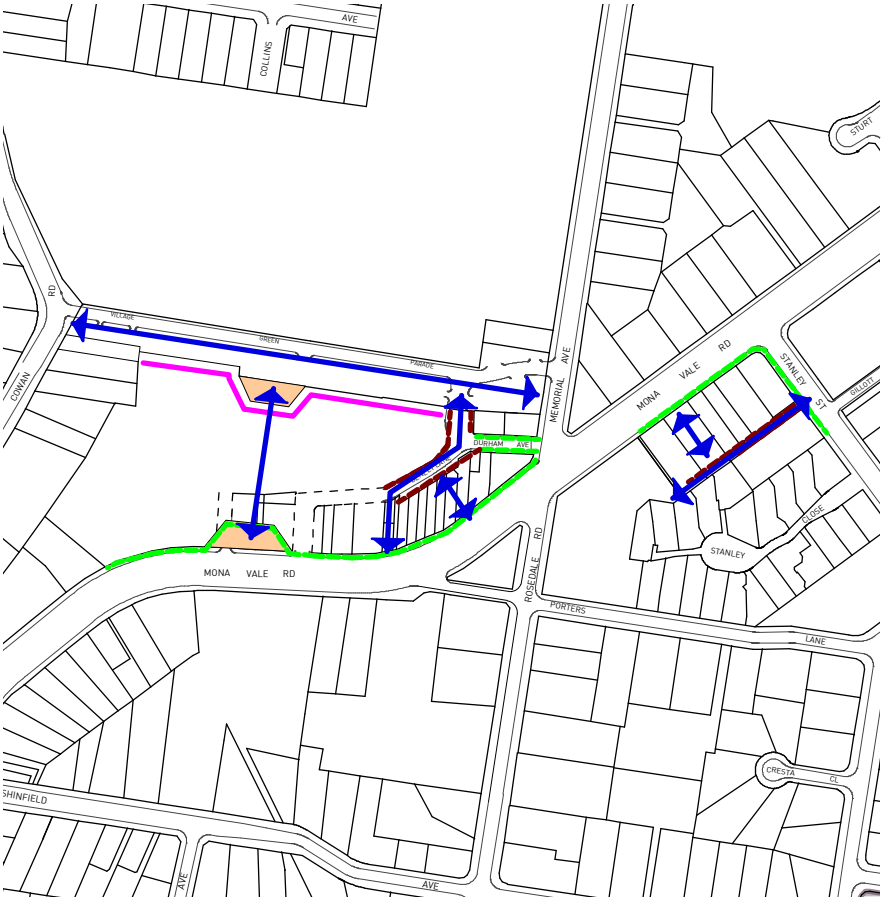


Figure 14A.2-1:
Public domain and pedestrian controls plan.

Legend

- Pedestrian through site link
- Entry plaza/forecourt
- Awnings
- Awnings where possible
- Colonnade

14A.3 PROPOSED COMMUNITY INFRASTRUCTURE

Objectives

1 *To promote mid-block and through-site links as a way of improving permeability of the local centre.*

2 *To meet the objectives and strategies of Council's* Town Centre Public Domain Plan 2010.

3 *To implement the work programs within the* Ku-ring-gai Contributions Plan 2010.

4 *To identify locations for new local parks in accordance with the requirements of Council's* Open Space Acquisition Strategy 2007.

5 *To implement the St Ives Village Green Master Plan.*

Controls

1 All development within the St Ives local centre is to be designed to support the planned future character of the centre through the provision of Key Community Infrastructure as stated in the *Ku-ring-gai Contributions Plan 2010* and outlined in *Figure 14A.3-1*. This is to be done through the Proposed Community Infrastructure requirements for each Precinct as stipulated in this DCP.

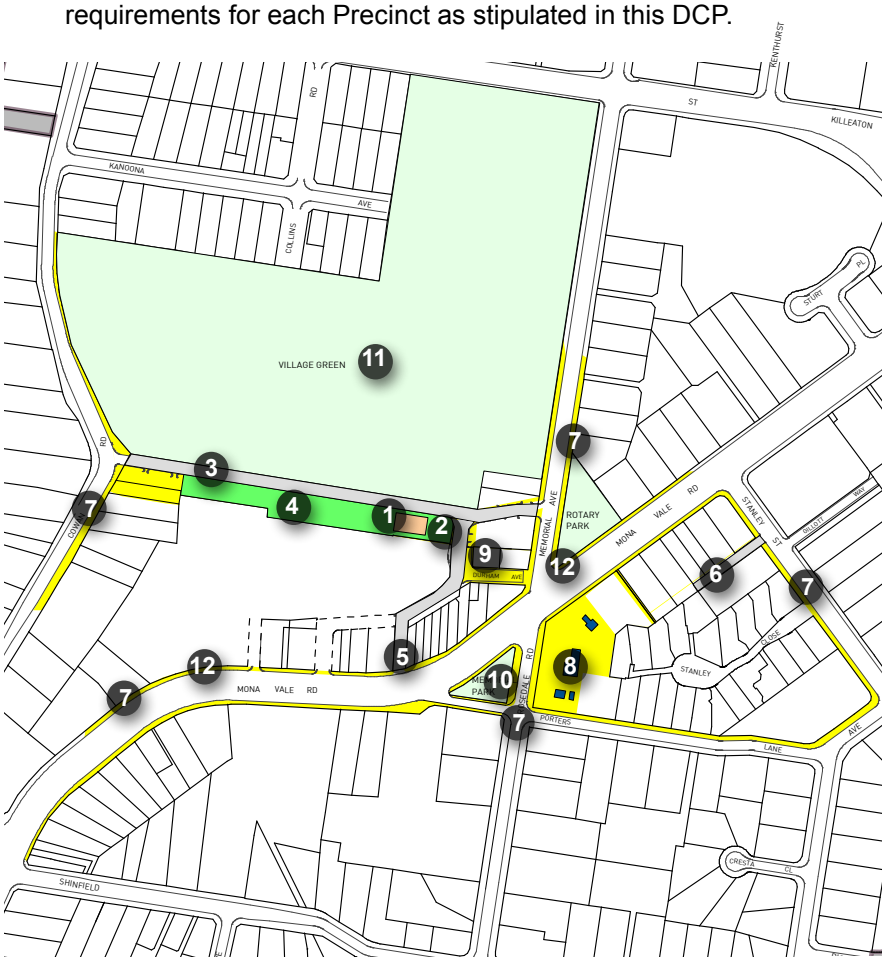


Figure 14A.3-1:
Key community infrastructure plan.

N

Legend

- Footpath embellishment
- New or existing park to be upgraded
- Historic/character building to be retained
- New/realigned road
- Proposed pedestrian promenade
- New community facility
- 1 - Proposed Community Infrastructure

14A.3 PROPOSED COMMUNITY INFRASTRUCTURE (continued)

Controls

2 The following development is to be designed to support and compliment the provision of Key Community Infrastructure through the K*u-ring-gai Contributions Plan 2010*, Voluntary Planning Agreement (VPA) or other mechanism (refer to individual precincts 14A.7 to 14A.9):

1. A new town square between the shopping centre and the Village Green. The town square will be generously proportioned (a minimum dimension of 30m x 30m or 900sqm) located so as to be level, with a northern aspect and views across, and direct access to, the Village Green.
2. A new freestanding Council owned multi-purpose facility incorporating a branch library, neighbourhood centre, youth facility and childcare centre and located at the north-eastern corner of the St Ives Shopping Village adjoining Denley Lane/ Village Green Parade intersection but on land additional to the 900sqm town square.
3. Reconstruction of Village Green Parade as a one way street with on street parking and avenue tree planting.
4. A broad pedestrian promenade (minimum width 8 metres) and tree lined along the northern edge of shopping centre. Public car parking relocated to basement parking under the promenade.
5. A modified Denley Lane to connect with Mona Vale Road (in a new location) as a two way lane with footpaths.
6. Reconstruction of Stanley Lane as a two way lane with footpaths.
7. Embellishment of the footpath areas on Mona Vale Road, Cowan Road, Memorial Avenue, Stanley Street, Rosedale Road and Porters Lane including underground power lines, new lighting, high quality paving, furniture and street tree planting.
8. Improvement works to the old school area including the creation of a new public square, parking modifications, and upgrading of the community buildings.
9. Closure of Durham Lane and creation of a new civic space.
10. Upgrade works to Memorial Park and Rotary Park on Mona Vale Road.
11. Upgrade works to St Ives Village Green in accordance with Village Green Master plan.
12. A range of traffic and transport improvements including new traffic signals on Mona Vale Road; new bus facilities; and modifications to existing streets and lanes. These have all been modelled and will support improved traffic access and circulation around the centre.

14A.4 SETBACKS

Objectives

1 *To enhance service and infrastructure provisions for existing and planned residential communities.*

2 *To create cohesive streetscapes.*

3 *To require building setbacks in appropriate locations to provide opportunities for street tree plantings or footpath widening.*

4 *To require building setbacks in appropriate locations to allow widening of roads, lanes and streets.*

Controls

1 All development within the St Ives local centre, as outlined in *Figure 14A.1-4,* is to be designed to support and enhance the planned future character of the centre. This is to be done through the Setback requirements for each Precinct as stipulated in this DCP.

Note: In all cases, where land dedication is required for a public purpose, such as a road or walkway, the affected land is to be excluded from deep soil calculations and included in setback requirements.

2 All properties within the R4 zone will have a 10-12 metre front setback (refer to Part 7 of this DCP for further detail) with the following exceptions:

i) Properties 6 and 8-10 Stanley Street are to provide a 6 metre front setback.

ii) Property 6 Stanley Street is to provide a 3 metre setback to Gillot Way.

iii) Properties 162 Mona Vale Road and 1-19 Cowan Road are to provide a 6 metre front setback.

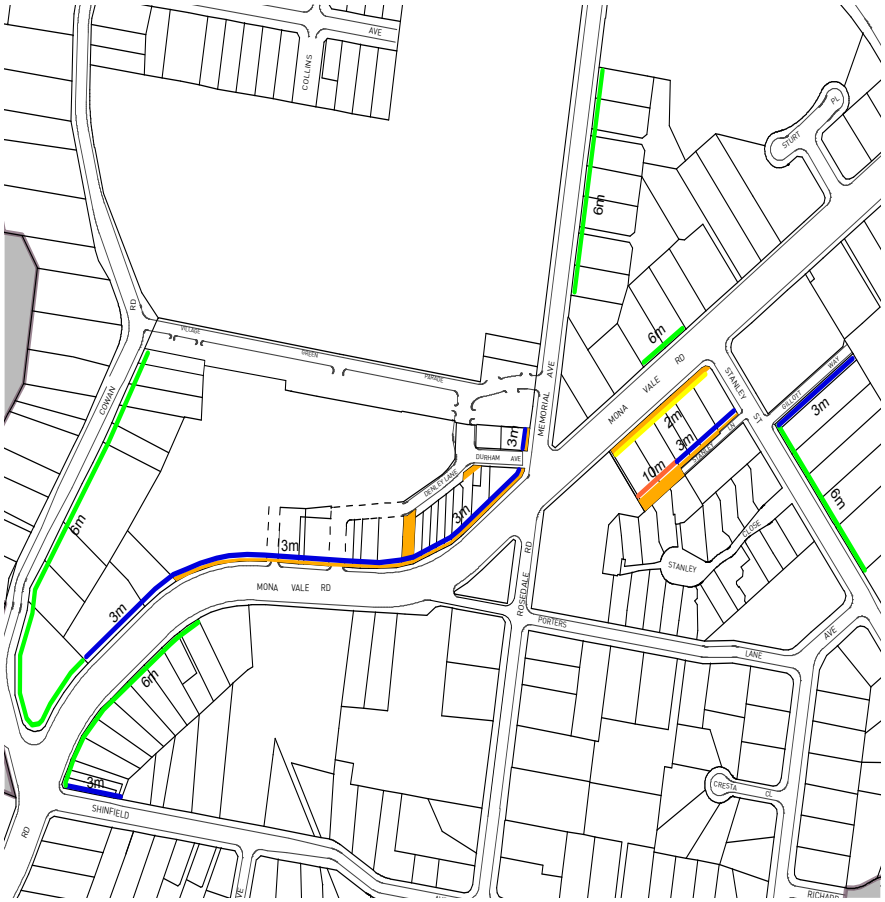


Figure 14A.4-1:
Building setbacks plan.

Legend

- 10m setback
- 6m setback
- 3m setback
- 2m setback
- Land dedication

14A.5 BUILT FORM

Objectives

1 *To allow for visual and acoustic privacy between residential zones.*

2 *To maintain a consistent street wall height with reference to existing buildings along the main streets within the centre.*

3 *To encourage new infill development which respects the strip shop character of the street including the setback, height, and rhythm of facades.*

4 *To create buildings with a fine grained rhythm that reflect the original narrow subdivision pattern.*

5 *To ensure building facades are well designed, articulated and address public streets, public spaces, footpaths, parks and reserves.*

6 *To provide active frontages to all streets, lanes and public open spaces.*

7 *To minimise the visual bulk and scale of new buildings when viewed from public areas.*

8 *To enhance the quality and character of the public domain in the commercial precincts.*

9 *To promote development that responds to the pedestrian scale of the street.*

Controls

1 All development within the St Ives local centre, as outlined in *Figure 14A.5-1*, is to be designed to support and enhance the planned future character of the centre. This is to be done through the Built Form requirements for each Precinct as stipulated in this DCP.

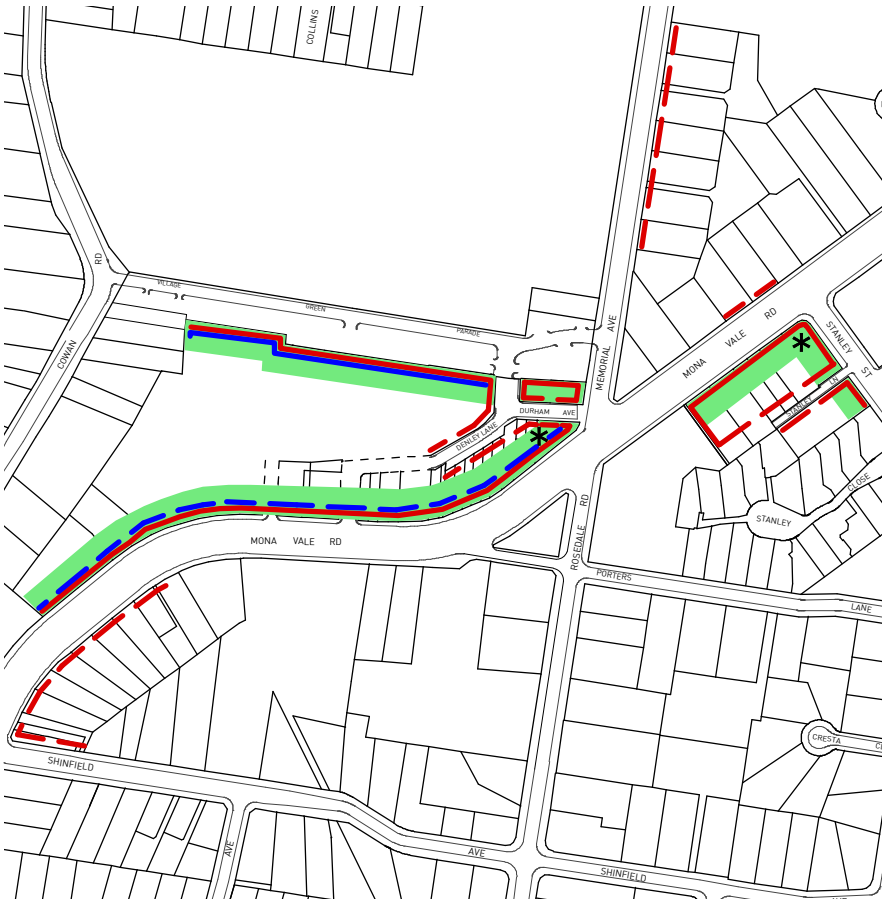


Figure 14A.5-1:
Built form plan.

Legend

- Principal active frontage
- Supporting active frontage
- 3 storey street wall
- 2m upper level setback above street wall height
- 4m upper level setback above street wall height
- Landmark building

14A.6 BUILDING ENTRIES, CAR PARKING AND SERVICE ACCESS

Objectives

1 *To ensure that buildings are designed to interact and enage with pedestrians at the street level.*

2 *To encourage design excellence in all new development.*

3 *To locate building foyers and lobbies in areas of high pedestrian activity.*

4 *To activate the main commercial streets.*

5 *To minimise pedestrian and vehicle conflicts.*

6 *To improve vehicle access and circulation and enhance associated services and infrastructure.*

7 *To ensure vehicular access points do not visually detract from the streetscape.*

8 *To promote pedestrian saftey and ease of movement through the local centre.*

Controls

1 All development within the St Ives local centre, as outlined in *Figure 14A.6-1*, is to be designed to support and enhance the planned future character of the centre. This is to be done through the Building Entries, Car Parking and Service Access requirements for each Precinct as stipulated in this DCP.

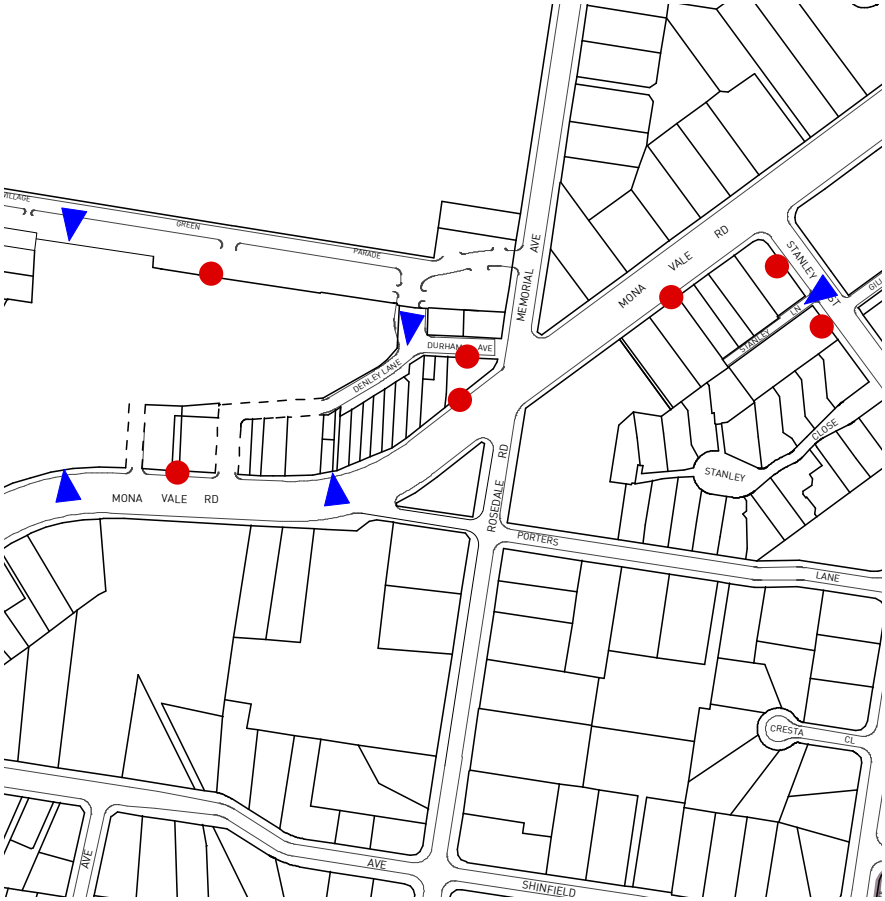


Figure 14A.6-1:
Building entries, car parking and service access controls plan

Legend

- Vehicular access to site
- Pedestrian access to site

14A.7 PRECINCT S1: ST IVES SHOPPING VILLAGE

Objectives

Refer to
Objectives and Controls
PART 14A.1
Urban Precincts

Controls

Planned Future Character

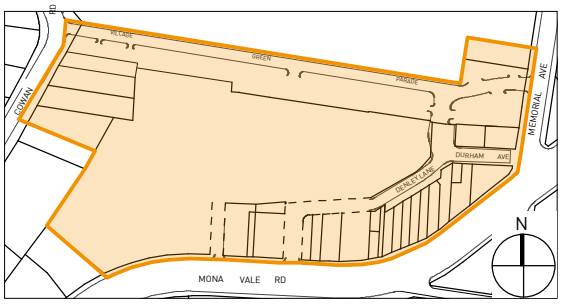


Figure 14A.7-1: Precinct S1

St Ives Shopping Village is a large retail "mall" type shopping centre located between Mona Vale Road and the St Ives Village Green. The precinct also supports a group of shops fronting Mona Vale Road and Memorial Avenue.

1 Development is to be designed to support and enhance the planned future character as following:

i) The St Ives Shopping Village will be encouraged to expand to provide a greater range of retail and commercial services.

ii) A new style of shopping centre is envisaged where the centre is open and permeable, and provides a "main street" style shopping experience. This will involve new pedestrian lanes and gallerias lined with shops.

iii) The most significant opportunity for the centre is for it to be re-orientated so that it faces north towards the Village Green. A leisure precinct will be developed between the shopping centre and the Village Green in the form of a long urban promenade with new active street frontages. This improved interface area will allow people to move easily and safely between the commercial shopping centre and the Village Green.

iv) Within the shopping centre precinct, a town square is proposed which will be centrally located and in close proximity to the Village Green and Memorial Avenue. The new town square will become a community hub with the co-location of new community facilities, including library, neighbourhood centre, youth and childcare centre. Late closing cafes and restaurants overlooking the Village Green will assist with improving the safety of the area at night.

v) Redevelopment of the centre will facilitate relocation of car parking in new basement public parking areas. The Village Green Parade will become a low speed one-way street with some on-street parking to provide access to the Village Green and to ensure activities around the shopping centre remain viable and active.

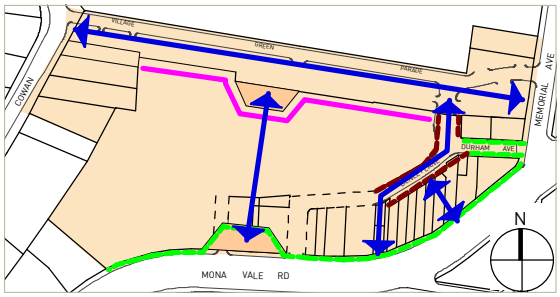
14A.7 PRECINCT S1: ST IVES SHOPPING VILLAGE (continued)

Objectives

Refer to
Objectives and Controls
PART 14A.2
Public Domain and Pedestrian Access

Controls

Public Domain and Pedestrian Access



Legend
- Pedestrian through site link
- Entry plaza/forecourt
- Awnings
- Awnings where possible
- Continuous colonnade
- Precinct S1

Figure 14A.7-2: Public domain and pedestrian access plan.

2 Lot amalgamations are to support pedestrian permeability.

3 Provide a new public pedestrian laneway between Mona Vale Road and the Village Green Parade. The access way is to be lined with shops, open to the sky or form a galleria type access-way with natural light. The arcade is to be publicly accessible.

4 Provide an entry plaza or forecourt on Mona Vale Road and Village Green Parade as a public address to the building.

5 Provide an internal shopping arcade linking Mona Vale Road and Denley Lane.

6 Provide new footpaths to Denley Lane connecting Mona Vale Road with Village Green Parade.

7 Provide a continuous pedestrian promenade along the northern edge of the St Ives Shopping Village between Cowan Road and Memorial Parade.

8 Provide continuous awnings to Mona Vale Road, Durham Avenue and Memorial Avenue.

9 Provide a continuous colonnade along the northern edge of the shopping village.

10 Provide awnings to Denley Lane where possible.

14A.7 PRECINCT S1: ST IVES SHOPPING VILLAGE (continued)

Objectives

Refer to
Objectives and Controls
PART 14A.3
Proposed Community Infrastructure

Controls

Proposed Community Infrastructure

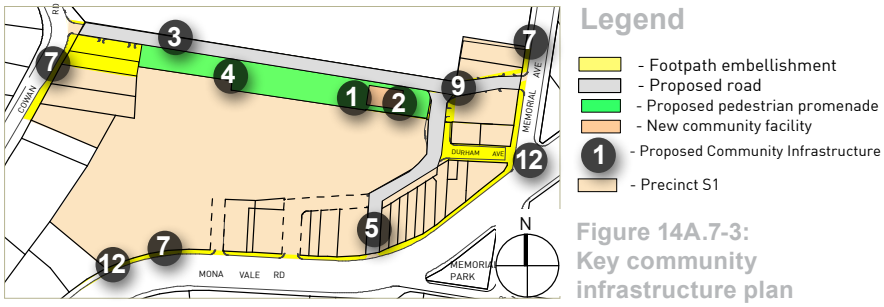


Figure 14A.7-3: Key community infrastructure plan

11 The following development is to be designed to support and compliment the provision of Key Community Infrastructure through the *Ku-ring-gai Contributions Plan 2010*, Voluntary Planning Agreement (VPA) or other mechanism:

1. A new town square between the shopping centre and the Village Green. The town square will be generously proportioned (a minimum dimension of 30m x 30m or 900sqm) located so as to be level, with a northern aspect and views across, and direct access to, the Village Green.
2. A new freestanding Council owned multi-purpose facility incorporating a branch library, neighbourhood centre, youth facility and childcare centre and located at the north-eastern corner of the St Ives Shopping Village adjoining Denley Lane/ Village Green Parade intersection but on land additional to the 900sqm town square.
3. Reconstruction of Village Green Parade as a one way street with on street parking and avenue tree planting.
4. A broad pedestrian promenade (minimum width 8 metres) and tree lined along the northern edge of shopping centre. Public car parking relocated to basement parking under the promenade.
5. A modified Denley Lane to connect with Mona Vale Road (in a new location) as a two way lane with footpaths.
7. Embellishment of the footpath areas on Mona Vale Road, Cowan Road, Memorial Avenue, Stanley Street, Rosedale Road and Porters Lane including underground power lines, new lighting, high quality paving, furniture and street tree planting.
9. Closure of Durham Lane and creation of a new civic space.
12. A range of traffic and transport improvements including new traffic signals on Mona Vale Road; new bus facilities; and modifications to existing streets and lanes. These have all been modelled and will support improved traffic access and circulation around the centre.

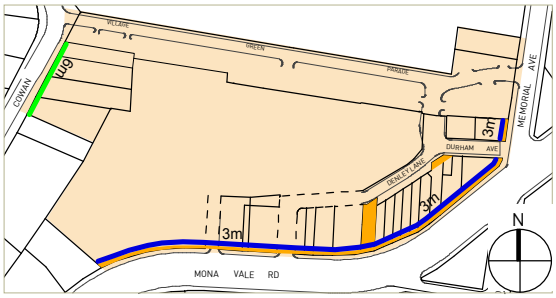
14A.7 PRECINCT S1: ST IVES SHOPPING VILLAGE (continued)

Objectives

Refer to
Objectives and Controls
PART 14A.4
Setbacks

Controls

Setbacks



Legend

- 6m setback
- 3m setback
- Land dedication
- Precinct S1

Figure 14A.7-4
Building alignment and setbacks plan.

12 Building setbacks are to be in accordance with *Figure 14A.7-4*, and all buildings within the B2 zone are required to have a zero setback with the following exceptions:

i) 3m setbacks to Mona Vale Road and Memorial Avenue applying to the properties Nos.164-200 Mona Vale Road and No.2 Memorial Avenue. Land is to be dedicated to Council at no cost.

ii) 10m setback from the western boundary of No.190 Mona Vale Road incorporating part or all of a Council owned access way, No.1 Denley Lane and No.188 Mona Vale Road. Setback to allow provision of a new two way lane (10m right-of-way) with footpaths. Land is to be dedicated to Council at no cost.

iii) 6m building setback to Cowan Road applying to the properties Nos.11-21 Cowan Road.

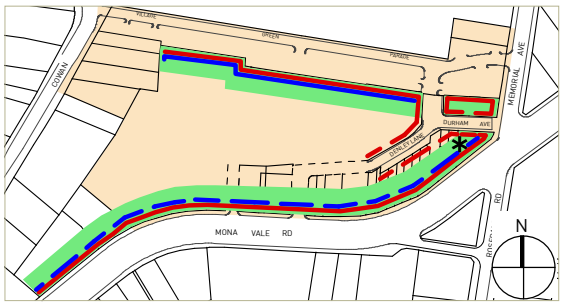
14A.7 PRECINCT S1: ST IVES SHOPPING VILLAGE (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14A.5
Built Form

Built Form



Legend
- Principal active frontage
- Supporting active frontage
- 3 storey street wall
- 2m upper level setback above street wall height
- 4m upper level setback above street wall height
- Landmark building
- Precinct S1

Figure 14A.7-5: Built form plan.

13 Buildings are to be designed in accordance with the control plan, *Figure 14A.7-5,* and as follows:

i) Create a consistent 3 storey (11.5 metres) street wall that is built parallel to the street alignment of Mona Vale Road. All levels above the street wall height are to have a 2 metre setback.

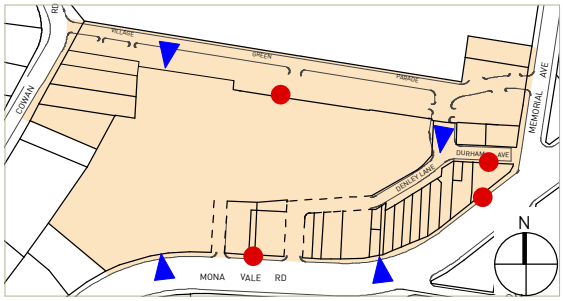
ii) Create a consistent 3 storey (11.5 metres) street wall that is built parallel to the street alignment of the Village Green Parade. All levels above the street wall height are to have a 4 metre setback.

iii) Provide active street frontages along Mona Vale Road, the Village Green Parade and Durham Avenue.

iv) Provide a corner building with distinct articulation addressing the Mona Vale Road and Durham Ave intersection.

Refer to
Objectives and Controls
PART 14A.6
Building Entries, Car Parking and Service Access

Building Entries, Car Parking and Service Access



Legend
- Vehicular access to site
- Pedestrian access to site
- Precinct S1

Figure 14A.7-6: Building entries, car park and service access plan.

14 Locate access to retail parking and the main service and loading areas on Mona Vale Road in conjunction with a proposed new signalised intersection.

15 Provide vehicle access to retail/residential car parking and secondary service areas, off the Village Green Parade (western end only) and/or Denley Lane.

16 Residential foyers and lobbies are to be located on the Village Green Parade, Mona Vale Road and Durham Avenue.

14A.8 PRECINCT S2: STANLEY STREET SHOPS

Objectives

Refer to
Objectives and Controls
PART 14A.1
Urban Precincts

Controls

Planned Future Character

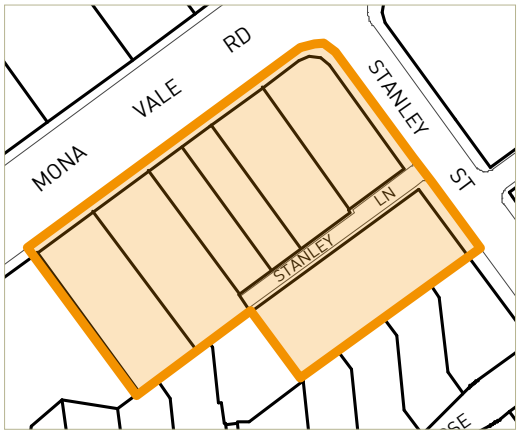


Figure 14A.8-1: Precinct S2

This precinct consists of a small group of shops fronting Mona Vale Road and Stanley Street serviced from the rear via Stanley Lane. While small, the shops provide a valuable local function servicing the day-to day-needs of local residents and passers-by.

1 Development is to be designed to support and enhance the planned future character as following:

i) In the future the important local function of this retail precinct will be consolidated by allowing the expansion of the area to include more small shops, professional offices and apartments in the form of shop-top housing. Buildings will be required to be set back from Mona Vale Road and Stanley Street to provide an improved footpath area that will allow outdoor dining, street tree planting and the like.

ii) The properties fronting Mona Vale Road will be set back at the rear of the sites to allow for the widening of Stanley Lane. This strategy would allow the provision of additional on-street parking to replace any loss resulting from the extension of the Mona Vale Road clearway in the future (subject to RMS). Stanley Lane will be further upgraded with street trees and new footpaths.

14A.8 PRECINCT S2: STANLEY STREET SHOPS (continued)

Objectives

Refer to
Objectives and Controls
PART 14A.2
Public Domain and Pedestrian Access

Controls

Public Domain and Pedestrian Access



Figure 14A.8-2: Public domain and pedestrian access plan.

2 Lot amalgamations are to support pedestrian permeability.

3 Provide an internal shopping arcade linking Stanley Lane and Mona Vale Road.

4 Provide continuous awnings to Mona Vale Road and Stanley Street.

5 Provide new pedestrian footpaths to Stanley Lane.

6 Provide awnings to Stanley Lane where possible.

14A.8 PRECINCT S2: STANLEY STREET SHOPS (continued)

Objectives

Refer to
Objectives and Controls
PART 14A.3
Proposed Community Infrastructure

Controls

Proposed Community Infrastructure



Figure 14A.8-3: Key community infrastructure plan

7 The following development is to be designed to support and compliment the provision of Key Community Infrastructure through the *Ku-ring-gai Contributions Plan 2010*, Voluntary Planning Agreement (VPA) or other mechanism:

6 Reconstruction of Stanley Lane as a two way lane with footpaths.

7 Embellishment of the footpath areas on Mona Vale Road, Cowan Road, Memorial Avenue, Stanley Street, Rosedale Road and Porters Lane including underground power lines, new lighting, high quality paving, furniture and street tree planting.

12 A range of traffic and transport improvements including new traffic signals on Mona Vale Road; new bus facilities; and modifications to existing streets and lanes. These have all been modelled and will support improved traffic access and circulation around the centre.

14A.8 PRECINCT S2: STANLEY STREET SHOPS (continued)

Objectives

Refer to
Objectives and Controls
PART 14A.4
Setbacks

Controls

Setbacks

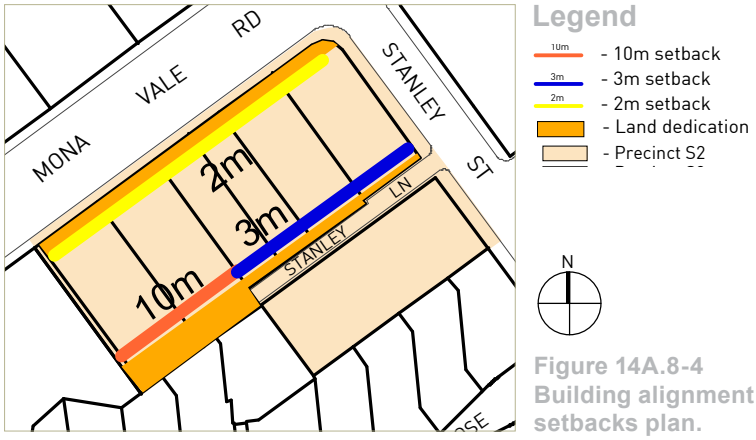


Figure 14A.8-4
Building alignment and setbacks plan.

8 Building setbacks are to be in accordance with *Figure 14A.8-4*, and all buildings in the B2 zone are required to have a zero setback with the following exceptions:

i) 2m setbacks to Mona Vale Road applying to properties Nos.213-237 Mona Vale Road. Land is to be dedicated to Council at no cost.

ii) Variable rear setbacks to Stanley Lane applying to the properties Nos.213-237 Mona Vale Road to allow the construction of a new two-way lane (8m right-of-way) with on-street parking, footpaths and street trees linking Stanley Street with the Council car park area. Land is to be dedicated to Council at no cost.

14A.8 PRECINCT S2: STANLEY STREET SHOPS (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14A.5
Built Form

Built Form

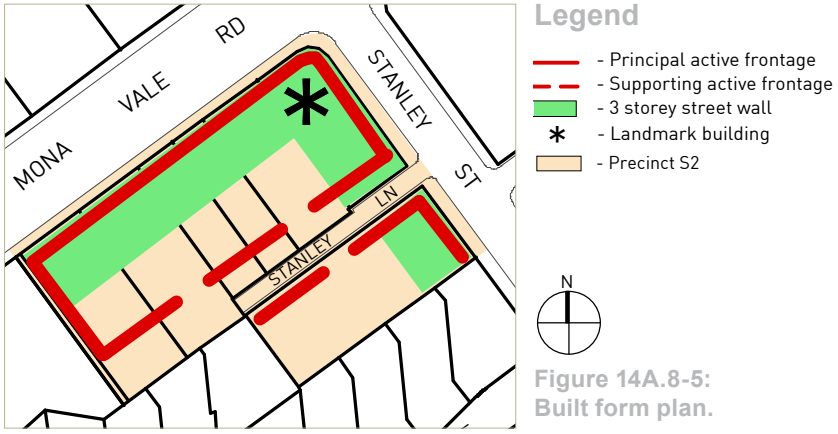


Figure 14A.8-5: Built form plan.

9 Buildings are to be designed in accordance with the control plan, *Figure 14A.3-5,* and as follows:

i) Create a consistent 3 storeys (11.5 metres) street wall that is built parallel to the street alignment of Stanley Street and Mona Vale Road.

ii) Provide active street frontages along Mona Vale Road and Stanley Street.

iii) Provide active street frontage to the community precinct on Council land at 175-207 Mona Vale Road.

iv) Provide a corner building with distinct articulation addressing the Mona Vale Road and Stanley Street intersection.

14A.8 PRECINCT S2: STANLEY STREET SHOPS (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14A.6
Building Entries, Car Parking and Service Access

Building Entries, Car Parking and Service Access

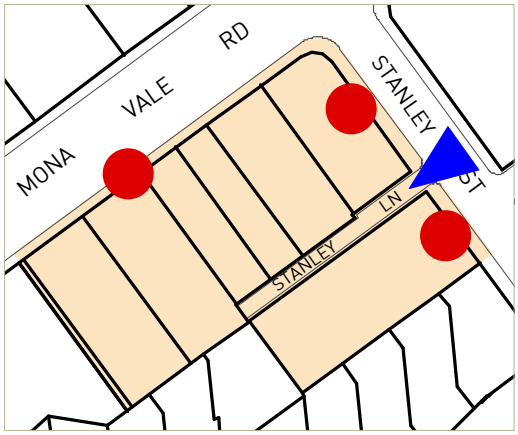


Figure 14A.8-6:
Building entries, car parking and service access plan.

10 Provide all vehicle access via Stanley Lane.

11 Residential and commercial foyers and lobbies are to be located off Stanley Street or Mona Vale Road.

14A.9 PRECINCT S3: BUILDINGS IN R4 ZONES

Objectives

Refer to
Objectives and Controls
PART 14A.1
Urban Precincts

Controls

Planned Future Character

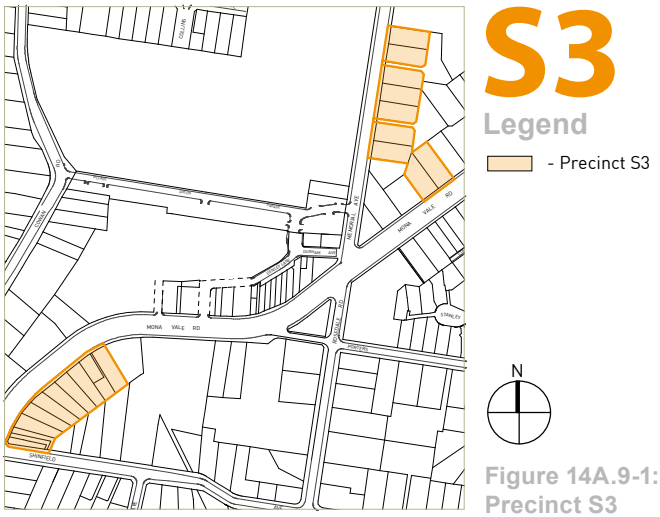


Figure 14A.9-1: Precinct S3

This precinct consists of R4 High Density Residential zones within close proximity to the commercial zones.

1 Development is to be designed to support and enhance the planned future character as following:

i) The precinct will be designed to provide a transition from the core urban areas to the surrounding high and medium density residential areas.

ii) Schedule 1 of the KLEP allows mixed use buildings within this precinct on Mona Vale Road and Memorial Avenue.

iii) All properties will provide reduced front setbacks to enhance the urban character.

14A.9 PRECINCT S3: BUILDINGS IN R4 ZONES (continued)

Objectives

Refer to
Objectives and Controls
PART 14A.3
Proposed Community Infrastructure

Controls

Key Community Infrastructure

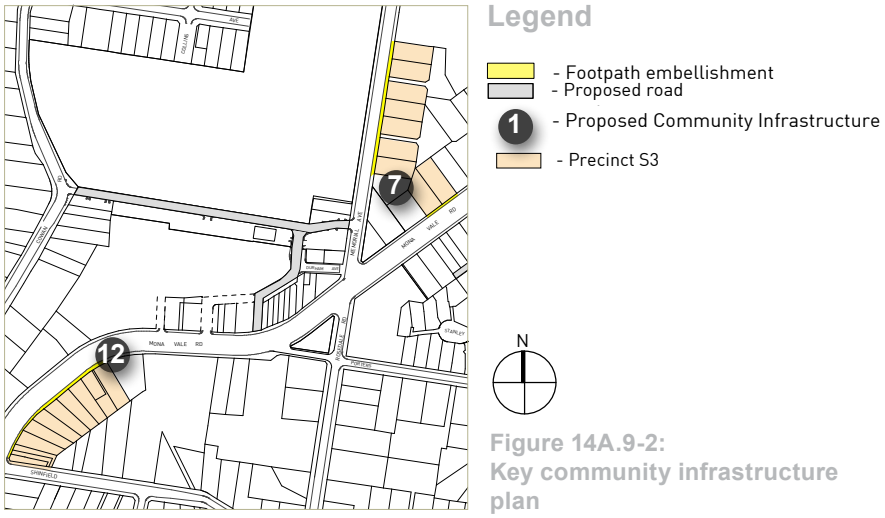


Figure 14A.9-2:
Key community infrastructure plan

2 The following development is to be designed to support and compliment the provision of Key Community Infrastructure through the *Ku-ring-gai Contributions Plan 2010*, Voluntary Planning Agreement (VPA) or other mechanism:

7 Embellishment of the footpath areas on Mona Vale Road, Cowan Road, Memorial Avenue, Stanley Street, Rosedale Road and Porters Lane including underground power lines, new lighting, high quality paving, furniture and street tree planting.

12 A range of traffic and transport improvements including new traffic signals on Mona Vale Road; new bus facilities; and modifications to existing streets and lanes. These have all been modelled and will support improved traffic access and circulation around the centre.

1A.9 PRECINCT S3: BUILDINGS IN R4 ZONES (continued)

Objectives

Refer to
Objectives and Controls
PART 14A.4
Setbacks

Controls

Setbacks



Figure 14A.9-3
Building alignment and setbacks plan.

3 Building setbacks are to be in accordance with *Figure 14A.9-3*. The following setbacks are applicable for R4 zones, where mixed use buildings are permitted:

i) Properties 3-15A Memorial Avenue are to provide a 6m front setback.

ii) Properties 173-185 Mona Vale Road are to provide a 6m front setback.

iii) Properties 167-171 Mona Vale Road are to provide a 6m front setback.

iv) Property 167 Mona Vale Road is to provide a 3m setback to Shinfield Avenue.

v) The maximum site coverage applicable to the properties identified in ii), iii) and iv) above is:

- 60% where a commercial component with an FSR greater than 0.3:1 on the ground floor is proposed
- in all other cases *Section A Part 7A.3* applies.

vi) The minimum deep soil landscaping requirement for the properties identified in ii), iii) and iv) above is:

- 25% where a commercial component with an FSR greater than 0.3:1 on the ground floor is proposed.
- in all other cases *Section A Part 7A.4* applies.

Note: Where a lesser commercial component is proposed see Section A Parts 7A.3 and 7A.4 apply.

14B Turramurra Local Centre

14B.1 Turramurra Local Centre Context
14B.2 Public Domain and Pedestrian Access
14B.3 Proposed Community Infrastructure
14B.4 Setbacks
14B.5 Built Form
14B.6 Building Entries, Car Parking and Service Access
14B.7 Environmental Protection and Bush Fire Protection
14B.8 Precinct T1: Pacific Highway and Ray Street Retail Area
14B.9 Precinct T2: Rohini Street and Eastern Road Retail Centre
14B.10 Precinct T3: Kissing Point Road Retail Area
14B.11 Precinct T4: Hillview Area

READ WITH

SECTION A
PART 2 - Site Analysis
PART 3 - Land Consolidation and Subdivision
PART 7 - Residential Flat Buildings
PART 8 - Mixed Use Development
PART 9 - Non-Residential and Office Buildings
PART 12 - Signage and Advertising

SECTION B
PART 15 – Land Contamination
PART 16 – Bushfire Risk
PART 17 – Riparian Lands
PART 18 – Biodiversity
PART 19 – Heritage Items and Heritage Conservation Areas
PART 20 – Development Near Road or Rail Noise

SECTION C
PART 22 - General Access and Parking
PART 23 - General Building Design and Sustainability
PART 24 - Water Management

14B.1 TURRAMURRA LOCAL CENTRE CONTEXT

Objectives

1 *To create distinct retail precincts that provide a range of services, facilities and experiences.*

2 *To create a village centre for Turramurra.*

3 *To create a vibrant local centre with distinctive and memorable character.*

4 *To retain the distinctive scale and character of Rohini Street as a local shopping street.*

5 *To encourage restaurants, cafes, outdoor dining and offices fronting on to rear lanes and new public spaces to contribute to increased activity and passive surveillance.*

6 *To provide opportunities for new supermakets to support and anchor the local centre.*

Controls

1 All development within the Turramurra local centre, as outlined in *Figure 14B.1-1*, is to be designed to support and enhance the planned future character of the centre. This is to be done through the general requirements and precinct specific requirements as stipulated in this DCP.

Note: Refer to Ku-ring-gai's *Public Domain Plan 2010, Open Space Aquisition Strategy 2007* and the *Ku-ring-gai Contributions Plan 2010* on Councils website: *http://www.kmc.nsw.gov.au/Home.*

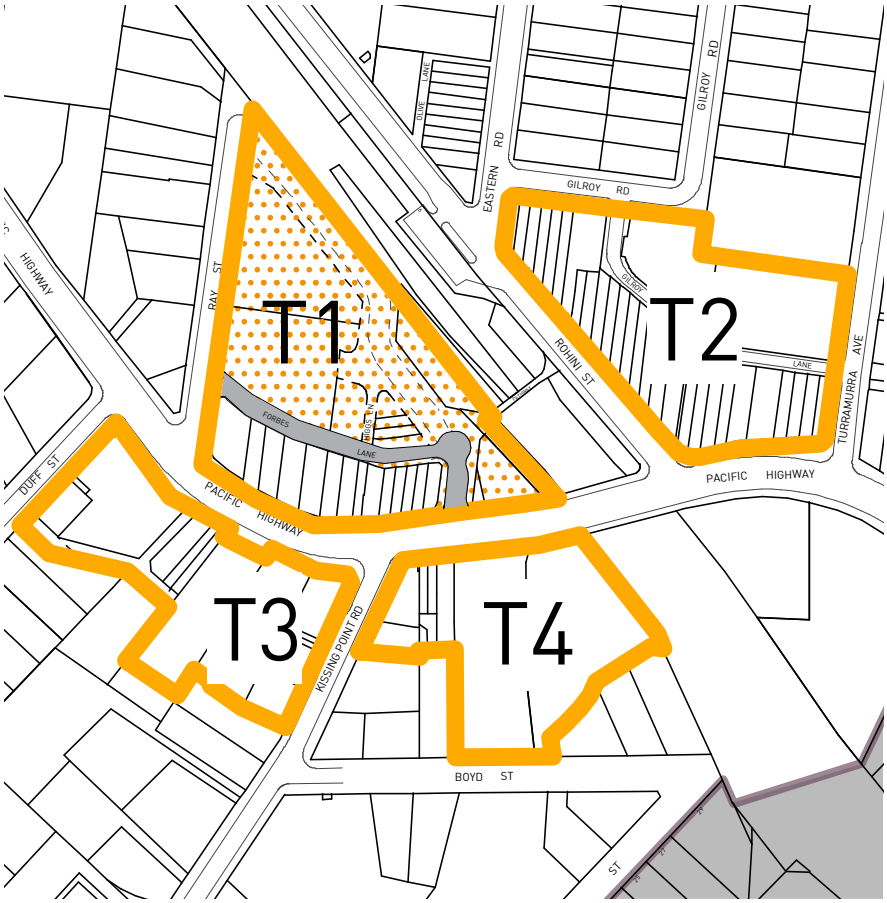


Figure 14B.1-1:
Turramurra Local Centre Precinct Plan
(Refer to Part 14R.4 Turramurra Community Hub Masterplan).

N

Legend

Core Urban Precinct (B2 and B4 zones)

Masterplan Site

14B.2 PUBLIC DOMAIN AND PEDESTRIAN ACCESS

Objectives

1 *To promote ease of circulation and connectivity between the railway station and the local centre.*

2 *To improve pedestrian amenity by providing continuous sun and rain protection to footpath areas.*

3 *To improve commercial activity in the local centre by promoting street-level activity.*

4 *To improve access to the railway station for pedestrians and commuters.*

5 *To provide a consistently high quality and visually pleasing streetscape environment.*

6 *To improve and enhance accessibility to the commercial precinct particularly for pedestrians, pram walkers, people with disabilities, cyclists and public transport users.*

7 *To improve the safety and passive surveillance of the public domain*

8 *To improve the overall pedestrian experience in the local centre, thereby promoting active living.*

9 *To promote mid-block and through-site links to improve permeability of the local centre.*

Controls

1 All development within the Turramurra local centre, as outlined in Figure *14B.2-1*, is to be designed to support and enhance the planned future character of the centre. This is to be done through the Public Domain and Pedestrian Access requirements for each Precinct as stipulated in this DCP.

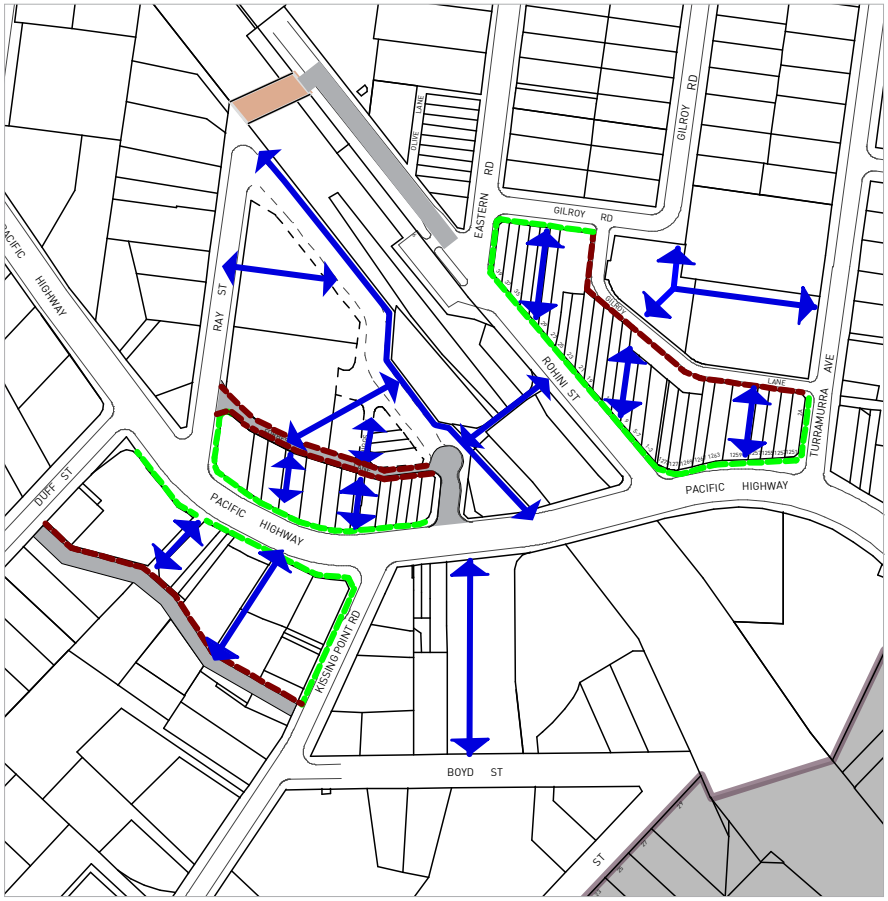


Figure 14B.2-1:
Public domain and pedestrian access plan.
(Refer to Part 14R.4 Turramurra Community Hub Masterplan).

Legend

- Pedestrian through site link
- Continuous awnings
- Continuous awnings where possible
- Modified Road
- New Bridge

14B.3 PROPOSED COMMUNITY INFRASTRUCTURE

Objectives

1 *To be consistent with the objectives and strategies of Council's Town Centre Public Domain Plan 2010.*

2 *To implement the work programs within the Ku-ring-gai Contributions Plan 2010.*

3 *To meet the requirements of the Ku-ring-gai Open Space Acquisition Strategy 2007.*

4 *To enhance service and infrastructure provisions for existing and planned residential communities.*

Controls

Proposed Community Infrastructure

1 All development within the Turramurra local centre is to be designed to support the planned future character of the centre through the provision of Key Community Infrastructure as stated in the *Ku-ring-gai Contributions Plan 2010* and outlined in *Figure 14B.3-1*. This is to be done through the Proposed Community Infrastructure requirements for each Precinct as stipulated in this DCP.

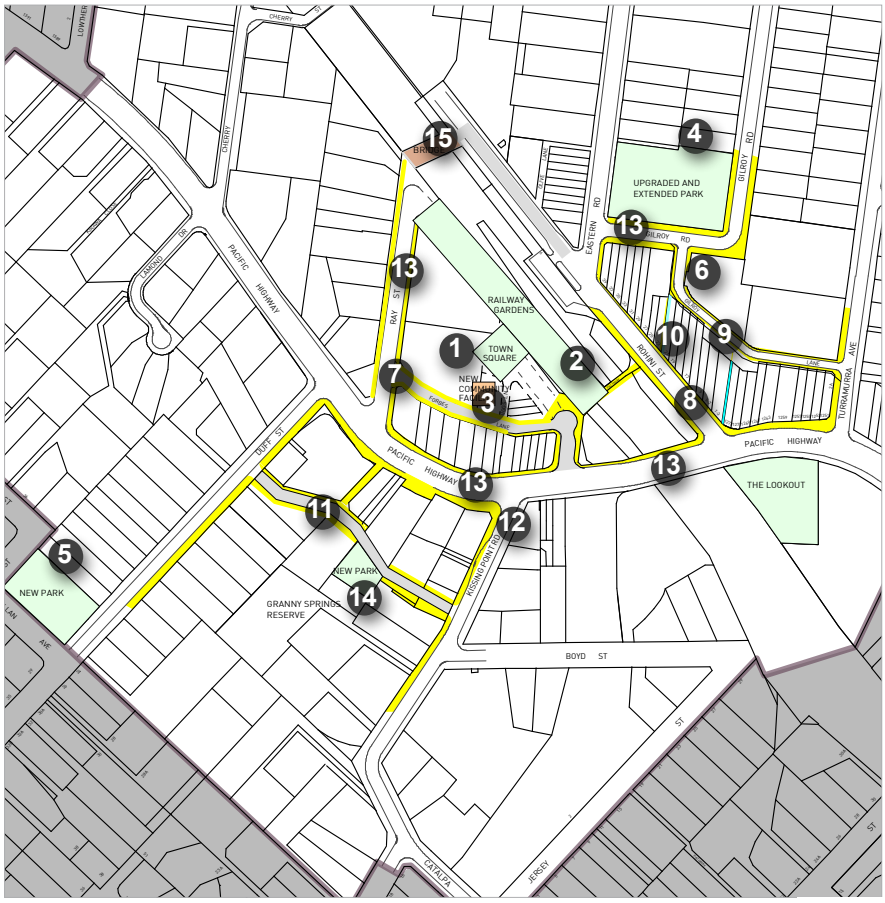


Figure 14B.3-1:
Community infrastructure plan.
(Refer to Part 14R.4 Turramurra Community Hub Masterplan).

N

Legend

- Footpath Embellishment
- New park or existing park to be upgrade
- Council Pedestrian Accessways
- Modified Road
- New Bridge
- 1 - Proposed Community Infrastructure

14B.3 PROPOSED COMMUNITY INFRASTRUCTURE (continued)

Controls

2 The following development is to be designed to support and compliment the provision of Key Community Infrastructure through the *Ku-ring-gai Contributions Plan 2010* or by Voluntary Planning Agreement (VPA) or other delivery mechanism (refer to individual precincts 14B.8 to 14B.11):

1. A new Town Square (minimum dimensions of 25 metres by 40 metres);
2. Public open space with a total area of 2,800 sqm
3. A new community building adjoining the new town square to be owned by Council. With a total GFA of approx. 3,000 m2 comprising a new branch library and multi-purpose community centre.
4. An extension of Cameron Park to create a new town park.
5. A new local park on the intersection of Duff Street and Allen Street.
6. A new multi-purpose community facility to be owned by Council on Gilroy Lane
7. An upgraded and improved Forbes Lane
8. Improvements to the Rohini Street footpath area including terracing to allow level areas for outdoor dining.
9. An improved Gilroy Lane widened to be a 13 metre wide right-of-way with two-way traffic; on-street parking (one side); and footpaths (both sides).
10. Embellishment of Council's pedestrian access ways from Gilroy Lane to Rohini Street.
11. A new public street connecting Kissing Point Road and Duff Street with two way traffic, on–street parking (one side); and footpaths (both sides). The land is to be dedicated to Council as part of redevelopment. The road will be a minimum of 15 metres wide and will function as an Asset Protection Zone (APZ). In addition the new street will be designed to aid fire fighting and incorporate access specifications identified in *Planning for Bushfire Protection 2006;* and designed to minimise impact on adjoining Blue Gum High Forest.
12. Improvements to Kissing Point Road including a new dedicated left-turn lane from Kissing Point Road to the highway.
13. Embellishment of all the footpath areas along all streets within the Centre.
14. Construction and embellishment of a new urban park
15. A new bridge over the railway connecting Ray Street and Rohini Street with separate lanes for pedestrians, cyclists and vehicles.

14B.4 SETBACKS

Objectives

1 *To create cohesive streetscapes.*

2 *To provide building setbacks in appropriate locations to provide opportunities for street tree plantings or footpath widening of lanes and streets.*

3 *To provide a consistent street wall within the main commercial areas.*

4 *To allow for visual and acoustic privacy between the centres and adjoining residential zones.*

Controls

1 All development within the Turramurra local centre, as outlined in *Figure 14B.4-1*, is to be designed to support and enhance the planned future character of the centre. This is to be done through the Setback requirements for each Precinct as stipulated in this DCP.

Note: In all cases, where land dedication is required for a public purpose, such as a road or walkway, the affected land is to be excluded from deep soil calculations and included in setback requirements.

2 Building setbacks are to be in accordance with *Figure 14B.1-2, and a*ll properties within the R4 zone will have a 10-12 metre front setback (Part 7 of this DCP) with the following exceptions:

i) Properties 6-18 Ray Street are to provide a 6 metre front setback.

ii) Properties 47-51 Rohini Street are to provide a 6 metre front setback.

iii) Property 9 Gilroy Road is to provide a 6 metre front setback to Gilroy Road.

iv) Properties 1-5 Turramurra Ave and 10 Turramurra Ave are to provide a 6 metre front setback to Turramurra Avenue.

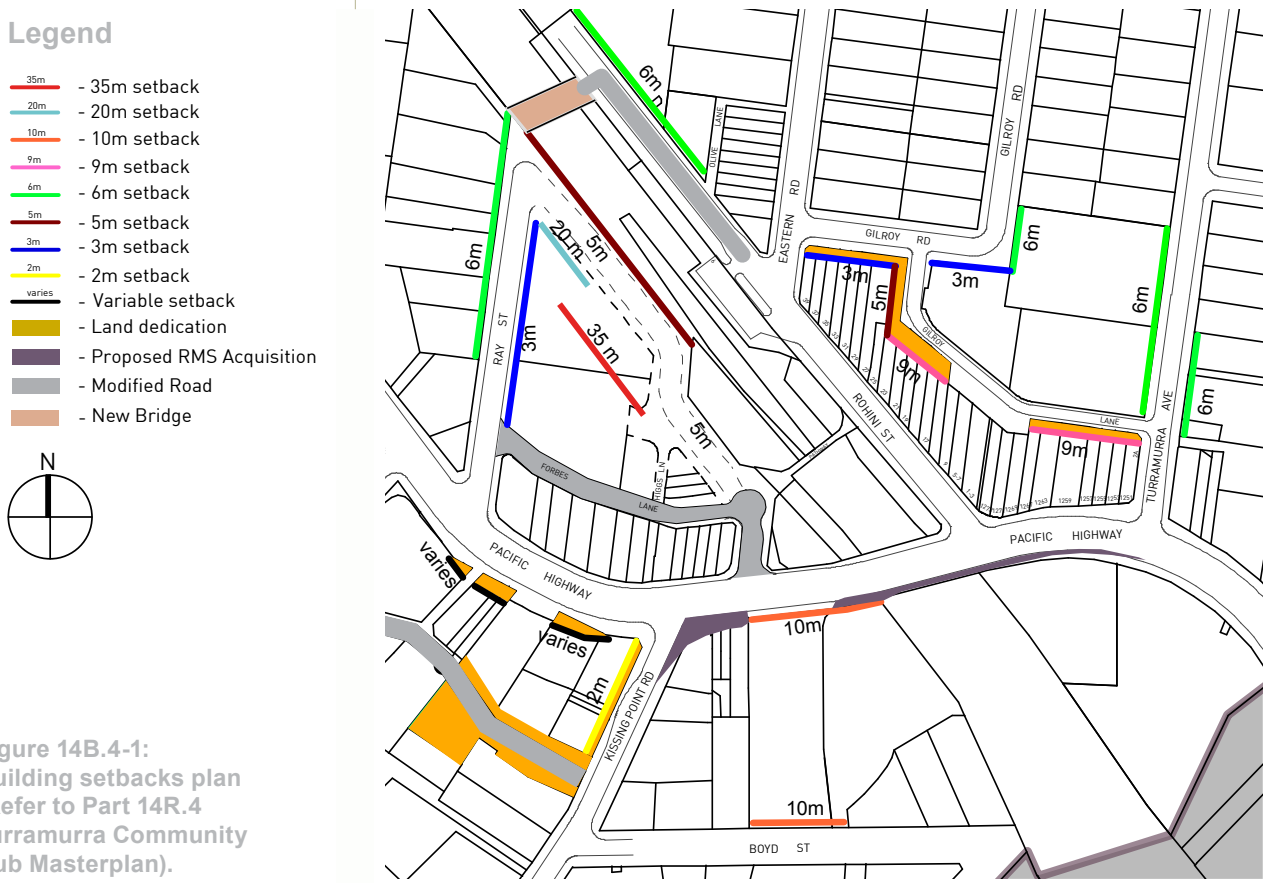


Figure 14B.4-1: Building setbacks plan (Refer to Part 14R.4 Turramurra Community Hub Masterplan).

14B.5 BUILT FORM

Objectives

1 *To maintain a consistent street wall height with reference to existing buildings along the Pacific Highway and Rohini Street.*

2 *To ensure consistent building forms that complement the traditional 'main street' facades of the strip shops.*

3 *To conserve early facades which are contributory to the character of the streetscape.*

4 *To encourage new infill development along the Pacific Highway which respects the existing characteristics of the street including the fine-grained character of the original subdivision, setback, height, and rhythm of facades, and is sympathetic to the materials and detailing of the earlier facades.*

5 *To ensure building facades are well designed, articulated and address public spaces, parks and reserves.*

6 *To provide active frontages to all streets, lanes and public open spaces.*

7 *To minimise the visual bulk and scale of new buildings when viewed from any public domain area.*

8 *To create north facing public domain areas.*

9 *To ensure that buildings are designed to interact and engage with pedestrians at the street level*

10 *To encourage design excellenace in all new development.*

Controls

1 All development within the Turramurra local centre, as outlined in Figure 14B.5-1, is to be designed to support and enhance the planned future character of the centre. This is to be done through the Built Form requirements for each Precinct as stipulated in this DCP.



Figure 14B.5-1:
Built form plan
(Refer to Part 14R.4 Turramurra Community Hub Masterplan).

Legend

- -Primary active frontage
- -Secondary active frontage
- -3 storey street wall
- -2m upper level setback above street wall height
- -4m upper level setback above street wall height
- * -Landmark building
- * -Corner Building or Visually prominent site
- -Building alignment
- -Character street wall
- -Character Item
- -Heritage Item
- -Modified Road
- -New Bridge

14B.6 BUILDING ENTRIES, CAR PARKING AND SERVICE ACCESS

Objectives

1 *To locate building foyers and lobbies in areas of high pedestrian activity.*

2 *To activate the main commercial streets.*

3 *To minimise pedestrian and vehicle conflicts.*

4 *To introduce a new road on the southern side of Turramurra to improve vehicle access and circulation.*

5 *To improve vehicle access and circulation and enhance associated services and infrastructure.*

6 *To ensure vehicular access points do not visually detract from the streetscape.*

7 *To promote pedestrian saftey and ease of movement through the local centre.*

8 *To introduce a new bridge over the railway connecting Ray and Rohini streets.*

Controls

1 All development within the Turramurra local centre, as outlined in *Figure 14B.6-1*, is to be designed to support and enhance the planned future character of the centre. This is to be done through the Building Entries, Car Parking and Service Access requirements for each Precinct as stipulated in this DCP.

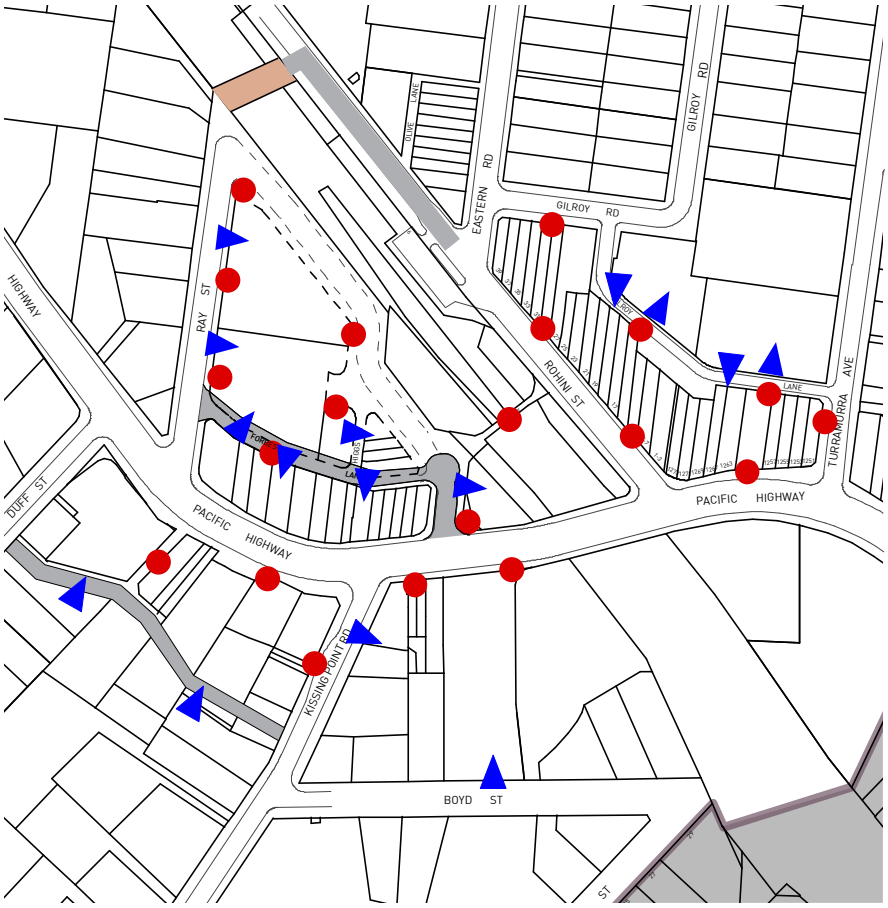


Figure 14B.6-1:
Building entries, car parking and service access plan.
(Refer to Part 14R.4 Turramurra Community Hub Masterplan).

Legend

- Vehicular access to site
- Pedestrian access to site
- Modified Road
- New Bridge

14B.7 ENVIRONMENTAL PROTECTION AND BUSH FIRE PROTECTION

Objectives

1 *To protect and enhance the Blue Gum High Forest within the Granny Springs Reserve.*

2 *To provide an Asset Protection Zone on the site that does not encroach onto the adjoining Council reserve.*

Controls

1 All development within the Turramurra local centre, as outlined in *Figure 14B.7-1*, is to be designed to support and address Environmentally Sensitive and Bush Fire Protection areas. This is to be done through the Environmental Protection and Bush Fire Protection requirements for each Precinct as stipulated in this DCP.


PACIFIC HIGHWAY
RAY ST
EASTERN RD
GILROY RD
ROHINI ST
DUFF ST
RESOLUTION WAY
RESOLUTION LANE
RESOLUTION PLACE
RESOLUTION LANE
RESOLUTION PLACE
RESOLUTION LANE
RESOLUTION PLACE

14B.8 PRECINCT T1: PACIFIC HIGHWAY AND RAY STREET RETAIL AREA

Controls

Refer to
Objectives and Controls
PART 14B.1
Urban Precincts

Refer to
PART 14R.4
Turramurra Community Hub Masterplan

Objectives

1 *To ensure development is consistent with the Turramurra Community Hub Masterplan.*

2 *To provide a vibrant community hub with a mix of retail, residential, commerical and community facilities.*

3 *To provide a large flexible public open space for the community.*

4 *To improve vehicular movement through the area.*

5 *To retain the existing number of Council car parking spaces.*

6 *To provide adequate parking associated with the new land uses developed on the site.*

7 *To provide enhanced vehicular and pedestrian connectivity between the railway station, Pacific Highway and the Turramurra Community Hub site.*

8 *To provide a civic plaza that connects the site to Pacific Highway.*

Planned Future Character

T1

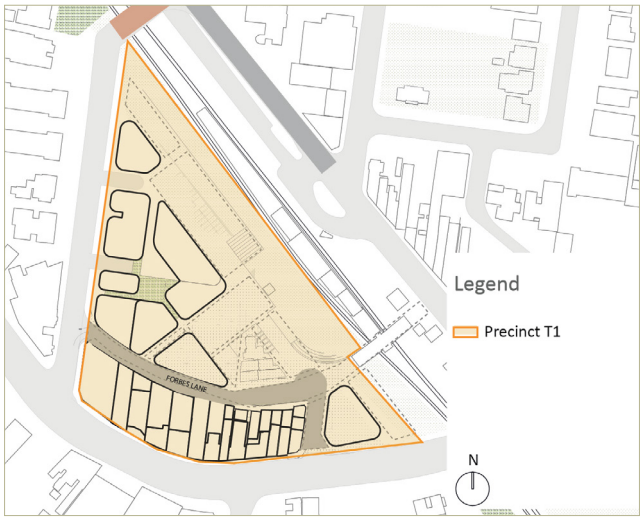


Figure 14B.8-1:
Precinct T1
(Refer to Part 14R.4 Turramurra Community Hub Masterplan).

Precinct T1 is a triangular parcel of land bound by the Pacific Highway, the North Shore railway line and Ray Street. The area currently comprises a small freestanding supermarket, a Council library, a small group of privately owned shops on Higgs Lane, and a strip of privately owned shops fronting the Pacific Highway. The remainder of the area is occupied by public car parking and serviced by Forbes Lane, Higgs Lanes and William Street road reserves. A large part of William Street road reserve is currently used for car parking.

The Turramurra Community Hub is to become a revitalised area with retail, residential and community facilities. Refer to the adopted Turramurra Community Hub Masterplan in part 14R.4 for a comprehensive collection of illustrations, plans and design principals. Where there is an inconsistency between the controls in this Part 14B.8 and the Turramurra Community Hub Masterplan, then the latter prevails to the extent of the inconsistency.

1 Development is to be designed in accordance with the Turramurra Community Hub Masterplan at part 14R.4 and is to support and enhance the planned future character of this Precinct by providing the following:

i) **Community Building:** New public building comprising a multi-purpose community centre and a branch library;

ii) **Open Space:** New public park and a town square;

iii) **Retail 1:** A major full-line supermarket and complimentary speciality shops located in a partly-sunken podium and linked seamlessly to the Ray Street level above;

14B.8 PRECINCT T1: PACIFIC HIGHWAY AND RAY STREET RETAIL AREA (continued)

Controls

iv) **Retail 2:** A range of quality destination retail along Forbes Arcade and adjacent the town square and park with outdoor dining opportunities;

v) **Residential:** Residential Apartments providing a mix of 1, 2 and 3 bedroom units;

vi) **Car Parking:** Parking requirements for the whole development accommodated in a new basement parking;

Refer to *Figures 14B.8-1 and 14B.8-2* (see Turramurra Community Hub Masterplan at Part 14R.4 for complete illustrations).



Figure 14B.8-2:
Turramurra Community Hub with open spaces including retail mix, community facilities and a variety of public urban spaces (Refer to Part 14R.4 Turramurra Community Hub Masterplan).

14B.8 PRECINCT T1: PACIFIC HIGHWAY AND RAY STREET RETAIL AREA (continued)

Controls

Access

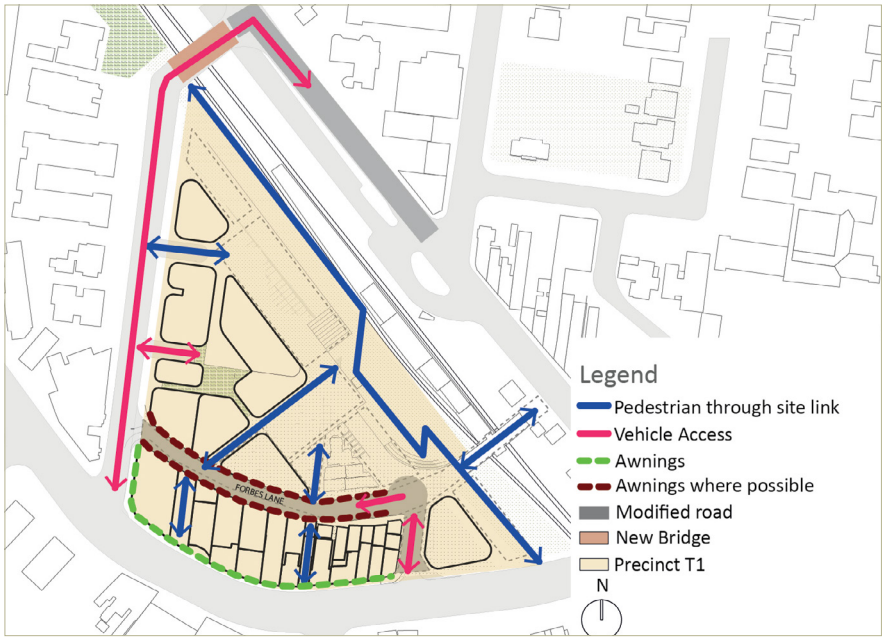


Figure 14B.8-3:
Pedestrian access plan.
(Refer to Part 14R.4 Turramurra Community Hub Masterplan).

2 Pedestrian access is to be in accordance with the Turramurra Community Hub Masterplan at Part 14R.4, including the provision of the following:

i) Internal new shopping arcades linking the Pacific Highway and Forbes Lane;

ii) An open air shopping arcade linking Forbes Lane with the new Town Square;

iii) Major through-site pedestrian links between Ray Street and the train station through both the park and along Forbes Lane with clear demarcation of pedestrian entry and exceptional wayfinding;

iv) Awnings to Forbes Lane to support active frontages;

v) A colonnade around the proposed town square;

vi) A continuous shared pedestrian cycle path from the northern edge of the precinct through to the Pacific Highway;

vii) A new bridge over the rail line connecting Ray Street with Rohini Street with separated lanes for vehicles, cyclists and pedestrians and and associated road works on Rohini Street.

viii) Clear lines of sight for pedestrians generally including between the podium/residential entry on the town square and the western landing of train station pedestrian bridge and along the NW axis through the site.

Refer to PART 14B.2 Public Domain and Pedestrian Access

Refer to PART 14B.6 Building Entries, Car-Parking and Service Access

Refer to PART 14R.4 Turramurra Community Hub Masterplan

Objectives

9 To maximise and enhance landscape quality and leafy outlook on all streetscapes.

10 To provide for a pleasant pedestrian experience through, around and to the site.

11 To maximise pedestrian connectivity and circulation (vertical and horiztonal) around and through the site.

12 To improve and enhance pedestrian connection from the railway station to site.

13 To allow for ease of access and circulation for the mobility impaired.

14 To retain a cohesive streetscape character.

15 To minimise vehicular entry points to the site.

14B.8 PRECINCT T1: PACIFIC HIGHWAY AND RAY STREET RETAIL AREA (continued)

Controls

Objectives

16 To minimise conflicts between vehicular, pedestrian and service entry points.

17 To provide unambigious and clearly marked building entry points.

18 To provide a clear distinction between commercial, retail and residential building entry points

3 Vehicular access is to be in accordance with the Turramurra Community Hub Masterplan at Part 14R.4, including provision of the following:

i) Modifications to Forbes Lane making it a narrow one-way (westbound) share-way catering for pedestrians, cyclists and vehicles, with provision of on-street parking on one side of the lane.

ii) Retention of existing roundabout on William Street and pick-up/ drop-off area adjoining the train station as well as on-street parking (wherever possible).

iii) Pick up and drop off areas are to be provided on William Street and Forbes Lane.

iv) A new bridge connecting Ray and Rohini streets.

v) Access for loading off Ray Street.

Refer to *Figures 14B.8-3 and 14B.8-4* (see Turramurra Community Hub Masterplan at Part 14R.4 for complete illustrations.)



Figure 14B.8-4:
Forbes Lane Shared Way
(Refer to Part 14R.4 Turramurra Community Hub Masterplan).

14B.8 PRECINCT T1: PACIFIC HIGHWAY AND RAY STREET RETAIL AREA (continued)

Controls

Public Domain & Open Space

Refer to PART 14B.2 Public Domain and Pedestrian Access

Refer to PART 14R.4 Turramurra Community Hub Masterplan

Objectives

19 To provide a new community public park located in a sunny location away from the Pacific Highway.

20 To maximise and enhance the landscape character of all streetscapes.

21 To provide open spaces that cater for a range of uses, including day and night activities.

22 To provide open spaces that cater for different age groups.

23 To create accessible, comfortable and safe open spaces.

24 To maximise pedestrian connections to open spaces.

25 To provide open green spaces for passive recreation.

26 To ensure solar access to onsite open spaces, community facilities and residential dwellings

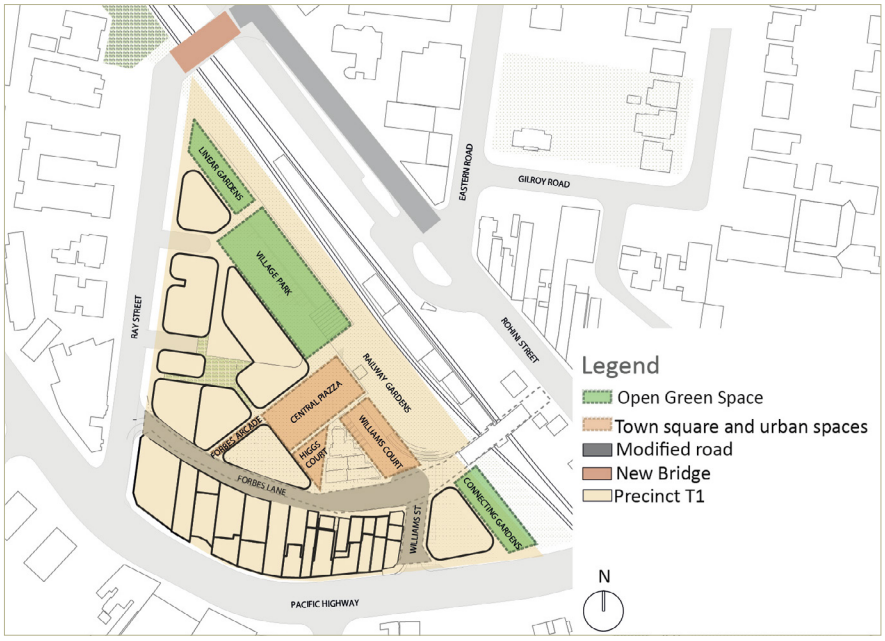


Figure 14B.8-5:
Public domain and open space plan.
(Refer to Part 14R.4 Turramurra Community Hub Masterplan).

4 Public domain areas are to be in accordance with the Turramurra Community Hub Masterplan at Part 14R.4, including the following:

i) All existing and upgraded streets within and surrounding the precinct are to provide pedestrian and cycle facilities, generous footpaths, on-street parking, public seating, high quality pedestrian lighting and street trees.

5 Open space and urban space areas are to be in accordance with the Turramurra Community Hub Masterplan at Part 14R.4, including provision of the following:

i) A town square as the focal point of the precinct;

ii) A park with a minimum area of 2,000sqm located centrally and adjoining the town square;

iii) A suite of interconnected outdoor rooms and gardens linking the northern end of Ray Street with the Pacific Highway along the western side of the rail corridor; and

iv) Protection of the existing mature trees adjacent the rail corridor

Refer to *Figures 14B.8-5, 14B.8-6, 14B.8-7 and 14B.8-8* (see Turramurra Community Hub Masterplan at Part 14R.4 for complete illustrations.)

14B.8 PRECINCT T1: PACIFIC HIGHWAY AND RAY STREET RETAIL AREA (continued)

Controls



01 LINEAR GARDENS
02 VILLAGE PARK
03 GRAND STEPS
04 CENTRAL PIAZZA
05 FORBES ARCADE
06 HIGGS COURT
07 LOWER CAFE COURT
08 ALFRESCO DINING CURTILAGE
09 WILLIAMS COURT
10 CONNECTING GARDENS
11 MIXED USE BUILDING
12 COMMUNITY HUB BUILDING
13 CENTREPIECE BUILDINGS
14 SUPERMARKET ENTRY
15 RESIDENTIAL COURTYARD
16 BASEMENT PARKING ENTRY
17 LOADING ENTRY
18 RESIDENTIAL BUILDING

Figure 14B.8-6:
Public domain and open space plan.
(Refer to Part 14R.4 Turramurra Community Hub Masterplan).

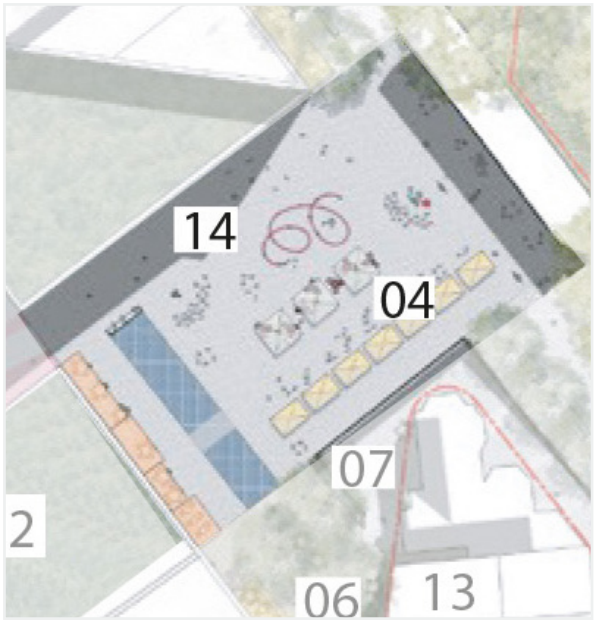


Figure 14B.8-7:
Central Piazza
(Refer to Part 14R.4 Turramurra Community Hub Masterplan).



Figure 14B.8-8:
Village Park
(Refer to Part 14R.4 Turramurra Community Hub Masterplan).

14B.8 PRECINCT T1: PACIFIC HIGHWAY AND RAY STREET RETAIL AREA (continued)

Controls

Proposed Community Infrastructure

Refer to
Objectives and Controls
PART 14B.3
Proposed Community Infrastructure

Refer to
PART 14R.4
Turramurra Community Hub Masterplan

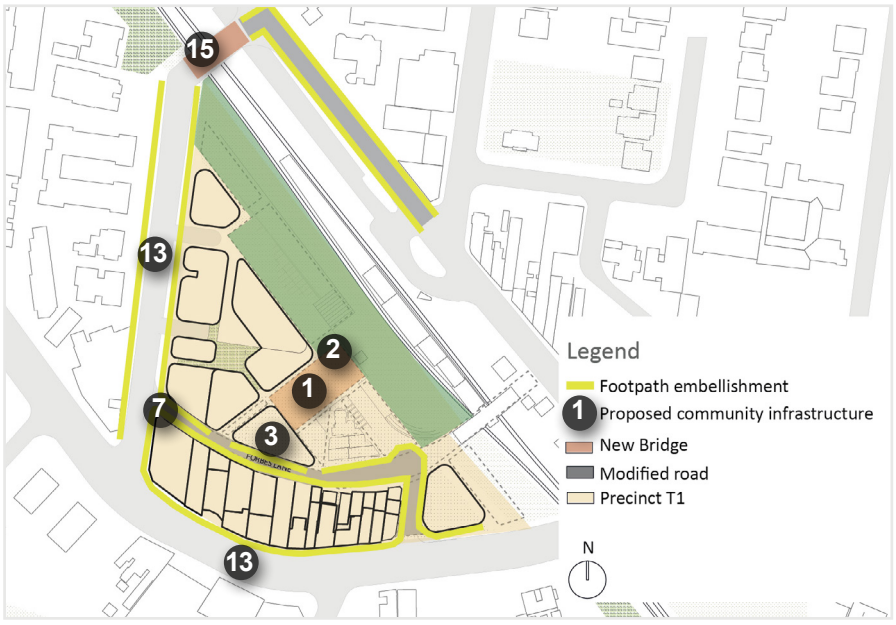


Figure 14B.8-9:
Key community infrastructure plan
(Refer to Part 14R.4 Turramurra Community Hub Masterplan).

Objectives

27 To provide for public open space in the local centre.

28 To create a vibrant mixed-use precinct.

29 To facilitate community interaction.

30 To provide quality space for gatherings and events.

31 To enhance and improve road and road related infrastructure.

32 To showcase leadership in design excellence and Ecologically Sustainable Development (ESD) provisions.

33 To create a high quality live-work precinct.

34To consider opportunities for provision of commuter car parking spaces located in new developments.

35 To promote urban 'green living.'

6 The following development is to be designed to support and compliment the provision of Key Community Infrastructure through Ku-ring-gai Contributions Plan 2010, Voluntary Planning Agreement (VPA)or other delivery mechanism:

1. A town square (minimum dimensions of 25 metres by 40 metres);
2. Public open space with a total area of 2,800 sqm
3. A new community building comprising a branch library and community centre with a total GFA of 3,000sqm
7. An upgraded and improved Forbes Lane
13. Embellishment of all the footpath areas along the Pacific Highway, Ray Street and Forbes Lane.
15. A new bridge over the railway connecting Ray Street and Rohini Street with separate lanes for for pedestrians, cyclists and vehicles and associated road works on Rohini Street.

Refer to *Figure 4B.8-9* (see Turramurra Community Hub Masterplan at Part 14R.4 for complete illustrations).

14B.8 PRECINCT T1: PACIFIC HIGHWAY AND RAY STREET RETAIL AREA (continued)

Controls

Refer to
Objectives and Controls
PART 14B.4
Setbacks

Refer to
PART 14R.4
Turramurra Community Hub Masterplan

Objectives

36 To adequately service the community infrastructure requirements of the local community.

37 To provide streetscapes with a leafy outlook and high quality landscape character

38 To maintain and enhance a leafy outlook along all streetscapes.

39 To provide for a pleasant pedestrian experience within the local centre.

40 To enhance the landscape character of Ku-ring-gai.

Setbacks

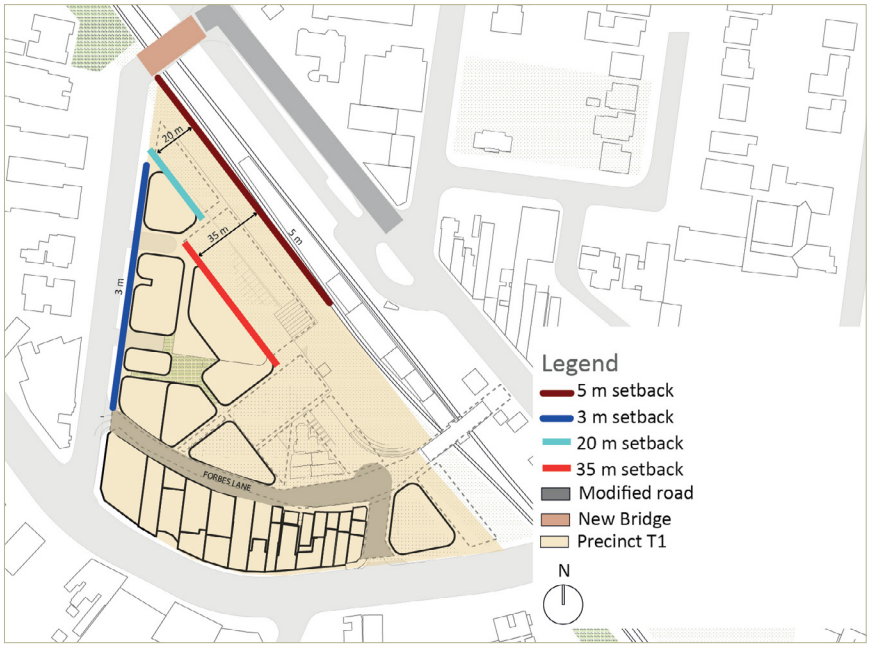


Figure 14B.8-10
Building alignment and setbacks plan.
(Refer to Part 14R.4 Turramurra Community Hub Masterplan).

7 Building setbacks are to be in accordance with Figure 14B.8-9, and all buildings in the B2 zone are to have a zero setback to all lot boundaries with the following exceptions:

i) Provide minimum 5m building setback from the railway corridor boundary to the building podium for a landscape zone and to protect existing mature trees;

ii) Provide a minimum 3m building setback to Ray Street for a landscaped zone.

iii) Provide a 20m setback from the rail corridor boundary to new residential/mixed use building adjoining Linear Gardens.

iv) Provide a 35m setback from rail corridor boundary to new residential/mixed use buildings adjoining Village Park.

Refer to *Figure 14B.8-10* (see Turramurra Community Hub Masterplan at Part 14R.4 for complete illustrations).

14B.8 PRECINCT T1: PACIFIC HIGHWAY AND RAY STREET RETAIL AREA (continued)

Controls

Built Form

Refer to PART 14B.5 Built Form

Refer to PART 14R.4 Turramurra Community Hub Masterplan

Objectives

41 To encourage design excellence and Ecologically Sustainable Development (ESD) provisions in all new developments.

42 To promote well articulated and modulated building facades.

43 To encourage the use of varied materials to enhance the visual quality of buildings.

44 To design and locate new buildings to maximise district views.

45 To ensure design and choice of building materials incorporate appropriate noise attenuation measures in all new developments.

46 To ensure buildings are located to minimise overshadowing of parks and open spaces.

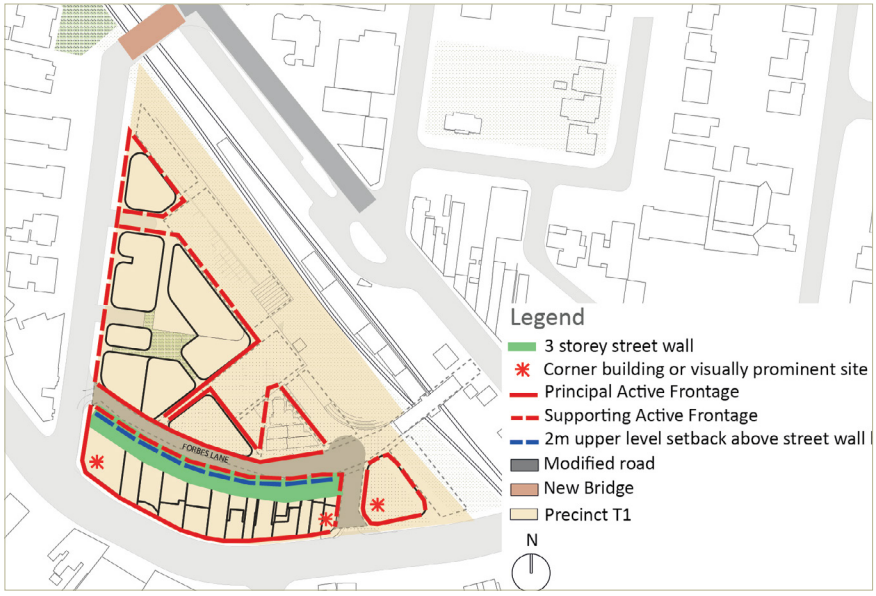


Figure 14B.8-11:
Built form plan.
(Refer to Part 14R.4 Turramurra Community Hub Masterplan).

8 Buildings are to be designed in accordance with the development control plan, Figure 14B.8-10, and as follows:

i) Create a consistent street wall of 3 storeys (11.5 metres) built parallel to the street alignment for buildings fronting the Forbes Lane;

ii) Provide a 2m setback to all levels above the street wall height along the frontages of the Forbes Lane;

iii) All buildings within the precinct are to be designed to minimise overshadowing of the proposed Town Square;

iv) Provide active frontages addressing the Town Square, the Pacific Highway and William Street;

v) Ray Street is to have a residential character;

vi) The Town Square is to have a vibrant leisure-oriented retail character;

vii) Properties along the Pacific Highway are required to provide supporting active frontages to Forbes Lane to create a quiet shopping street away from the highway and through traffic; and

viii) Provide supporting active frontages to proposed park areas.

Refer to *Figures 14B.8-11, 14B.8-12 and 14B.8-13* (see Turramurra Community Hub Masterplan at Part 14R.4 for complete illustrations).

14B.8 PRECINCT T1: PACIFIC HIGHWAY AND RAY STREET RETAIL AREA (continued)

Controls



Figure 14B.8-12:
Views through public space
(Refer to Part 14R.4 Turramurra Community Hub Masterplan).

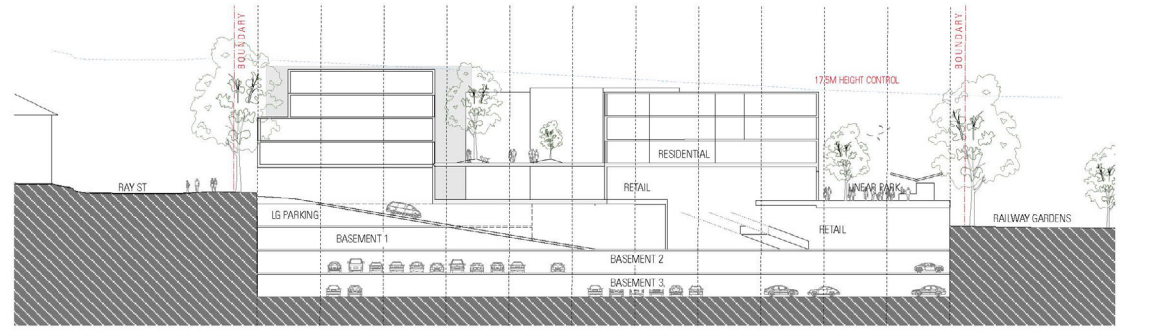




Figure 14B.8-13:
Sections
(Refer to Part 14R.4 Turramurra Community Hub Masterplan).

14B.8 PRECINCT T1: PACIFIC HIGHWAY AND RAY STREET RETAIL AREA (continued)

Controls

Building Entries, Car Parking and Service Areas

Refer to PART 14B.6
Building Entries, Car Parking and Service Access

Refer to PART 14R.4
Turramurra Community Hub Masterplan

Objectives

47 To ensure the community facility has its frontage and main entry to the town square.

48 To minimise vehicular entry points to the site.

49 To retain a cohesive streetscape character.

50 To minimise conflicts between vehicular, pedestrian and service entry points.

51 To accommodate car parking within basement levels of new buildings, in order to minimise adverse impacts on the surrounding streetscapes.

52 To provide for unambiguous and clearly marked building entry points.

53 To provide a clear distinction between commercial, retail and residential building entry points.

54 To allow provisions for electrical charging points and bicycle parking spaces within car park structures in new developments.

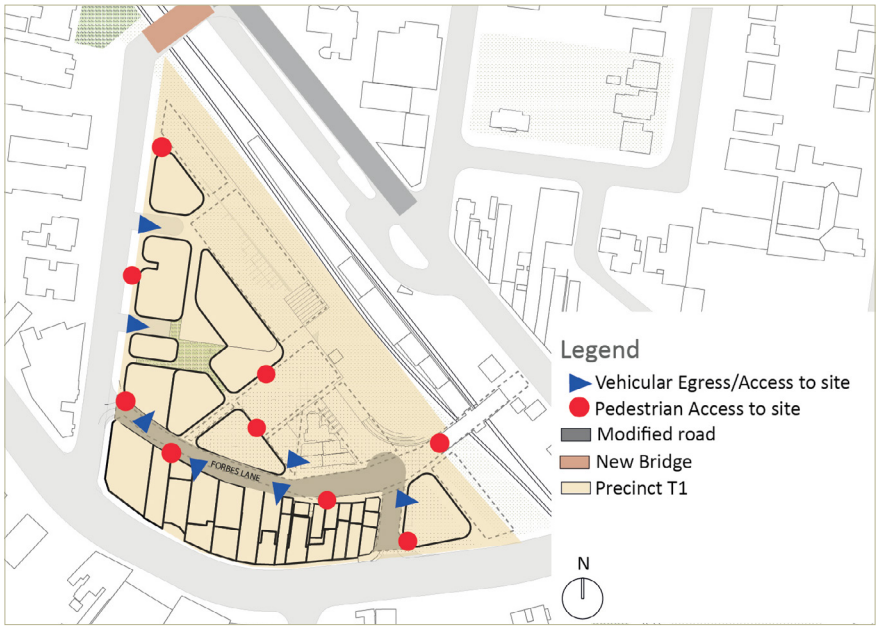


Figure 14B.8-14
Building entries, car parking and service access plan.
(Refer to Part 14R.4 Turramurra Community Hub Masterplan). :

9 Vehicle access/egress for car parking and service/loading is restricted to Forbes Lane, Ray Street, William Street (southern end) and Higgs Lane;

10 No vehicle access is permissible from the building frontages along the edge of the proposed Town Square or park.

11 Residential foyers and lobbies are to be located off Ray Street or Forbes Lane or the Town Square.

Refer to *Figure 14B.8-14* (see Turramurra Community Hub Masterplan at Part 14R.4 for complete illustrations).

14B.9 PRECINCT T2: ROHINI STREET AND EASTERN ROAD RETAIL AREA

Objectives

Refer to
Objectives and Controls
PART 14B.1
Urban Precincts

Controls

Planned Future Character

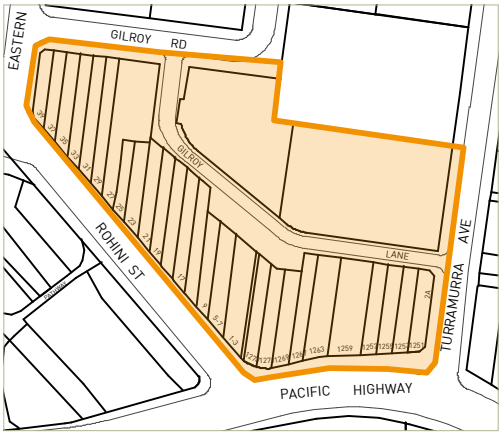


Figure 14B.9-1: Precinct T2

Precinct T2 consists of a row of shops along the eastern side of Rohini Street (serviced from the rear via Gilroy Lane) and a small group of buildings fronting Eastern Road opposite Cameron Park. Rohini street has a strong character due to the railway gardens on the western side of the street with landscaping and established trees and the small strip shops. Rohini Street/Eastern Road is the traditional “main street” for Turramurra providing a wide range of shops and professional services. An additional characteristic of the area is the deep blocks running back to Gilroy Lane with regularly spaced public access ways through to Rohini Street.

1 Development is to be designed to support and enhance the planned future character as following:

i) The distinctive village-like character of this area will be preserved and enhanced. It is proposed to encourage revitalisation of Rohini Street while encouraging low-scale developments up to two (2) storeys to the main street frontage with the sympathetic re-use of existing character buildings. Rohini Street has the potential to become a boutique shopping street with high quality shops and cafes.

ii) Future development will be designed to respect the ‘fine grain’ urban fabric and will retain the existing village scale.

iii) Existing community facilities and the croquet lawn on Gilroy Road will be retained. The buildings may be enlarged or enhanced in their current locations.

iv) The existing public walkways through Rohini Street strip shop area to Gilroy Lane will be retained and upgraded for pedestrian access. The provision of additional walkways from Rohini Street to Gilroy Lane are encouraged.

14B.9 PRECINCT T2: ROHINI STREET AND EASTERN ROAD RETAIL AREA (continued)

Objectives

Refer to
Objectives and Controls
PART 14B.2
Public Domain and Pedestrian Access

Controls

Public Domain and Pedestrian Access

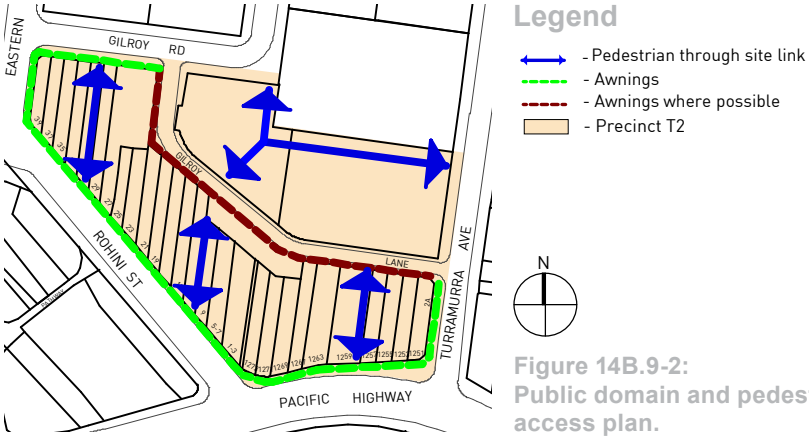


Figure 14B.9-2:
Public domain and pedestrian access plan.

1 Provide internal shopping arcades linking Rohini Street with Gilroy Road and Gilroy Lane. These arcades are to supplement the existing Council owned walk ways.

2 Provide continuous awnings to the Pacific Highway, Rohini Street, Eastern Road, Gilroy Road and Turramurra Avenue.

3 Provide awnings on Gilroy Lane wherever possible.

4 Provide new pedestrian walkways from Gilroy Lane to Gilroy Road and to Turramurra Avenue.

14B.3 PRECINCT T2: ROHINI STREET AND EASTERN ROAD RETAIL AREA (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14B.3
Proposed Community Infrastructure

Proposed Community Infrastructure

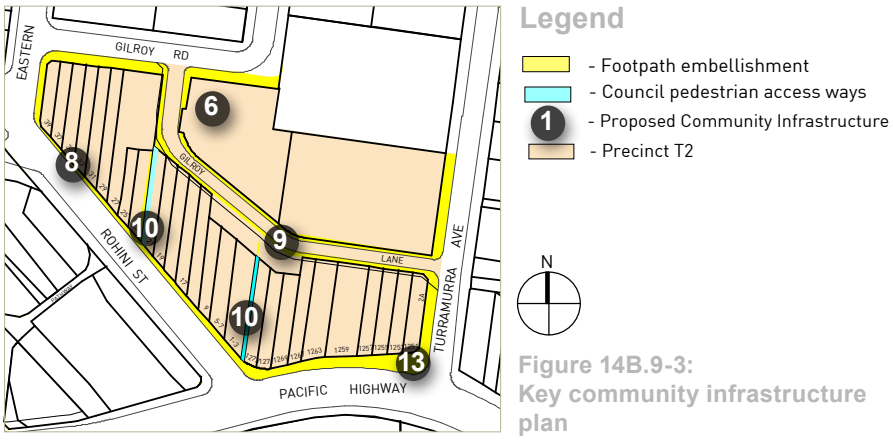


Figure 14B.9-3: Key community infrastructure plan

5 The following development is to be designed to support and compliment the provision of Key Community Infrastructure through the *Ku-ring-gai Contributions Plan 2010*, Voluntary Planning Agreement (VPA) or other delivery mechanism:

6 A new multi-purpose community facility, to be owned by Council, on Gilroy Lane.

8 Improvements to the Rohini Street footpath area including terracing to allow level areas for outdoor dining.

9 An improved Gilroy Lane widened to be a 13 metre wide right-of-way with two-way traffic; on-street parking (one side); and footpaths (both sides).

10 Embellishment of Council's pedestrian access ways from Gilroy Lane to Rohini Street.

13 Embellishment of all the footpath areas within the Urban Precincts on Kissing Point Road, Pacific Higway, Ray Street, Gilroy Road, Eastern Road, Turramurra Avenue and Duff Street. Works will include underground power lines, new street lighting, high quality paving and furniture, and street tree planting.

14B.9 PRECINCT T2: ROHINI STREET AND EASTERN ROAD RETAIL AREA (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14B.4
Setbacks

Setbacks

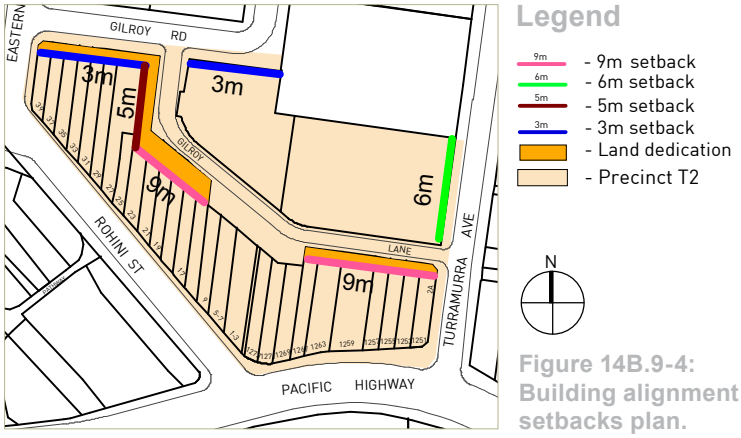


Figure 14B.9-4: Building alignment and setbacks plan.

6 Building setbacks are to be in accordance with *Figure 14B.9-4*, and all buildings in the B2 zone are to have a zero setback to all lot boundaries with the following exceptions:

i) Properties Nos.27-39 Rohini Street are to provide a 3m building setback to Gilroy Road. Land is to be dedicated to Council at no cost.

ii) Properties Nos.17-25 Rohini Street are to provide rear building setbacks of 9m to Gilroy Lane to achieve a minimum 19m wide right-of-way between the property boundary of Nos.1-7 Gilroy Road. The land is to be dedicated to Council at no cost.

iii) Properties Nos.1251-1267 Pacific Highway are to provide rear building setbacks of 9m to Gilroy Lane to achieve a minimum 19m wide right-of-way between the property boundary of Nos.2-8 Turramurra Avenue. The land is to be dedicated to Council at no cost.

iv) Properties 1-7 Gilroy Road and 2-8 Turramurra Avenue are to provide building setbacks of 2m to Gilroy Lane.

v) Properties 2-8 Turramurra Avenue are to provide building setbacks of 6m to Turramurra Ave and Gilroy Road.

vi) Properties 23, 25 and 27 Rohini Street are to provide a 5m building setback to Gilroy Lane to achieve a minimum 19m right-of-way between the property boundary of Nos.1-7 Gilroy Road. The land is to be dedicated to Council at no cost.

14B.9 PRECINCT T2: ROHINI STREET AND EASTERN ROAD RETAIL AREA (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14B.5
Built Form

Built Form

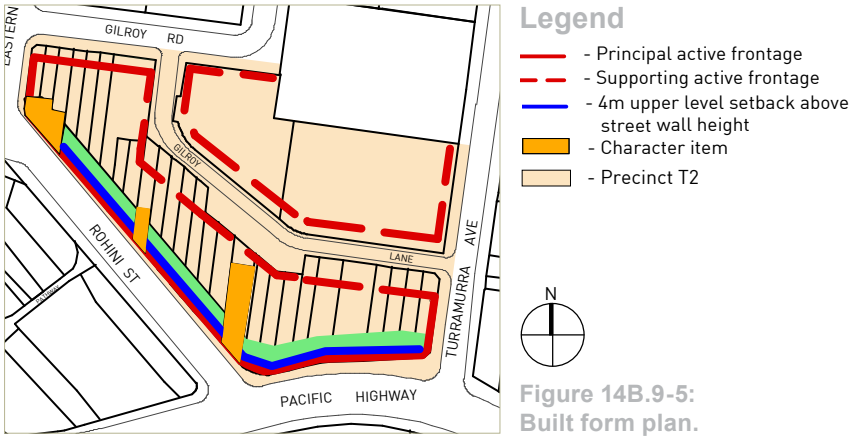


Figure 14B.9-5: Built form plan.

1 Buildings are to be designed in accordance with the control plan, *Figure 14B.9-5,* and as follows:

i) Create a consistent street wall of 3 storeys (11.5 metres) built parallel to the street alignment for buildings fronting the Pacific Highway, Turramurra Avenue and Rohini Street.

ii) Provide a 4m setback to all levels above the street wall height along the frontages of the Pacific Highway, Turramurra Avenue and Rohini Street.

iii) Buildings fronting Rohini Street and the Pacific Highway are to have vertically articulated facades.

iv) Buildings on Rohini Street are to have horizontal building parapets and awning lines stepped at regular intervals in response to the slope along Rohini Street.

v) Retain the facades of “character buildings” fronting Rohini Street (Nos. 35-39, 21, and 1-3 Rohini Street and 1 Gilroy Road).

vi) Provide active frontages along Rohini Street, Eastern Road, Turramurra Avenue and Gilroy Road.

vii) Active street frontages are to be provided on Gilroy Lane wherever possible.

viii) Design buildings to screen service zones from view along Gilroy Lane by containing them internally or within an internal courtyard.

ix) Design infill buildings to be sympathetic in materials, form, scale, massing, articulation, alignments and proportions to existing buildings. Do not replicate the character of the buildings.

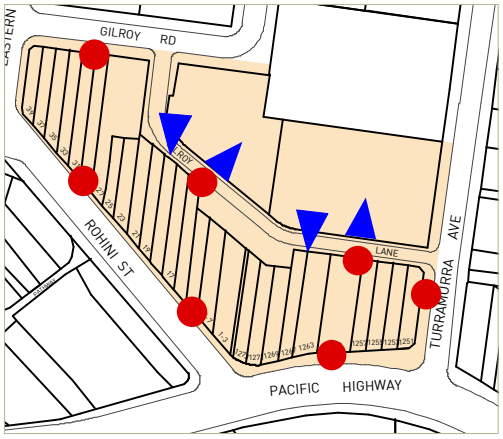
14B.9 PRECINCT T2: ROHINI STREET AND EASTERN ROAD RETAIL AREA (continued)

Objectives

Refer to
Objectives and Controls
PART 14B.6
Building Entries, Car Parking and Service Access

Controls

Building Entries, Car Parking and Service Areas



Legend
- Vehicular access to site
- Pedestrian access to site
- Precinct T2

Figure 14B.9-6: Building entries, car parking and service access plan.

9 Vehicle access for parking, service and loading areas is to be restricted to Gilroy Lane.

10 Residential foyers and lobbies may be located on Gilroy Road, Gilroy Lane, Turramurra Avenue, Rohini Street or the Pacific Highway.

Note: To ensure viability of redevelopment of sites in Precinct T2 the retail and commercial parking requirements may be reduced by up to 50% on amalgamated site. The applicant will be required to provide a report assessing the potential impacts on public parking around the centre with reference to Council's Parking Management Plan in order for a parking reduction to be considered by Council.

14B.10 PRECINCT T3: KISSING POINT ROAD RETAIL AREA

Objectives

Refer to
Objectives and Controls
PART 14B.1
Urban Precincts

Controls

Planned Future Character

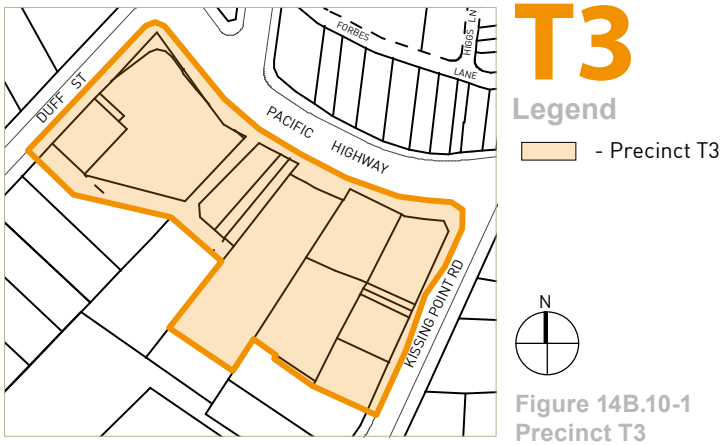


Figure 14B.10-1
Precinct T3

This precinct is on the south-western side of Turramurra bounded by Granny Springs Reserve, the Pacific Highway, Kissing Point Road and Duff Street.

1 Development is to be designed to support and enhance the planned future character as following:

i) The main use in this area is the Turramurra Plaza which is a small retail mall with a supermarket and a number of speciality shops. To the rear of the site Council owns a horseshoe-shaped piece of land which is used for public parking. The remainder of the area comprises small 1-2 storey shops fronting the Pacific Highway.

ii) The area is within the Buffer category of Bushfire Prone Vegetation and adjoins Category 1 Bushfire Prone Vegetation. Granny Springs Reserve also contains Blue Gum High Forest which is a Critically Endangered Ecological Community.

iii) This precinct will become the second retail hub for Turramurra offering a revitalised shopping precinct incorporating speciality retail, a new supermarket, new shop-top housing and improved public areas. Future development will be encouraged to occur through land amalgamation and consolidation of the building footprint. This will allow the construction of a new public street - “Stonex Street” - behind the site to connect Kissing Point Road and Duff Street. The new street will provide access to car parking and loading docks as well as providing for local traffic circulation. The street will be constructed within the existing development footprint and will function as a bush fire Asset Protection Zone (APZ) as well as protection for Granny Springs Reserve.

iv) Retail shops will form an active edge to the Pacific Highway and Kissing Point Road. A new supermarket and associated specialty retail will be provided below the Pacific Highway level, and will open to “Stonex Street” at the rear. This will be an ideal location for outdoor dining and cafes, overlooking the forest.

14B.10 PRECINCT T3: KISSING POINT ROAD RETAIL AREA (continued)

Objectives

Refer to
Objectives and Controls
PART 14B.2
Public Domain and Pedestrian Access

Controls

Public Domain and Pedestrian Access

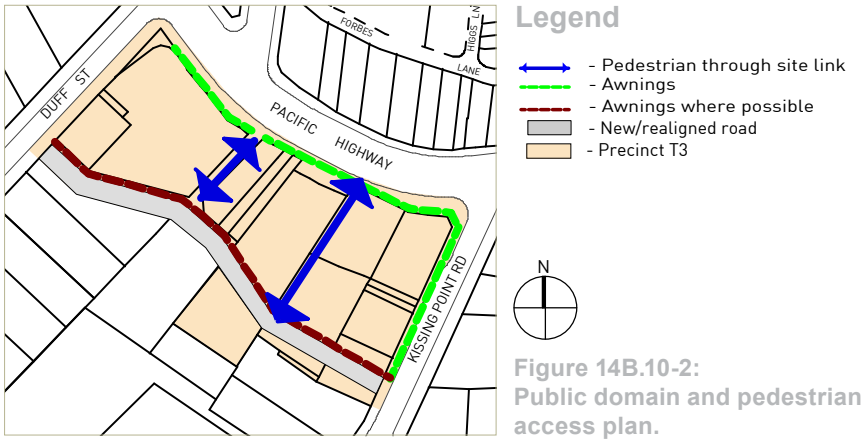


Figure 14B.10-2:
Public domain and pedestrian access plan.

1 Retain and upgrade Stonex Lane as an open–air pedestrian lane way with active frontages.

2 Provide a new public street (new street)linking Duff Street and Kissing Point Road.

3 Provide an internal shopping arcade linking the Pacific Highway and the new street.

4 Provide continuous awnings to the Pacific Highway and Kissing Point Road.

5 Provide awnings to the new street where ever possible.

14B.10 PRECINCT T3: KISSING POINT ROAD RETAIL AREA (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14B.3
Proposed Community Infrastructure

Proposed Community Infrastructure

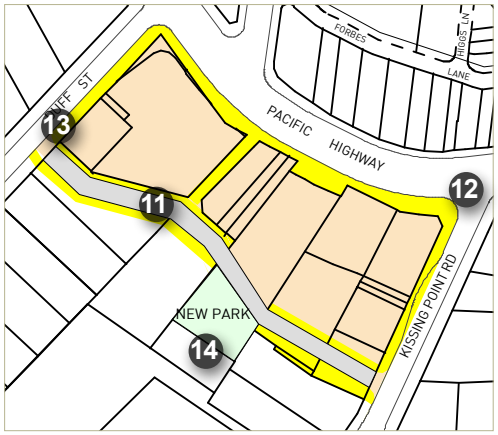


Figure 14B.10-3: Key community infrastructure plan

6 The following development is to be designed to support and compliment the provision of Key Community Infrastructure through the *Ku-ring-gai Contributions Plan 2010*, Voluntary Planning Agreement (VPA) or other delivery mechanism:

11 A new public street connecting Kissing Point Road and Duff Street with two way traffic, on–street parking (one side); and footpaths (both sides). The land is to be dedicated to Council as part of redevelopment. The road will be a minimum of 15 metres wide and will function as an Asset Protection Zone (APZ). In addition the new street will be designed to aid fire fighting and incorporate access specifications identified in *Planning for Bushfire Protection 2006;* and designed to minimise impact on adjoining Blue Gum High Forest.

12 Improvements to Kissing Point Road including a new dedicated left-turn lane from Kissing Point Road to the highway.

13 Embellishment of all the footpath areas within the Urban Precincts on Kissing Point Road, Pacific Higway, Ray Street, Gilroy Road, Eastern Road, Turramurra Avenue and Duff Street. Works will include underground power lines, new street lighting, high quality paving and furniture, and street tree planting.

14 Construction and embellishment of a new urban park and area within land dedicated to Council.

14B.10 PRECINCT T3: KISSING POINT ROAD RETAIL AREA (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14B.4
Setbacks

Setbacks

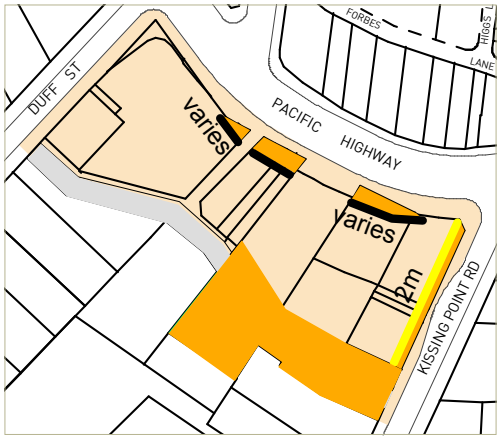


Figure 14B.10-4: Building alignment and setbacks plan.

7 Building setbacks are to be in accordance with *Figure 14B.10-4*, and all buildings in the B2 zone are to have a zero setback to all lot boundaries with the following exceptions:

i) Properties 1A, 1 and 3 Kissing Point Road and 1364 Pacific Highway are to provide a 2m setback to the Kissing Point Road frontage. The land is to be dedicated to Council at no cost.

ii) Property 1A Kissing Point Road is to provide rear setbacks to achieve a minimum 15m wide right-of-way between the northern property boundary of No.7 Kissing Point Road. The land is to be dedicated to Council at no cost.

iii) Property 1380-1388 is to provide rear setbacks to achieve a minimum 15m wide right-of-way at the rear of the property that connects with the existing road way to the west from Duff Street and to the proposed road to the south-east from Kissing Point Road. The land is to be dedicated to Council at no cost.

iv) Property 1380-1388 is to provide an Asset Protection Zone on the site in accordance with *Planning for Bushfire Protection 2006* that does not encroach on Council's reserve.

v) Properties 1364-1408 Pacific Highway are to have front setbacks in accordance with RMS requirements.

14B.10 PRECINCT T3: KISSING POINT ROAD RETAIL AREA (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14B.5
Built Form

Built Form

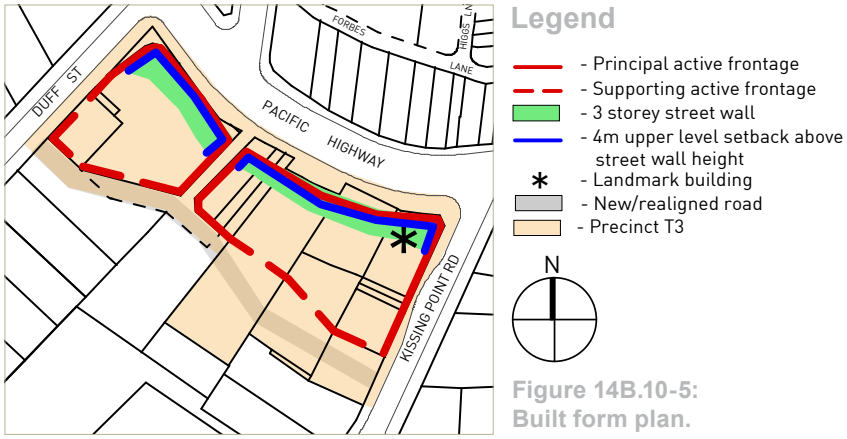


Figure 14B.10-5: Built form plan.

1 Buildings are to be designed in accordance with the control plan, *Figure 14B.10-5,* and as follows:

i) Create consistent street wall of 3 storeys (11.5 metres) built parallel to the street alignments of the Pacific Highway, Kissing Point Road, and Stonex Lane.

ii) Provide a setback of 4m to all levels above the street wall height along the frontages of the Pacific Highway, Kissing Point Road and Stonex Lane.

iii) Provide active street frontages to the Pacific Highway, Kissing Point Road and Stonex Lane. Active street frontages are to be provided on the new street and Duff Street where possible.

iv) Locate taller building elements to the rear and western side of the precinct to minimise impacts on adjoining residents and minimise visibility from areas to the east.

v) Design a distinctive corner building with strong articulation addressing the Pacific Highway and Kissing Point Road intersection.

vi) Design residential development over the commercial podium to minimise the width of residential facades facing the Bushfire Prone Areas.

vii) Provide generous landscaped courtyards on the podium between buildings for residential amenity.

14B.10 PRECINCT T3: KISSING POINT ROAD RETAIL AREA (continued)

Objectives

Refer to
Objectives and Controls
PART 14B.6
Building Entries, Car Parking and Service Access

Controls

Building Entries, Car Parking and Service Areas

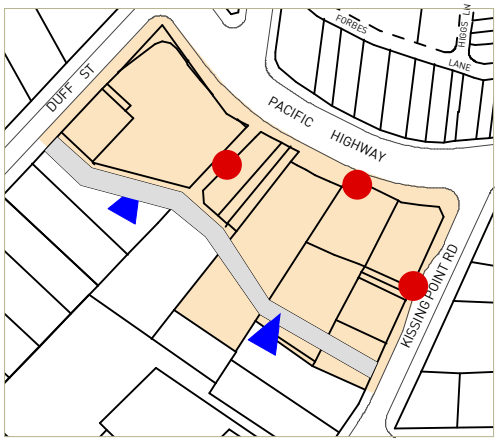


Figure 14B.10-6: Building entries, car parking and service access plan.

1 Provide a new public street at the rear of the site connecting Kissing Point Road and Duff Street.

2 Vehicle access to car parking, service and loading areas is to be provided via the new street.

3 All service access to the new street must be via Kissing Point Road. Access or exit via Duff Street is prohibited.

4 Residential foyers and lobbies are to be located on Stonex Lane, Kissing Point Road and the Pacific Highway.

14B.10 PRECINCT T3: KISSING POINT ROAD RETAIL AREA (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14B.7
Environmental Protection & Bushfire Protection

Environmental Protection and Bushfire Protection

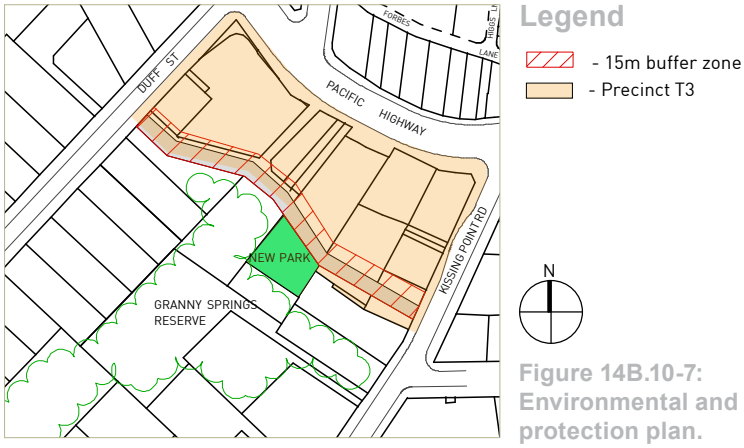


Figure 14B.10-7: Environmental and bushfire protection plan.

Consideration must be given to the following to ensure the development will not result in any disturbance to the adjoining Blue Gum High Forest (BGHF):

5 A minimum 15m buffer from the new building to the adjacent BGHF is to be provided in the form of a new street.

6 New development must not encroach on the adjoining bushland reserve. All new development must be within the existing developed footprint (including roads, car parks and other structures).

7 The new road is to be built on an elevated structure to minimise impacts from earthworks.

8 Consultation with an ecologist and an arborist is required during the design phase of this process to minimise potential impacts on the bushland. Construction and excavation or other disturbances will be limited to the currently disturbed area (e.g. the existing car parks and building platforms).

9 The design of the stormwater system for the development is to minimise impact on the adjacent bushland and riparian lands.

10 Landscaping is to consist of predominantly native plants of the Blue Gum High Forest community (where this does not conflict with fire protection requirements).

Consideration must be given to the following to address bushfire protection, including:

11 Provide an Asset Protection Zone on the site in accordance with *Planning for Bushfire Protection 2006* that does not encroach on Council's reserve.

12 The profile and length of buildings facing the bushland reserve is to be minimised so that the lowest possible surface area is open to the fire front should a fire occur.

14B.10 PRECINCT T3: KISSING POINT ROAD RETAIL AREA (continued)

Controls

13 All building facades facing the hazard require building construction standards to Level 3 as per AS3959. All other facades require building construction standards to Level 2 as per AS3959.

14 Entrance and exit points to underground parking and service areas are to be provided via the new street. Because the area will be subject to ember attack, radiated heat and smoke during a bush fire, appropriate measures are required to ensure safe evacuation during a fire.

15 To minimise the impacts of wind-borne ember attack, landscaped gardens are to be separated from each other by a minimum distance of 5m.

16 Garden beds that run up to a building or are up against buildings, are to be avoided, especially where they run beneath windows. Organic mulch should be avoided, with inorganic mulches such as decorative pebbles preferred.

17 Tree plantings should not link with those trees within the reserve nor should they form rows leading up to buildings. 'Fire retardant' species should be considered for inclusion.

Note: 'Fire retardant' species do not generally retard a fire, rather, they take longer to burn.

18 A dedicated water supply for fighting fires is required. The tanks are to be minimum capacity of 10,000 litres and each building is to have a separate tank. Installation of tanks at ground level or below is preferred however they may be installed on upper levels of building. Signage indicating the location of the outlets should be prominent.

19 A deluge system designed to spray water over of the building façade facing the bushland reserve is required.

20 Air conditioning systems are to be designed to be automatically switched off in a bushfire emergency, or alternatively, have smoke scrubbers fitted.

21 All gas, water and electricity services are to be sited below ground. Where they must be above ground then they are to be sited on the opposite side of the buildings to the hazard.

14B.11 PRECINCT T4: HILLVIEW AREA

Objectives

Refer to
Objectives and Controls
PART 14B.1
Urban Precincts

Controls

Planned Future Character

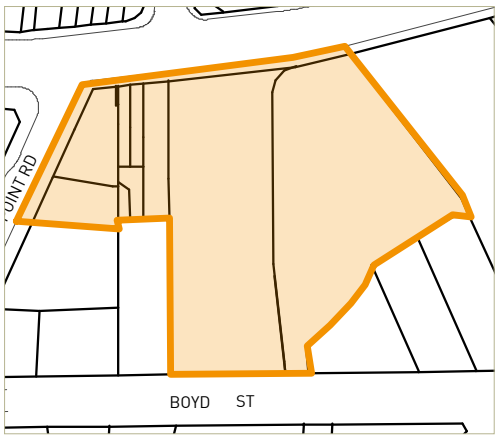


Figure 14B.11-1: Precinct T4

This precinct is located on the Pacific Highway between Kissing Point Road and the north shore railway. The precinct comprises commercial properties and the Hillview Estate.

1 Development is to be designed to support and enhance the planned future character as following:

i) This precinct forms part of the Hillview Conservation Area and contains significant buildings, landscape and streetscape items that will be protected and enhanced (refer to Part 20 of this DCP for HCA controls).

ii) Existing buildings will be adaptively re-used and new buildings will be designed and located to respect the curtilage and scale of heritage items.

iii) The precinct will provide a mix of commercial and residential uses to activate the area (refer *Schedule 1 of KLEP (Local Centres) 2012.*)

14B.11 PRECINCT T4: HILLVIEW AREA (continued)

Objectives

Refer to
Objectives and Controls
PART 14B.2
Public Domain and Pedestrian Access

Controls

Public Domain and Pedestrian Access

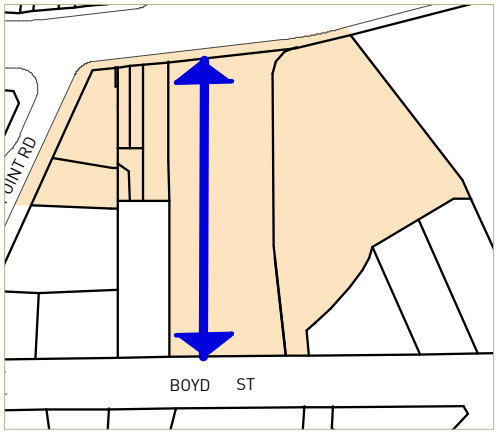


Figure 14B.11-2: Public domain and pedestrian access plan.

1 Provide a new pedestrian accessway linking Pacific Highway and Boyd Street following the existing driveway alignment.

Refer to
Objectives and Controls
PART 14B.3
Proposed Community Infrastructure

Proposed Community Infrastructure

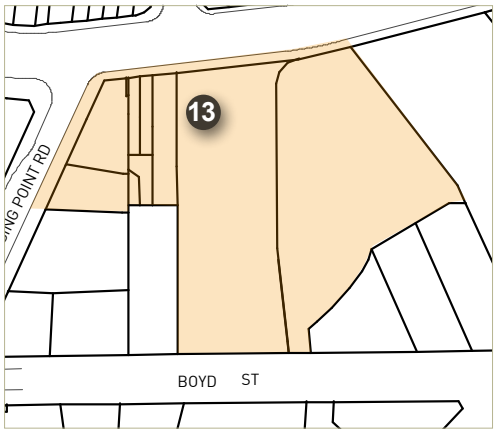


Figure 14B.11-3: Key community infrastructure plan

2 The following development is to be designed to support and compliment the provision of Key Community Infrastructure through the *Ku-ring-gai Contributions Plan 2010*, Voluntary Planning Agreement (VPA), or other delivery mechanism:

13 Embellishment of all the footpath areas within the Urban Precincts on Kissing Point Road, Pacific Higway, Ray Street, Gilroy Road, Eastern Road, Turramurra Avenue and Duff Street. Works will include underground power lines, new street lighting, high quality paving and furniture, and street tree planting.

14B.11 PRECINCT T4: HILLVIEW AREA (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14B.4
Setbacks

Setbacks

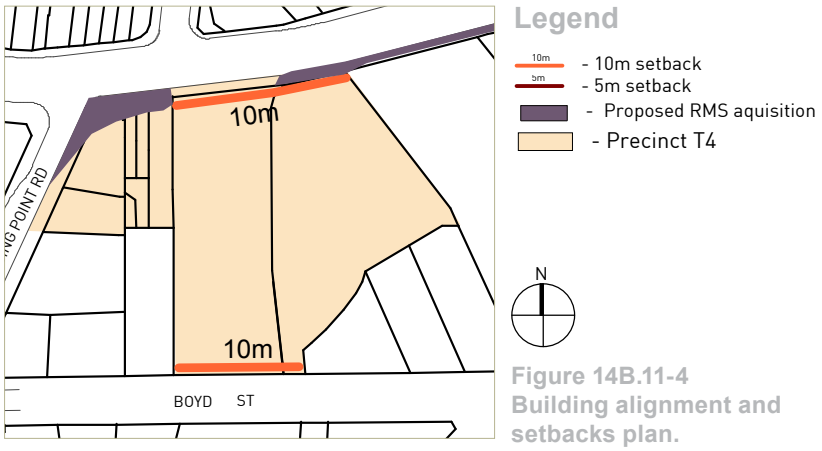


Figure 14B.11-4
Building alignment and setbacks plan.

3 Building setbacks are to be in accordance with *Figure 14B.11-4*. The following setbacks are applicable:

i) The properties 1340 and 1344 Pacific Highway are to provide a 10m minimum front setback from the Pacific Highway and a minimum 10m setback from Boyd Street.

Refer to
Objectives and Controls
PART 14B.5
Built Form

Built Form

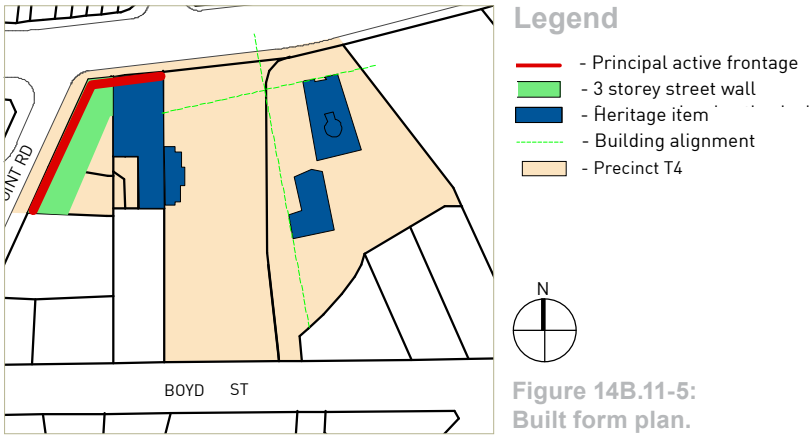


Figure 14B.11-5:
Built form plan.

1 Buildings are to be designed in accordance with the control plan, *Figure 14B.11-5,* and as follows:

i) Create a consistent street wall of 3 storeys (11.5m) built parallel to the street alignment on properties 2 Kissing Point Road and 1356-1362 Pacific Highway.

ii) Provide active street frontages to the Pacific Highway and Kissing Point Road.

iii) Within the Hillview estate (properties 1340 and 1344 Pacific Highway) are to be aligned with the front facade of the original cottage building and the western facade of the original guesthouse building as shown in *Figure 14B.4-1*.

14B.11 PRECINCT T4: HILLVIEW AREA (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14B.6
Building Entries, Car Parking and Service Access

Building Entries, Car Parking and Service Areas

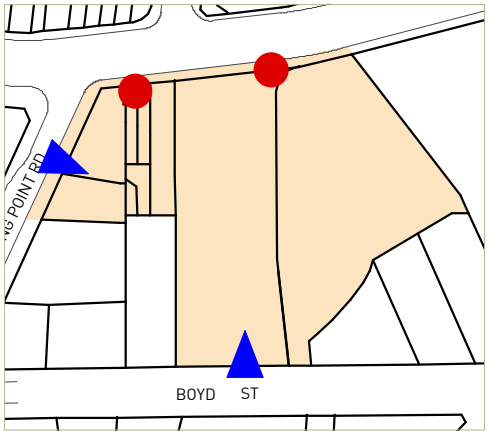


Figure 14B.11-6: Building entries, car parking and service access plan.

1 Vehicle access to car parking, service and loading is to be provided from Boyd Street and Kissing Point Road.

2 Residential and commercial foyers and lobbies may be located off Pacific Highway, Kissing Point Road or Boyd Street.

PART 14C

PYMBLE LOCAL CENTRE

14C Pymble Local Centre

14C.1 Pymble Local Centre Context

14C.2 Public Domain and Pedestrian Access

14C.3 Proposed Community Infrastructure

14C.4 Setbacks

14C.5 Built Form

14C.6 Building Entries, Car Parking and Service Access

14C.7 Precinct 1: Grandview Street and Pacific Highway Commercial Area

14C.1 PYMBLE LOCAL CENTRE CONTEXT

Further controls that may apply		
SECTION B **PART 7 -** Residential Flat Building **PART 8 -** Mixed Use Development		

Objectives

1 *To create vibrant local centres with distinctive and memorable character.*

2 *To enhance the character of Grandview Street as the main local shopping street for Pymble.*

3 *To provide opportunities for cafes and restaurants to be located on Park Crescent overlooking Robert Pymble Park.*

4 *To protect and enhance Robert Pymble Park for passive recreation uses.*

5 *To encourage restaurants, cafes, outdoor dining and offices fronting on to rear lanes to contribute to increased activity and passive surveillance.*

6 *To provide opportunities for new supermarkets to support and anchor the local centre.*

7 *To promote ease of circulation and connectivity between the railway station and the local centre.*

Controls

1 All development within the Pymble local centre, as outlined in *Figure 14C.1-1*, is to be designed to support and enhance the planned future character of the centre. This is to be done through the general requirements and Precinct specific requirements as stipulated in this DCP.

Note: Refer to Ku-ring-gai's *Public Domain Plan 2010, Open Space Aquisition Strategy 2007* and the *Ku-ring-gai Contributions Plan 2010* on Councils website: *http://www.kmc.nsw.gov.au/Home*.

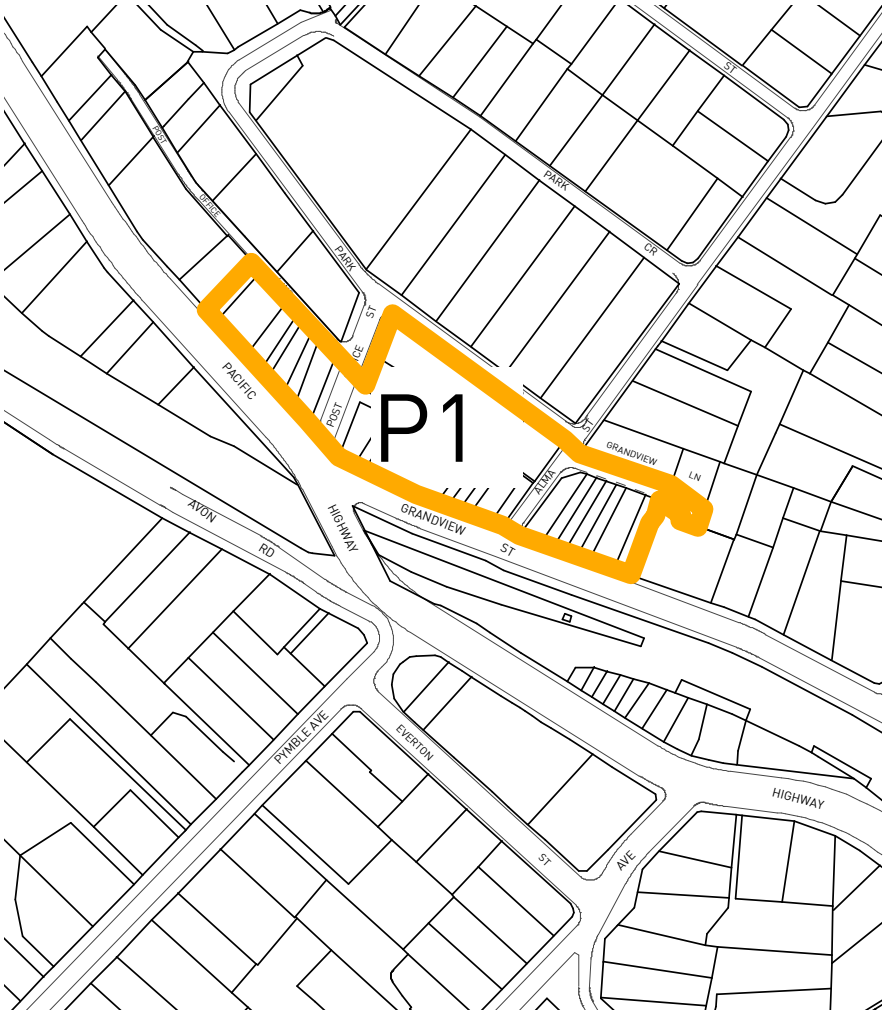


Figure 14C.1-1:
Urban precincts plan.

Legend

Core Urban Precinct (B2 and B4 zones)

14C.2 PUBLIC DOMAIN AND PEDESTRIAN ACCESS

Objectives

1 *To increase the pedestrian permeability of the local centre.*

2 *To improve pedestrian amenity by providing continuous sun and rain protection to footpath areas.*

3 *To provide a consistently high quality and visually pleasing streetscape environment.*

4 *To improve and enhance accessibility to the commercial precinct particularly for pedestrians, pram walkers, people with disabilities, cyclists and public transport users.*

5 *To improve commercial activity in the local centre by promoting street-level activity.*

6 *To facilitate opportunities for outdoor dining in quiet locations away from the highway.*

7 *To improve the saftey and passive surveillance of the public domain by encouraging street-level activity.*

8 *To promote mid-block and through-site links as a way of improving permeabilty of the local centre.*

Controls

1 All development within the Pymble local centre, as outlined in *Figure 14C.2-1*, is to be designed to support and enhance the planned future character of the centre. This is to be done through the Public Domain and Pedestrian Access requirements for each Precinct as stipulated in this DCP.

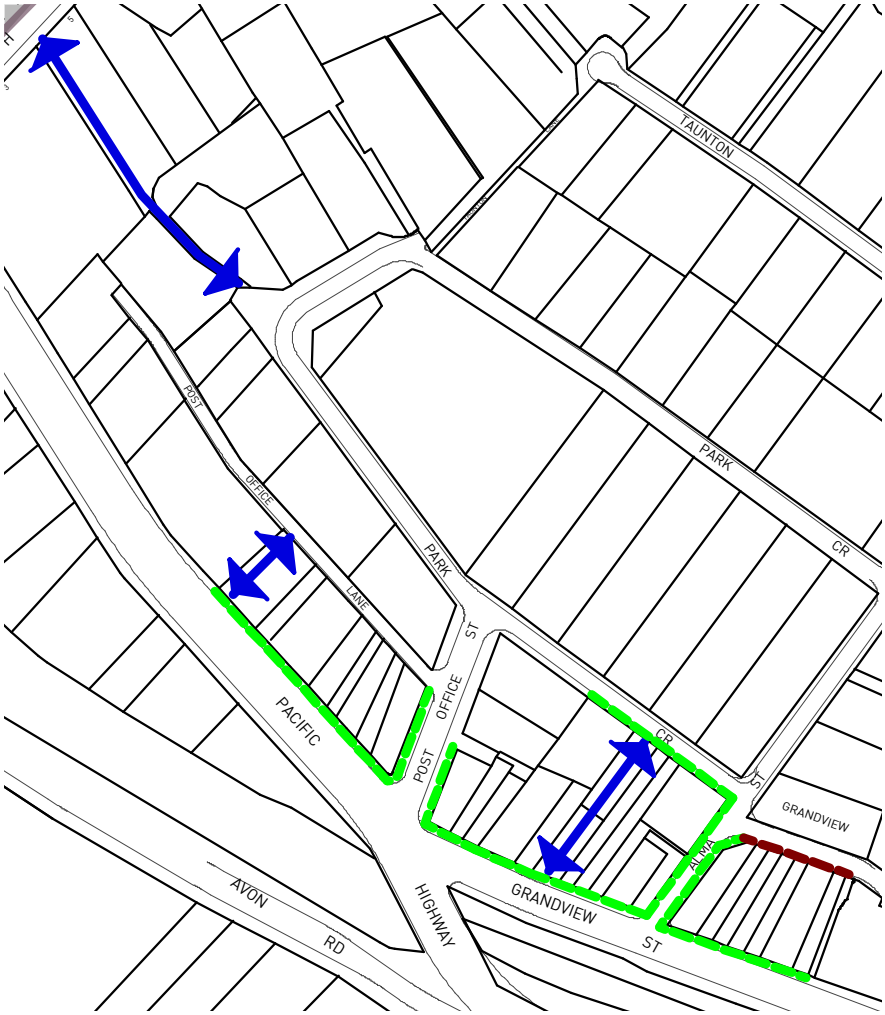


Figure 14C.2-1:
Public domain and pedestrian access plan.

Legend

- Awnings
- Awnings where possible
- Pedestrian through site link

14C.3 PROPOSED COMMUNITY INFRASTRUCTURE

Objectives

1 *To be consistent with the objectives and strategies of Council's* Town Centres Public Domain Plan 2010.

2 *To implement the work programs within the* Ku-ring-gai Contributions Plan 2010.

3 *To identify locations for new local parks in accordance with the requirements of Council's* Open Space Acquisition Strategy 2007.

4 *To enhance service and infrastructure provisions for existing and planned residential communities.*

Controls

1 All development within the Pymble local centre is to be designed to support the planned future character of the centre through the provision of Key Community Infrastructure as stated in the *Ku-ring-gai Contributions Plan 2010* and outlined in *Figure 14C.3-1*. This is to be done through the Proposed Community Infrastructure requirements for each Precinct as stipulated in this DCP.

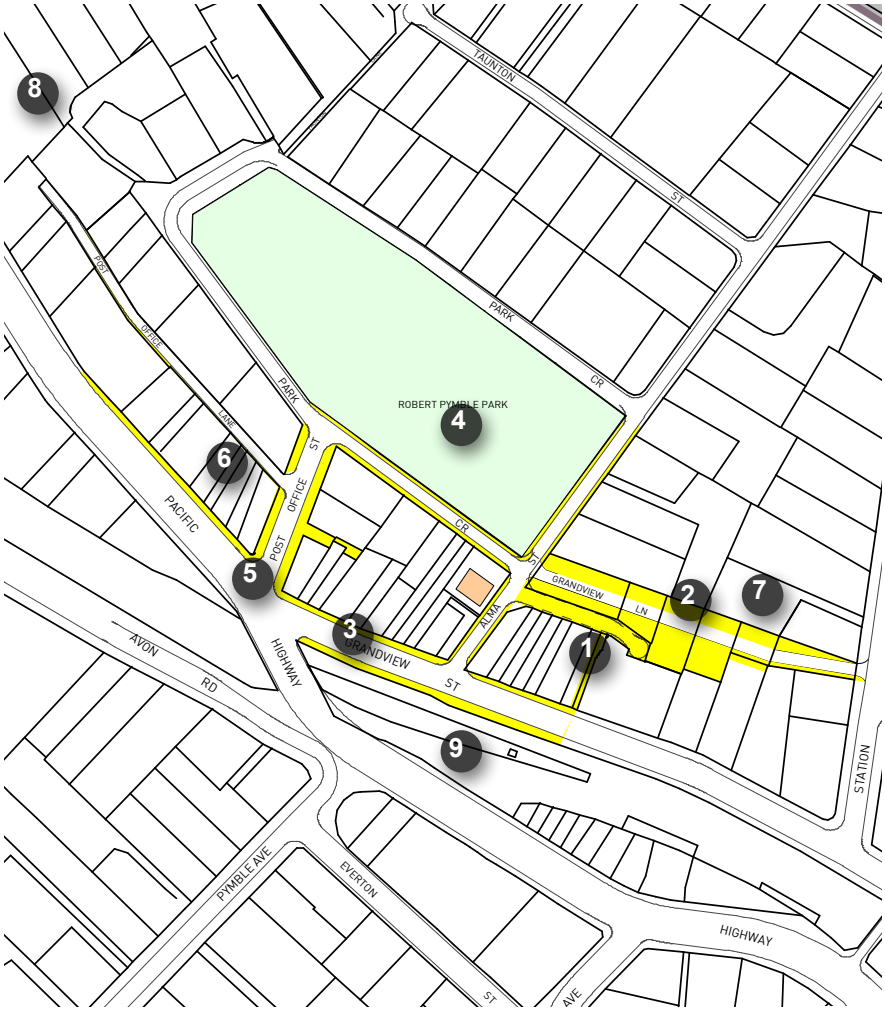


Figure 14C.3-1:
Community infrastructure plan.

Legend

1 - Proposed Community Infrastructure

- New community facility
- Footpath embellishment
- New or existing park to be upgraded

14C.3 PROPOSED COMMUNITY INFRASTRUCTURE (continued)

Controls

2 The following development is to be designed to support and compliment the provision of Key Community Infrastructure through the *Ku-ring-gai Contributions Plan 2010*, Voluntary Planning Agreement (VPA) or other mechanism (refer to individual precinct 14C.7):

1. Upgrade works to the existing pedestrian access way from Grandview Lane to Grandview Street.
2. Extension of Grandview Lane from Alma Street through to Station Street and increased off-street parking.
3. Road modification works to Grandview Street, between Pacific Highway and Alma Street, for one way traffic and increased on street parking.
4. Improvement works to Robert Pymble Park.
5. Embellishment of Grandview Street, Pacific Highway, Post Office Street, Post Office Lane, Park Crescent and Alma Street including underground power lines, new lighting, high quality paving and furniture.
6. Construction of a new pedestrian access way linking Post Office Lane with the Pacific Highway.
7. Construction of a new pedestrian access way linking Alma Street and Station Street.
8. Construction of a new pedestrian access way linking Telegraph Road and Park Crescent (land acquired by dedication refer 14C.5).
9. Improvements to the existing rail underpass connecting Grandview Street with Avon Road.

14C.4 SETBACKS

Objectives

1 *To create cohesive streetscapes.*

2 *To require building setbacks in appropriate locations to provide opportunities for street tree plantings or footpath widening.*

3 *To require building setbacks in appropriate locations to allow widening of roads, lanes and streets.*

4 *To allow for visual and acoustic privacy between the centres and adjoining residential zones.*

Controls

1 All development within the Pymble local centre, as outlined in *Figure 14C.4-1*, is to be designed to support and enhance the planned future character of the centre. This is to be done through the Setback requirements for each Precinct as stipulated in this DCP.

Note: In all cases, where land dedication is required for a public purpose, such as a road or walkway, the affected land is to be excluded from deep soil calculations and included in setback requirements.

2 All properties within the R4 zone will have a 10-12 metre front setback (refer to Part 7 of this DCP) with the following exceptions:

i) Properties 6-14 Park Crescent are to provide a 6 metre front setback.

ii) Deep soil landscaping area applicable to the 6-14 Park Crescent is 40% of the site.

iii) Properties 1035 -1083 Pacific Highway are to provide a 6 metre front setback.



Legend

- 10m setback
- 6m setback
- 3m setback
- 2m setback
- Land dedication

Figure 14C.4-1:
Building setbacks plan.

14C.5 BUILT FORM

Objectives

1 *To maintain a consistent street wall height with reference to existing buildings along the Pacific Highway.*

2 *To encourage new infill development along the Pacific Highway which respects the existing characteristics of the street including the fine-grained character of the original subdivision, setback, height, and rhythm of facades, sympathetic to the materials and detailing of the earlier facades.*

3 *To ensure building facades are well designed, articulated and address public streets, public spaces, footpaths, parks and reserves.*

4 *To provide active frontages to all streets, lanes and public open spaces.*

5 *To minimise the visual bulk and scale of new buildings when viewed from public areas.*

6 *To enhance the quality and character of the public domain in the commercial precincts.*

7 *To ensure building design responds to the sloping topography of the area.*

8 *Toensure that buildings are designed to interact and engage with pedestrians at the street level.*

9 *To encourage design excellence in all new development.*

Controls

1 All development within the Pymble local centre, as outlined in *Figure 14C.5-1*, is to be designed to support and enhance the planned future character of the centre. This is to be done through the Built Form requirements for each Precinct as stipulated in this DCP.



Figure 14C.5-1:
Built form plan.

Legend

- Principal active frontage
- Supporting active frontage
- 3 storey street wall
- Landmark building
- Heritage item
- Character item

14C.6 BUILDING ENTRIES, CAR PARKING AND SERVICE ACCESS

Objectives

1 *To locate building foyers and lobbies in areas of high pedestrian activity.*

2 *To activate the main commercial streets.*

3 *To minimise pedestrian and vehicle conflicts.*

4 *To improve vehicle access and circulation and enhance associated services and infrastructure.*

5 *To ensure vehicular access points do not visually detract from the streetscape.*

6 *To promote pedestrian saftey and ease of movement through the local centre.*

Controls

1 All development within the Pymble local centre, as outlined in *Figure 14C.6-1*, is to be designed to support and enhance the planned future character of the centre. This is to be done through the Building Entries, Car Parking and Service Access requirements for each Precinct as stipulated in this DCP.

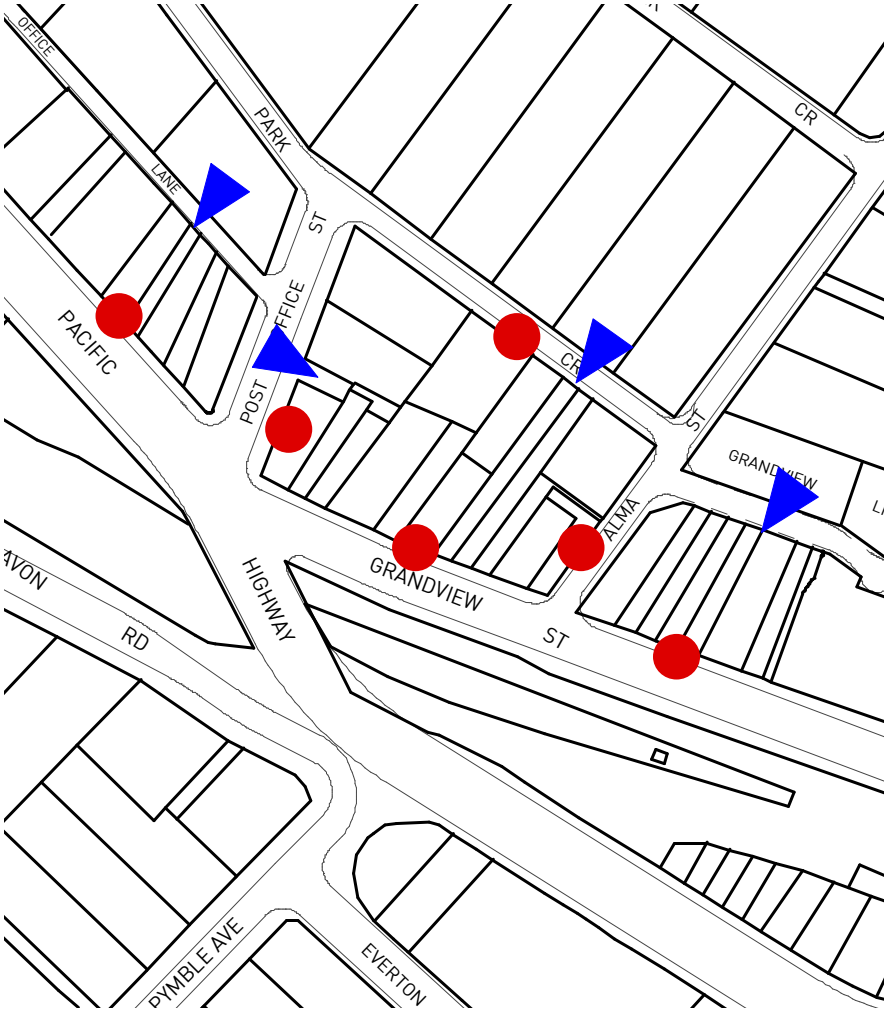


Figure 14C.6-1:
Building entries, car parking and service access plan.

Legend

- Vehicular access to site
- Pedestrian access to site

14C.7 PRECINCT P1: GRANDVIEW STREET AND PACIFIC HIGHWAY COMMERCIAL AREA

Controls

Refer to
Objectives and Controls
PART 14C.1
Urban Precincts

Planned Future Character



Figure 14C.7-1
Precinct P1

The Pymble commercial precinct is characterised by strip retail fronting Grandview Street and the Pacific Highway. The area currently comprises a mix of small retail and business uses. Over time the commercial area of Pymble has declined due to the fragmentation caused by the Highway and rail corridor. Today what remains is the main retail precinct on Grandview Street with isolated commercial "islands" on the Pacific Highway.

1 Development is to be designed to support and enhance the planned future character for the precincts. The precincts are listed below and illustrated in *Figure 14C.7-1*.

i) Grandview Street is planned to remain the central focus of Pymble, supported by the other smaller areas to the west and south. There may be a modest expansion of the retail area north-eastwards towards Park Crescent to create a retail precinct with cafes and restaurants offering outdoor dining with a northerly aspect and views over Robert Pymble Park. Given the unique location it is envisaged the location will attract people from a broad area and provide a renewed focus for the Pymble Centre.

ii) Grandview Street will be narrowed to become a one-way carriageway with new angle parking and street tree planting. Grandview Lane will be extended through to Station Street (through land acquisition) to allow pedestrians, cycles and traffic to circulate around the block.

14C.7 PRECINCT P1: GRANDVIEW STREET AND PACIFIC HWY COMMERCIAL AREA (continued)

Controls

Refer to
Objectives and Controls
PART 14C.2
Public Domain and Pedestrian Access

Public Domain and Pedestrian Access

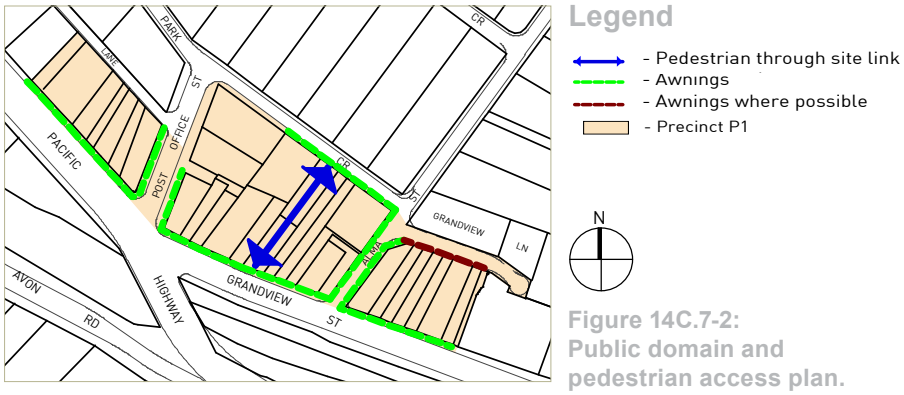


Figure 14C.7-2: Public domain and pedestrian access plan.

2 Provide a new pedestrian walk way connecting the Pacific Highway with Post Office Lane.

3 Provide an internal access way linking Grandview Street with Park Crescent.

4 Provide continuous awnings to Pacific Highway, Post Office Street, Grandview Street, Alma Street, Park Crescent.

5 Provide awnings to Grandview Lane where ever possible.

6 Provide new or wider footpaths to Alma Street, Park Crescent, Post Office Lane and Grandview Lane.

7 Provide a public pedestrian access way between Telegraph Road and Park Crescent within the standard setback areas. Land is to be dedicated to Council at no cost. The walkway area may be excluded from deep soil landscaping calculations and included within the setback area.

14C.7 PRECINCT P1: GRANDVIEW STREET AND PACIFIC HWY COMMERCIAL AREA (continued)

Controls

Refer to
Objectives and Controls
PART 14C.3
Proposed Community Infrastructure

Proposed Community Infrastructure

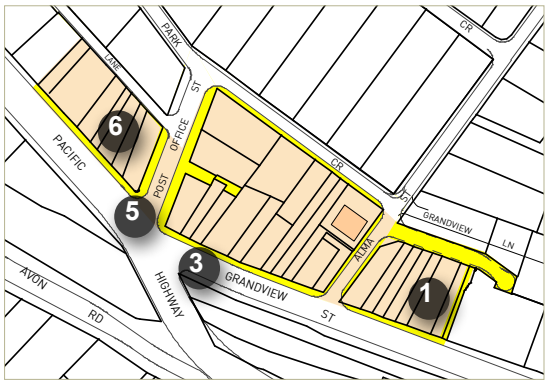


Figure 14C.7-3
Key community infrastructure plan

8 The following development is to be designed to support and compliment the provision of Key Community Infrastructure through the *Ku-ring-gai Contributions Plan 2010*, Voluntary Planning Agreement (VPA) or other mechanism:

1. Upgrade works to the existing pedestrian access way from Grandview Lane to Grandview Street.
3. Road modification works to Grandview Street, between Pacific Highway and Alma Street, for one way traffic and increased on street parking.
5. Embellishment of Grandview Street, Pacific Highway, Post Office Street, Post Office Lane, Park Crescent and Alma Street including underground power lines, new lighting, high quality paving and furniture.
6. Construction of a new pedestrian access way linking Post Office Lane with the Pacific Highway.

14C.7 PRECINCT P1: GRANDVIEW STREET AND PACIFIC HWY COMMERCIAL AREA (continued)

Controls

Refer to
Objectives and Controls
PART 14C.4
Setbacks

Setbacks



Figure 14C.7-4 Building alignment and setbacks plan.

9 Building setbacks are to be in accordance with *Figure 14C.7-4*, and as follows:all buildings in the B2 zone are to have a zero setback to all lot boundaries with the following exceptions:

i) 2 metre setback to Park Crescent, applying to the properties Nos.2-4 Park Crescent, and Nos.91-93 Grandview Street, for wider footpaths. Land is to be dedicated to Council at no cost.

ii) 2 metre rear setback to Post Office Lane applying to the properties Nos.987-1017 Pacific Highway to allow for pedestrian footpaths.

iii) 3 metre side setback applying to the property No.1017 Pacific Highway for a new pedestrian accessway. Land is to be dedicated to Council at no cost.

iv) 10 metre setback from the rear boundary of 4A Park Crescent applying to the properties Nos.103-107 Grandview Street to provide for adequate building separation and for improved vehicle and service access.

v) 3 metre setback from the side (south-east) boundary of 4A Park Crescent applying to the properties Nos.99-101 Grandview Street and No.4 Park Crescent to allow for screen planting to protect the heritage setting of the property and the amenity of residents.

14C.7 PRECINCT P1: GRANDVIEW STREET AND PACIFIC HWY COMMERCIAL AREA (continued)

Controls

Refer to
Objectives and Controls
PART 14C.5
Built Form

Built Form

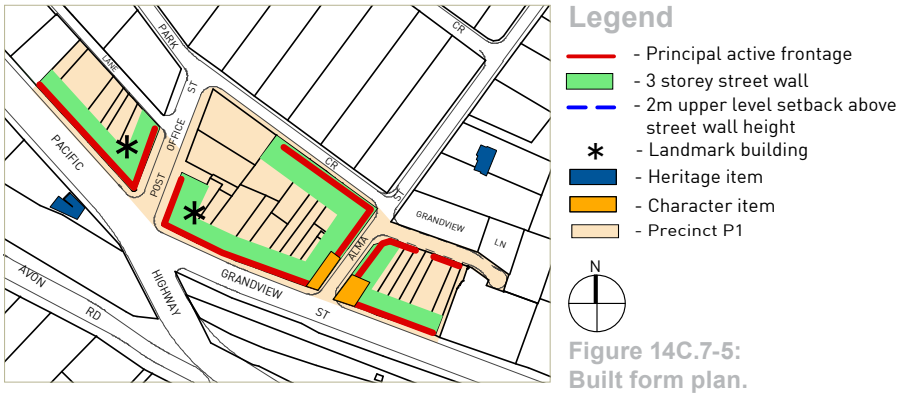


Figure 14C.7-5: Built form plan.

10 Buildings are to be designed in accordance with the built form control plan, *Figure 14C.7-5,* and as follows:

i) Create a consistent 3 storey (11.5 metres) street wall that is built parallel to the street alignment of Grandview Street, the Pacific Highway, Alma Street, Grandview Lane, Post Office Street and Park Crescent.

ii) Design highly articulated buildings that step down Grandview Street to respond to the existing narrow lot pattern and topography.

iii) Provide a landmark corner building with distinct articulation to address the Pacific Highway and Grandview Street intersection and the intersection of Post Office Street and the Pacific Highway.

iv) Buildings along Park Crescent are to be designed with a visually heavy base.

v) Provide active street frontages to Pacific highway, Post Office Street, Park Crescent, Grandview Street and Alma Street.

vi) Provide active street frontages to Grandview Lane.

vii) Retain the facades of the following character buildings fronting Grandview Street and Alma Street - no.85 and no.81 Grandview Street.

14C.7 PRECINCT P1: GRANDVIEW STREET AND PACIFIC HWY COMMERCIAL AREA (continued)

Controls

Refer to
Objectives and Controls
PART 14C.6
Building Entries, Car Parking and Service Access

Building Entries, Car Parking and Service Access

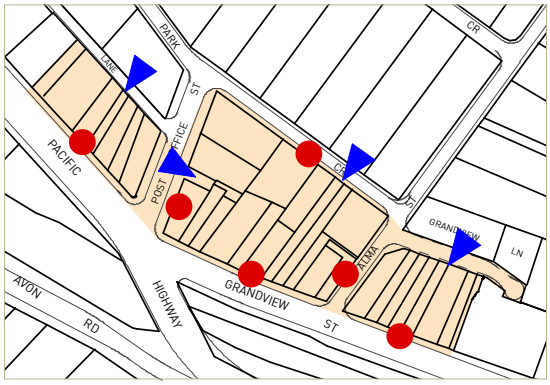


Figure 14C.7-6
Building entries, carpark and service access plan.

11 All vehicle and service access is to be provided from Post Office Lane, Park Crescent or Grandview Lane.

12 Vehicle or service access will not be permitted from Grandview Street or Alma Street.

13 No vehicle or service access is to be provided from the Pacific Highway where alternative access is available.

14 Residential and commercial foyers and lobbies are to be located on Grandview Street, Park Crescent, Post Office Street, Pacific Highway and Alma Street.

14D Gordon Local Centre

14D.1 Gordon Local Centre Context

14D.2 Public Domain and Pedestrian Access

14D.3 Proposed Community Infrastructure

14D.4 Setbacks

14D.5 Built Form

14D.6 Building Entries, Car Parking and Service Access

14D.7 Precinct G1: St Johns Avenue and Henry Street

14D.8 Precinct G2: Pacific Highway Retail

14D.9 Precinct G3: Civic Hub

14D.10 Precinct G4: Mixed Use

14D.11 Precinct G5: Buildings in R4 Zones

14D.1 GORDON LOCAL CENTRE CONTEXT

Further controls that may apply		
SECTION A **Part 7 -** Residential Flat Buildings **Part 8 -** Mixed Use Development	**SECTION B** **Part 20 -** Heritage Items and Heritage Conservation Areas	

Objectives

1 *To create distinct commercial precincts that provide a range of services, facilities and experiences.*

2 *To create vibrant local centres with distinctive and memorable characters.*

3 *To enhance the role of Gordon as the civic and administrative heart of the Ku-ring-gai LGA by providing a range of new civic, community and cultural facilities.*

4 *To enhance and develop the role of Gordon as the primary retail and commercial centre for Ku-ring-gai.*

5 *To protect and enhance the distinctive scale and character of St Johns Avenue, Gordon.*

6 *To provide opportunities for new speciality retail, cafes and restaurants to be located away from the highway.*

7 *To encourage restaurants, cafes, outdoor dining and offices fronting on to rear lanes to contribute to increased activity and passive surveillance.*

8 *To create a new urban park on Wade Lane as a community focal point for Gordon.*

9 *To promote ease of circulation and connectivity between the railway station and the local centre.*

Controls

Urban Precincts

1 All development within the Gordon local centre, as outlined in *Figure 14D.1-1*, is to be designed to support and enhance the planned future character of the centre. This is to be done through the general requirements and Precinct specific requirements as stipulated in this DCP.

Note: Refer to Ku-ring-gai's *Public Domain Plan 2010, Open Space Aquisition Strategy 2007* and the *Ku-ring-gai Contributions Plan 2010* on Councils website: *http://www.kmc.nsw.gov.au/Home*.

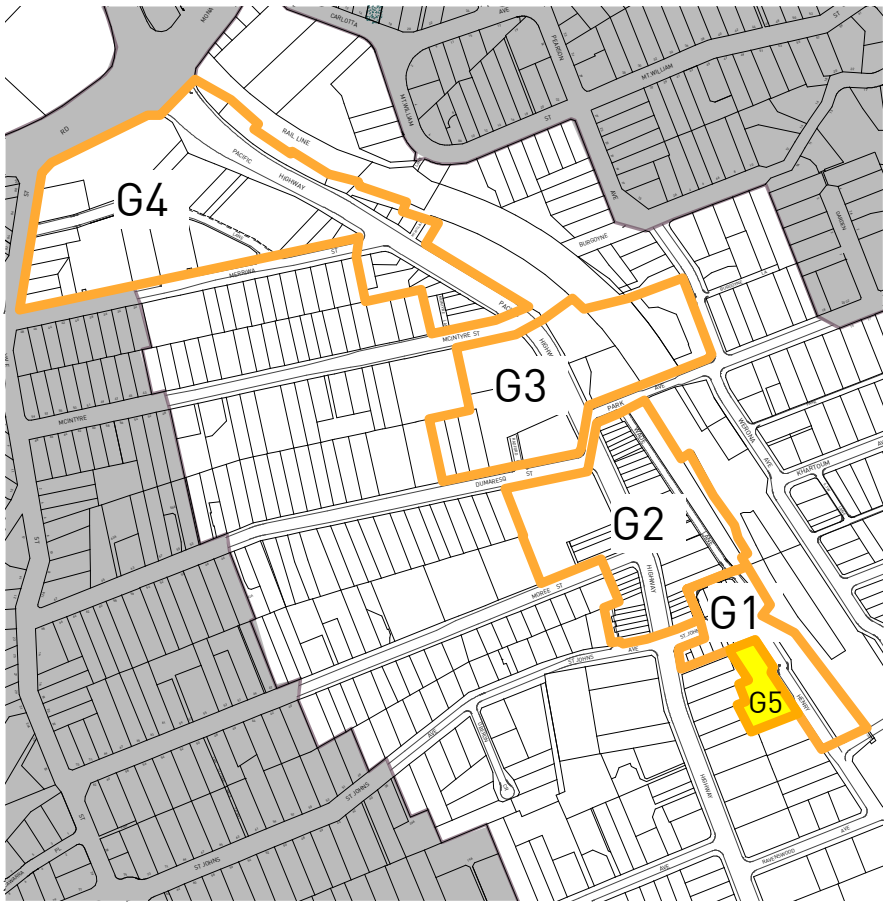


Figure 14D.1-1:
Urban precincts plan.

Legend

Core Urban Precinct (B2 and B4 zones)
- Fringe Urban Precinct (R4 zone)

14D.2 PUBLIC DOMAIN AND PEDESTRIAN ACCESS

Objectives

1 *To increase the pedestrian permeability of the local centre.*

2 *To improve pedestrian amenity by providing continuous sun and rain protection to footpath areas.*

3 *To provide a consistenly high quality and visually pleasing streetscape environment.*

4 *To improve and enhance accessibility to the commercial precinct particularly for pedestrians, pram walkers, people with disabilities, cyclists and public transport users.*

5 *To improve commercial activity in the local centre by promoting street-level activity.*

6 *To facilitate opportunities for outdoor dining in quiet locations away from the highway.*

7 *To improve the saftey and passive surveillance of the public domain by encouraging street level activity.*

8 *To improve the overall pedestrian experience in the local centre, thereby promoting active living.*

9 *To promote mid-block and through-site links as a way of improving permeability of the local centre.*

Controls

1 All development within the Gordon local centre, as outlined in *Figure 14D.2-1*, is to be designed to support and enhance the planned future character of the centre. This is to be done through the Public Domain and Pedestrian Access requirements for each Precinct as stipulated in this DCP.



Figure 14D.2-1:
Public domain and pedestrian access plan.

Legend

- Pedestrian through site link
- Entry plaza/forecourt
- Awnings
- Awnings where possible
- Potential relocation of laneway to enable lot consolidation

14D.3 PROPOSED COMMUNITY INFRASTRUCTURE

Objectives

1 *To be consistent with the objectives and strategies of Council's* Town Centre Public Domain Plan 2010.

2 *To implement the work programs with the* Ku-ring-gai Contributions Plan 2010.

3 *To identify locations for new local parks in accordance with the requirements of Council's* Open Space Acquisition Strategy 2007.

4 *To enhance service and infrastructure provisions for existing and planned residential communities.*

Controls

1 All development within the Gordon local centre is to be designed to support the planned future character of the centre through the provision of Key Community Infrastructure as stated in the *Ku-ring-gai Contributions Plan 2010* and outlined in *Figure 14D.3-1*. This is to be done through the Proposed Community Infrastructure requirements for each Precinct as stipulated in this DCP.

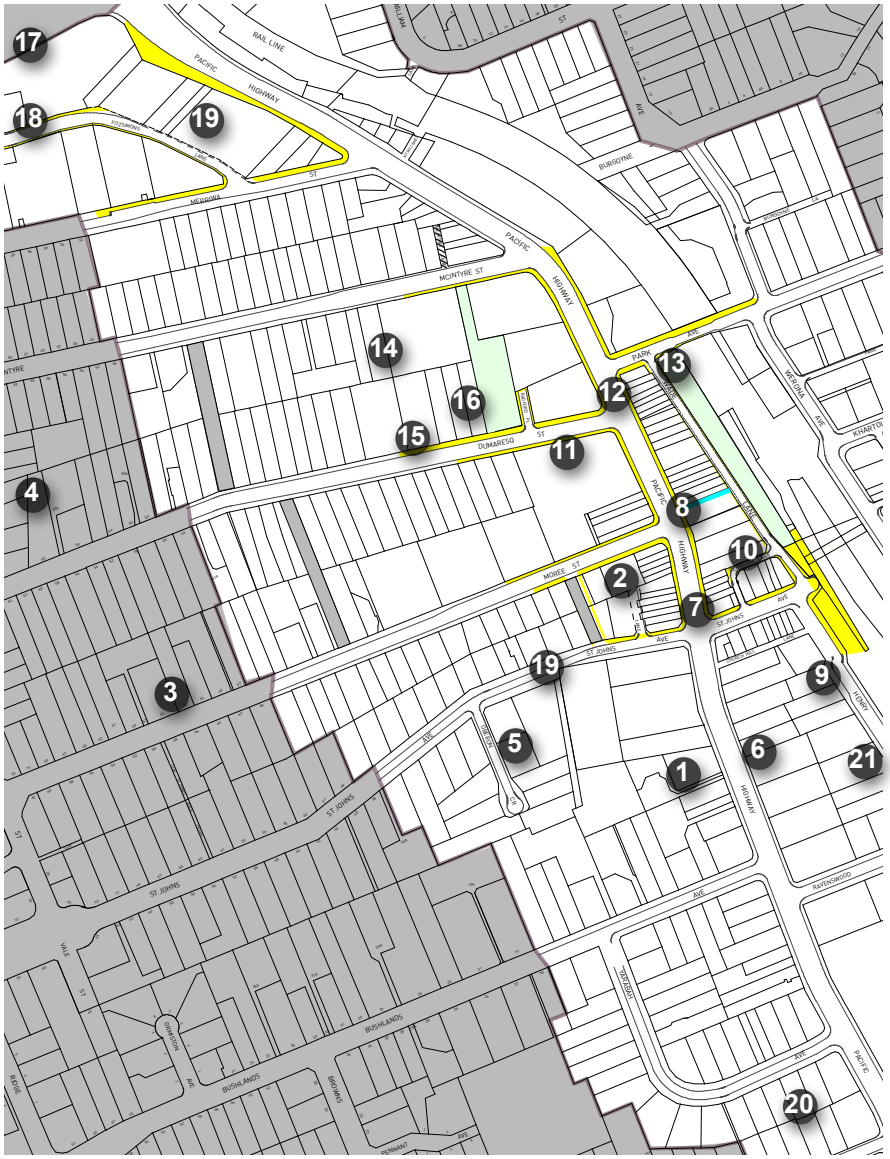


Figure 14D.3-1:
Community infrastructure plan

Legend

- Footpath embellishment
- New or existing park to be upgraded
- New/realigned road
- 1 - Proposed Community Infrastructure
- Potential relocation of laneway to enable lot consolidation

14D.3 PROPOSED COMMUNITY INFRASTRUCTURE (continued)

Objectives **Controls**

2 The following development is to be designed to support and compliment the provision of Key Community Infrastructure through the *Ku-ring-gai Contributions Plan 2010* or by Voluntary Planning Agreement (VPA) or other delivery mechanism (refer to individual precincts 14D.7 to 14D.11):

1. Modification to traffic signals to suit one way flow at the intersection of Pacific Highway and St Johns Avenue.
2. New pedestrian activated signals on the Pacific Highway just north of Moree Street intersection.
3. New 13 metre wide street, two way traffic, between Dumaresq Street and Moree Street.
4. New 13 metre wide street, two way traffic, between Dumaresq Street and McIntyre Street.
5. New 15 metre wide street, two way traffic, with on-street parking between Moree Street and St Johns Avenue.
6. One way traffic and other modifications to St Johns Avenue east side.
7. Upgrade works to existing Council owned walkway (widened through development setbacks).
8. Reconstruction of Wade Lane as one way street (south bound) with on-street parking and public parking under.
9. Embellishment works for new railway square at St Johns Avenue and Wade Lane intersection.
10. Demolition of existing multi-storey car park and construction of a new urban park on Council owned land along Wade Lane.
11. Modification of the traffic signals at the intersection of Pacific Highway and Dumaresq Street and removal the traffic signals at the intersection Pacific Highway and Park Street to improve traffic flow.
12. Conversion of Park Avenue to one way traffic (east bound) and reduction of the road width to improve pedestrian conditions.
13. Modification to the railway bridge on Park Avenue to provide wider footpaths .
14. Improvements to the existing pedestrian way between Dumaresq Street and McIntyre Street.
15. Construction of a new urban park on Council owned land in Dumaresq Street.
16. Construction of a multi-purpose community facility.
17. Provision of a new bus stop on the highway servicing the strategic bus corridor link to Macquarie Centre.
18. Reconstruction of Fitzsimmons Lane to be a 15 metre wide right-of-way with footpaths both sides and on-street parking.
19. Embellishment of the footpath areas throughout the area including underground power lines, new lighting, high quality paving and furniture and street tree planting.
20. Installation of new traffic lights at intersection of Ravenswood Avenue and Pacific Highway
21. Construction of a new Gordon bus interchange, incorporating taxi stands, a kiss-and-ride area, and an underground commuter car park.

14D.4 SETBACKS

Objectives

1 *To create cohesive streetscapes.*

2 *To require building setbacks in appropriate locations to provide opportunities for street tree plantings or footpath widening.*

3 *To require building setbacks in appropriate locations to allow widening of roads, lanes and streets.*

4 *To allow for visual and acoustic privacy between the centres and adjoining residential zones.*

Controls

1 All development within the Gordon local centre, as outlined in *Figure 14D.4-1,* is to be designed to support and enhance the planned future character of the centre. This is to be done through the Setback requirements for each Precinct as stipulated in this DCP.

Note: In all cases, where land dedication is required for a public purpose, such as a road or walkway, the affected land is to be excluded from deep soil calculations and included in setback requirements.

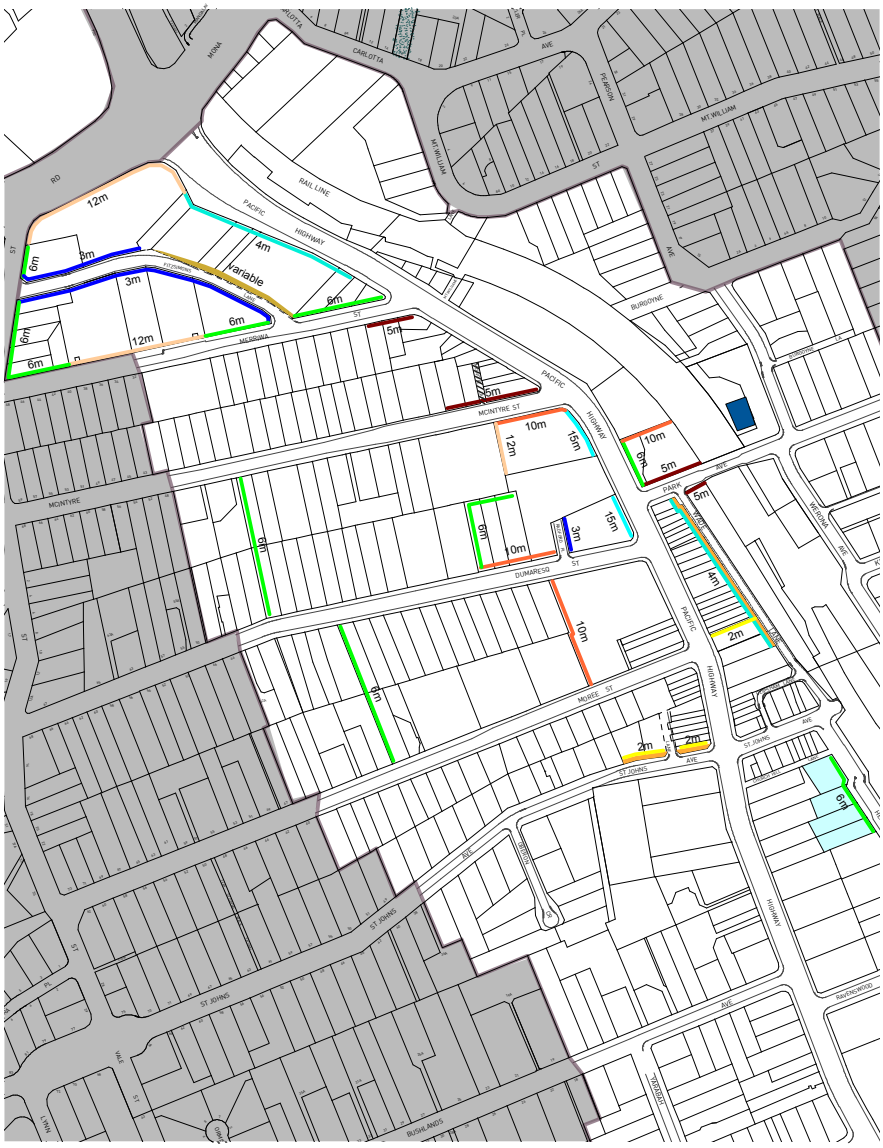


Figure 14D.4-1:
Building setbacks plan.

14D.4 SETBACKS (continued)

Objectives

Controls

2 Building setbacks are to be in accordance with *Figure 14D.4-1,* and all properties within the R4 zone are to provide setbacks in accordance with this Part 7 of this DCP with the following exceptions:

i) Properties 31 Moree Street and 30 Dumaresq Street are to provide a 6 metre setback to the new street between Moree Street and Dumaresq Street.

ii) Properties 39 Dumaresq Street and 34 McIntyre Street are to provide a 6 metre setback to the new street between Dumaresq Street and McIntyre Street.

14D.5 BUILT FORM

Objectives

1 *To maintain a consistent street wall height with reference to existing buildings along the Pacific Highway.*

2 *To encourage new infill development along the Pacific Highway which respects the existing characteristics of the street including the fine-grained character of the original subdivision, setback, height, and rhythm of facades, and is sympathetic to the materials and detailing of the earlier facades.*

3 *To ensure building facades are well designed, articulated and address public streets, public spaces, footpaths, parks and reserves.*

4 *To provide active frontages to all streets, lanes and public open spaces.*

5 *To minimise the visual bulk and scale of new buildings when viewed from public areas.*

6 *To enhance the quality and character of the public domain in the commercial precincts.*

7 *To promote development that responds to the pedestrian scale of the street.*

8 *To ensure that buildings are designed to interact and engage with pedestrians at the street level.*

9 *To encourage design excellence in all new development .*

Controls

1 All development within the Gordon local centre, as outlined in *Figure 14D.5-1*, is to be designed to support and enhance the planned future character of the centre. This is to be done through the Built Form requirements for each Precinct as stipulated in this DCP.



Figure 14D.5-1:
Built form plan.

Legend

- Principal active frontage
- Supporting active frontage
- 3 storey street wall
- 2m upper level setback above street wall height
- 4m upper level setback above street wall height
- * Landmark building
- Heritage item
- Potential relocation of laneway to enable lot consolidation

14D.6 BUILDING ENTRIES, CAR PARKING AND SERVICE ACCESS

Objectives

1 *To locate building foyers and lobbies in areas of high pedestrian activity.*

2 *To activate the main commercial streets.*

3 *To minimise pedestrian and vehicle conflicts.*

4 *To improve vehicle access and circulation and enhance associated services and infrastructure.*

5 *To ensure vehicular access points do not visually detract from the streetscape.*

6 *To promote pedestrian saftey and ease of movement through the local centre.*

Controls

1 All development within the Gordon local centre, as outlined in *Figure 14D.6-1*, is to be designed to support and enhance the planned future character of the centre. This is to be done through the Building Entries, Car Parking and Service Access requirements for each Precinct as stipulated in this DCP.

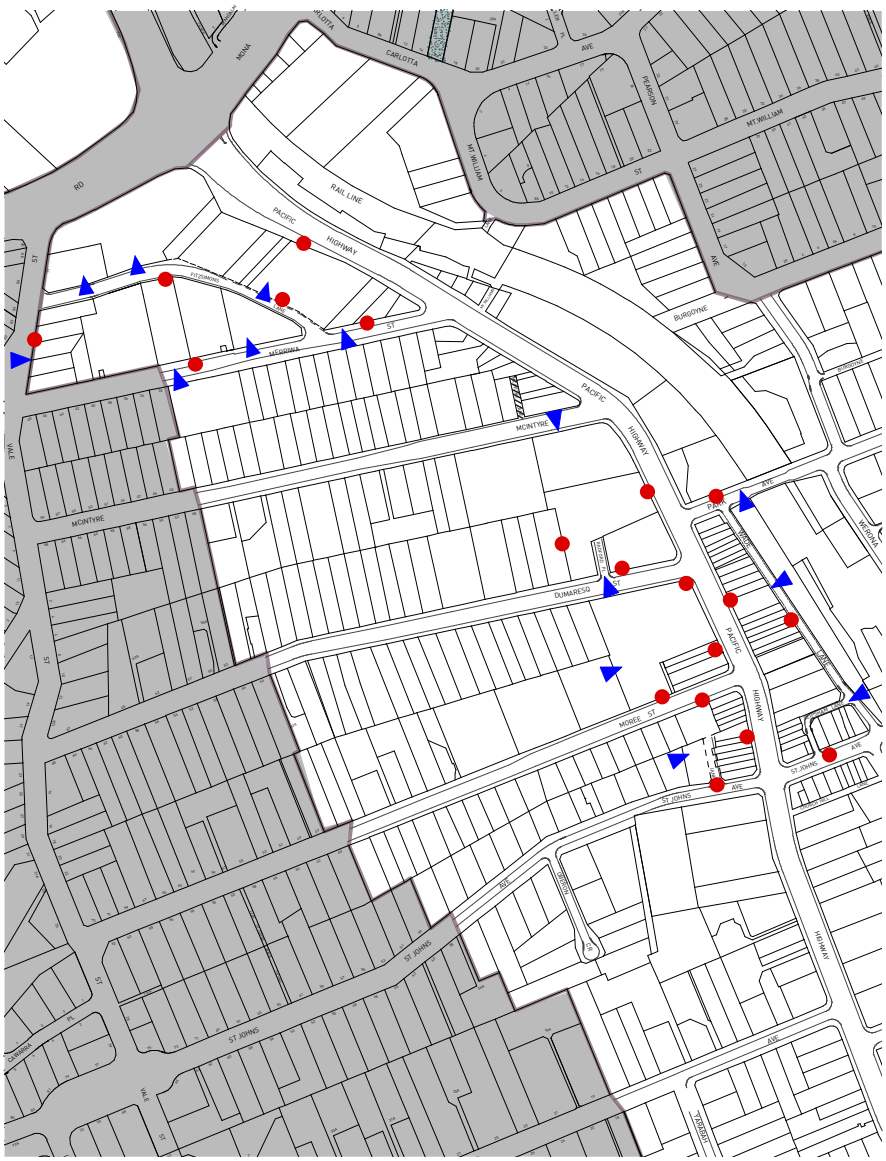


Figure 14D.6-1:
Building entries, car parking and service access plan.

Legend

- Vehicular access to site
- Pedestrian access to site
- Potential relocation of laneway to enable lot consolidation

14D.7 PRECINCT G1: ST JOHNS AVENUE AND HENRY STREET

Objectives

Refer to
Objectives and Controls
PART 14D.1
Urban Precincts

Controls

Planned Future Character



G1

Legend

- Precinct G1

Figure 14D.7-1: Precinct G1

St Johns Avenue is the main cross street for Gordon leading up from the train station to the Pacific Highway and to St Johns Church. The street has an intimate scale with a strong predominance of retail food outlets.

1 Development is to be designed to support and enhance the planned future character for the precinct as follows:

i) The eastern section of St Johns Avenue provides connection to public transport and has the potential to be a lively and attractive pedestrian area away from the busy atmosphere of the Highway. It is planned to provide a generous pedestrian area on the sunny southern side with potential for outdoor dining.

ii) The area around the intersection of Henry Street and St Johns Avenue is planned to become a transport hub with an expanded bus interchange, new taxi ranks, kiss-and-ride facilities and commuter car parking.

14D.7 PRECINCT G1: ST JOHNS AVENUE AND HENRY STREET (continued)

Objectives

Refer to
Objectives and Controls
PART 14D.2
Public Domain and Pedestrian Access

Controls

Public Domain and Pedestrian Access

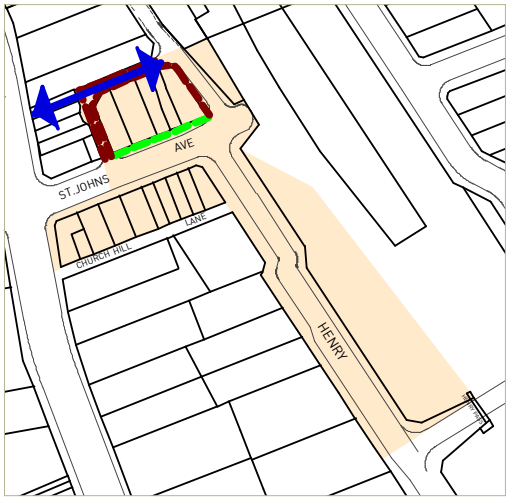


Figure 14D.7-2:
Public domain and pedestrian access plan.

2 Provide continuous awnings to Pacific Highway, St Johns Avenue, Moree Street, Dumaresq Street and Park Avenue.

3 Provide awnings to Wade Lane and the new streets and lanes where possible.

4 Provide internal shopping arcades linking Pacific Highway and Wade Lane.

5 Provide internal shopping arcade linking St Johns Avenue (west) with Moree Street.

6 Provide an entrance to the Gordon Centre on the corner of Dumaresq Street and the Pacific Highway with a new entry forecourt and a pedestrian arcade through to Moree Street.

7 Provide new or wider footpaths to St Johns Avenue (west), the new streets and Wade Lane.

8 Widen the existing Council owned walkway linking Wade Lane and Pacific Highway.

14D.7 PRECINCT G1: ST JOHNS AVENUE AND HENRY STREET (continued)

Objectives

Refer to
Objectives and Controls
PART 14D.3
Proposed Community Infrastructure

Controls

Proposed Community Infrastructure

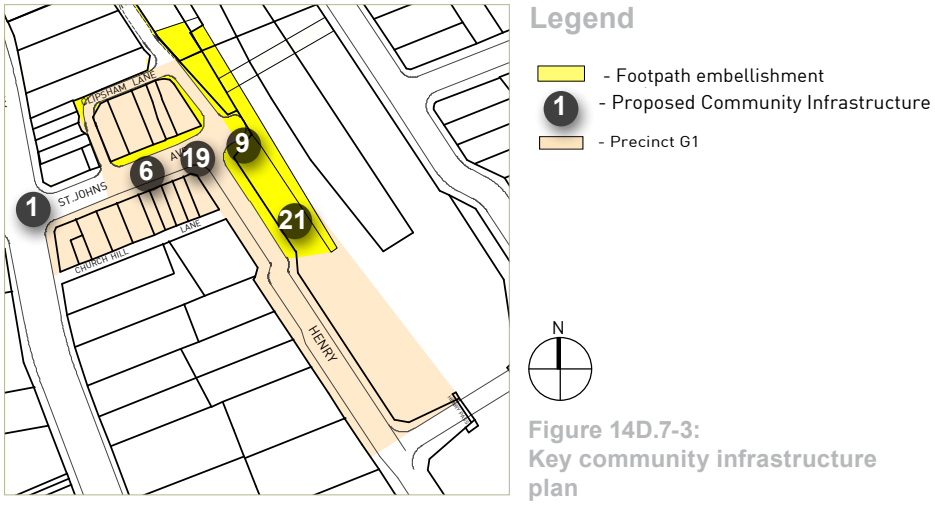


Figure 14D.7-3:
Key community infrastructure plan

9 The following development is to be designed to support and compliment the provision of Key Community Infrastructure through the *Ku-ring-gai Contributions Plan 2010* or by Voluntary Planning Agreement (VPA):

- **1** Modification to traffic signals to suit one way flow at the intersection of Pacific Highway and St Johns Avenue.
- **6** One way traffic and other modifications to St Johns Avenue east side.
- **9** Embellishment works for new railway square at St Johns Avenue and Wade Lane intersection.
- **19** Embellishment of the footpath areas throughout the area including underground power lines, new lighting, high quality paving and furniture and street tree planting.

Other works to be undertaken and funded by the State government:

- **21** Construction of a new Gordon bus interchange, incorporating taxi stands, a kiss-and-ride area, and an underground commuter car park.

14D.7 PRECINCT G1: ST JOHNS AVENUE AND HENRY STREET (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14D.4
Setbacks

Setbacks



Legend

- Precinct G1

Figure 14D.7-4
Building alignment and setbacks plan.

10 Building setbacks are to be in accordance with *Figure 14D.7-4,* and all buildings in the B2 zone are required to be built to the street alignment and with a zero setback to all boundaries.

14D.7 PRECINCT G1: ST JOHNS AVENUE AND HENRY STREET (continued)

Objectives

Refer to
Objectives and Controls
PART 14D.5
Built Form

Controls

Built Form



Legend
- Principal active frontage
- Supporting active frontage
- 3 storey street wall
- 2m upper level setback above street wall height
- 4m upper level setback above street wall height
- Precinct G1

N

Figure 14D.7-5: Built form plan.

11 Buildings are to be designed in accordance with this Development Control Plan, *Figure 14D.7-5*, and as follows:

i) Create a consistent 3 storey (11.5 metres) street wall that is built parallel to the street alignment of Pacific Highway, St Johns Avenue (east side), Wade Lane and Park Avenue.

ii) All levels above the street wall height are to have a 2 metre setback.

iii) Provide a 4 metre upper level setback to all buildings fronting Wade Lane.

iv) Provide active street frontages to the Pacific Highway, Dumaresq Street, Moree Street, Park Avenue, Wade Lane (south of Clipsham Lane) and St Johns Avenue.

v) Provide active street frontages to Wade Lane (north of Clipsham Lane), Clipsham Lane, and the new streets and lanes wherever possible.

vi) Provide a landmark corner building with distinct articulation at the intersection of St Johns Avenue and Pacific Highway.

vii) Step the retail podiums down from the Pacific Highway in platforms to relate the built form to the change in the topography.

viii) Conserve the heritage significance of 741 and 747 Pacific Highway while allowing for their integration into a new urban context.

ix) Design the built form on the northern side of Moree Street to minimise overshadowing of Moree Street.

x) Provide a well articulated sequence of built forms in Moree Street and St Johns Avenue (west), with residential uses at the upper levels separated into discrete buildings.

xi) Give special design consideration to building heights in relation to low density residential properties within St Johns Avenue (west). A transition in building heights is to be provided from taller buildings towards the eastern end of the block near the Pacific Highway, stepping down to lower buildings on the western side adjoining the new street.

14D.7 PRECINCT G1: ST JOHNS AVENUE AND HENRY STREET (continued)

Objectives

Refer to
Objectives and Controls
PART 14D.6
Building Entries, Car Parking and Service Access

Controls

Building Entries, Car Parking and Service Access

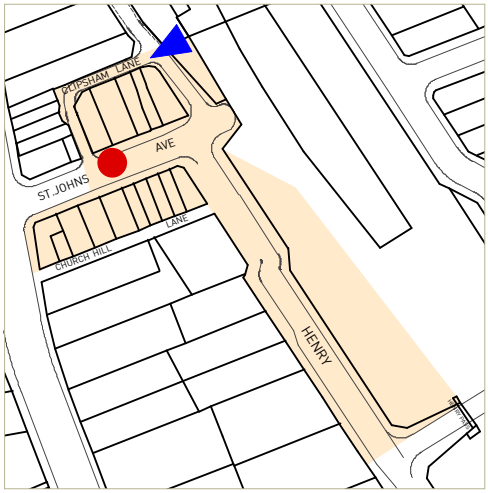


Figure 14D.7-6: Building entries, car parking and service access plan.

12 Provide vehicle and service access via Wade Lane, Clipsham Lane and the new street.

13 Vehicle access via the Pacific Highway is not permissible.

14 Residential and commercial foyers and lobbies are to be located off Moree Street, St Johns Avenue and Dumaresq Street, Wade Lane, Park Avenue or the Pacific Highway.

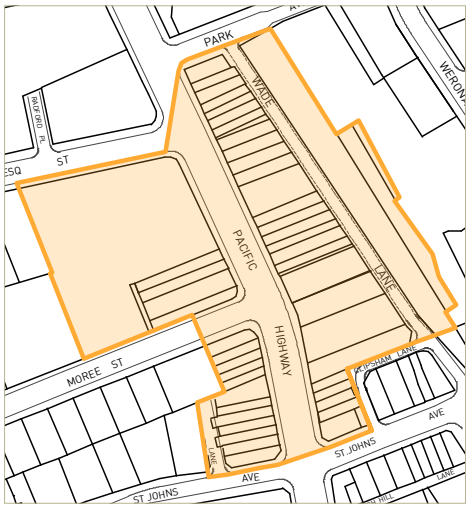
14D.8 PRECINCT G2: PACIFIC HIGHWAY RETAIL

Objectives

Refer to
Objectives and Controls
PART 14D.1
Urban Precincts

Controls

Planned Future Character



G2

Legend

- Precinct G2

Figure 14D.8-1: Precinct G2

The precinct is located on both sides of the Pacific Highway, between Dumaresq Street/Park Avenue in the north and St Johns Avenue in the south.

1 Development is to be designed to support and enhance the planned future character for this precinct as follows:

i) This precinct will become the primary retail and commercial centre for Ku-ring-gai. It is planned to allow retail and other employment related uses to increase significantly in this precinct.

ii) The area to the west of the Pacific Highway has potential to provide for a significant future expansion in retail floor space in contemporary buildings with pedestrian lane ways. New residential apartments will be located over the retail podiums providing high quality housing with roof gardens.

iii) Two new streets will be provided to the west of the precinct; they will be an essential part of the town centre traffic movement system and pedestrian access system. The new streets will also serve to separate the retail uses from the adjoining residential zones.

iv) The area to the east of the highway will be encouraged to develop as a boutique retail and leisure precinct providing improved main street shops along the Pacific Highway with new specialty shops, offices, and residential apartments on upper floors. Wade Lane will become activated with retail shops on the western side of the street.

v) A new urban park which will be created on Wade Lane on Council's land currently occupied by a multi-storey car park. The park will create a much needed community focus for the Gordon as a location for markets, events and performances. Car parking will be retained on-site in a basement car park.

14D.8 PRECINCT G2: PACIFIC HIGHWAY RETAIL (continued)

Objectives

Refer to
Objectives and Controls
PART 14D.2
Public Domain and Pedestrian Access

Controls

Public Domain and Pedestrian Access

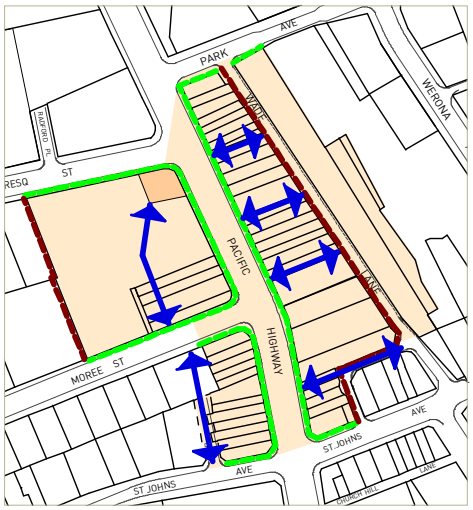


Figure 14D.8-2:
Public domain and pedestrian access plan.

2 Provide continuous awnings to Pacific Highway, St Johns Avenue, Moree Street, Dumaresq Street and Park Avenue.

3 Provide awnings to Wade Lane and the new streets and lanes where possible.

4 Provide internal shopping arcades linking Pacific Highway and Wade Lane.

5 Provide internal shopping arcade linking St Johns Avenue (west) with Moree Street.

6 Provide an entrance to the Gordon Centre on the corner of Dumaresq Street and the Pacific Highway with a new entry forecourt and a pedestrian arcade through to Moree Street.

7 Provide new or wider footpaths to St Johns Avenue (west), the new streets and Wade Lane.

8 Widen the existing Council owned walkway linking Wade Lane and Pacific Highway.

14D.8 PRECINCT G2: PACIFIC HIGHWAY RETAIL (continued)

Objectives

Refer to
Objectives and Controls
PART 14D.3
Proposed Community Infrastructure

Controls

Proposed Community Infrastructure

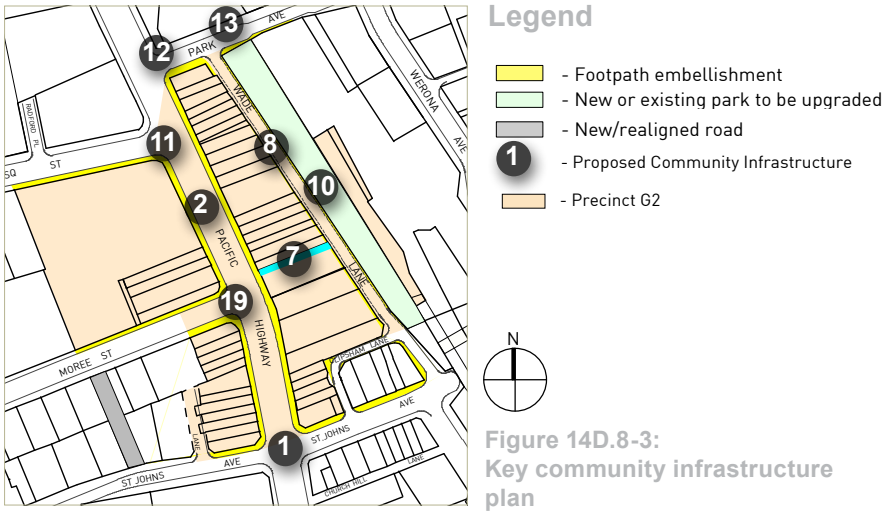


Figure 14D.8-3: Key community infrastructure plan

9 The following development is to be designed to support and compliment the provision of Key Community Infrastructure through the *Ku-ring-gai Contributions Plan 2010* or by Voluntary Planning Agreement (VPA):

1. Modification to traffic signals to suit one way flow at the intersection of Pacific Highway and St Johns Avenue.
2. New pedestrian activated signals on the Pacific Highway just north of Moree Street intersection.
7. Upgrade works to existing Council owned walkway (widened through development setbacks).
8. Reconstruction of Wade Lane as one way street (south bound) with on-street parking and public parking under.
10. Demolition of existing multi-storey car park and construction of a new urban park on Council owned land along Wade Lane.
11. Modification of the traffic signals at the intersection of Pacific Highway and Dumaresq Street and removal the traffic signals at the intersection Pacific Highway and Park Street to improve traffic flow.
12. Conversion of Park Avenue to one way traffic (east bound) and reduction of the road width to improve pedestrian conditions.
13. Modification to the railway bridge on Park Avenue to provide wider footpaths .
19. Embellishment of the footpath areas throughout the area including underground power lines, new lighting, high quality paving and furniture and street tree planting.

14D.8 PRECINCT G2: PACIFIC HIGHWAY RETAIL (continued)

Objectives

Refer to
Objectives and Controls
PART 14D.4
Setbacks

Controls

Setbacks

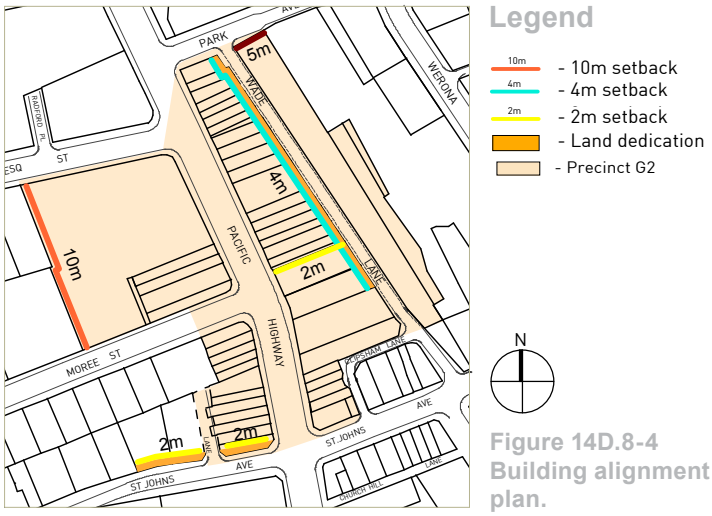


Figure 14D.8-4
Building alignment and setbacks plan.

10 Building setbacks are to be in accordance with *Figure 14D.8-4*, and all buildings in the B2 zone are required to be built to the street alignment and with a zero setback to all boundaries with the following exceptions:

i) A 2 metre setback to St Johns Avenue applying to the properties Nos.21-23 St Johns Ave and Nos.756-770 Pacific Highway for road widening. Land is to be dedicated to Council at no cost.

ii) 10 metre setback to the rear of property 802-808 Pacific Highway to provide for a new 10m wide lane (two way traffic with footpaths both sides), between Dumaresq Street and Moree Street at the rear of the Gordon Centre to provide a transition to adjoining residential sites and to remove service and loading access from Dumaresq Street and Moree Street.

iii) 4 metre rear setbacks to Wade Lane applying to the properties Nos.747-795 Pacific Highway to provide new footpaths. Land is to be dedicated to Council at no cost.

iv) 2 metre setback to the existing Council walkway applying to the property No.751 Pacific Highway for widening of the walkway. Land is to be dedicated to Council at no cost.

v) A 5 metre setback to Park Avenue applying to DP 233688 (council carpark on Wade Lane) to protect an existing tree and provide a pedestrian forecourt.

14D.8 PRECINCT G2: PACIFIC HIGHWAY RETAIL (continued)

Objectives

Refer to
Objectives and Controls
PART 14D.5
Built Form

Controls

Built Form

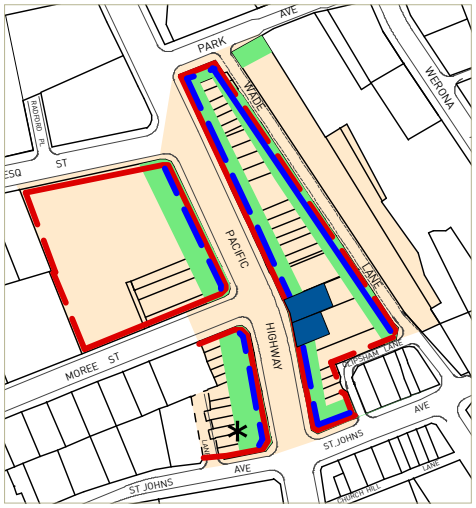


Figure 14D.8-5: Built form plan.

11 Buildings are to be designed in accordance with this Development Control Plan, *Figure 14D.8-5*, and as follows:

i) Create a consistent 3 storey (11.5 metres) street wall that is built parallel to the street alignment of Pacific Highway, St Johns Avenue (east side), Wade Lane and Park Avenue.

ii) All levels above the street wall height are to have a 2 metre setback.

iii) Provide a 4 metre upper level setback to all buildings fronting Wade Lane.

iv) Provide active street frontages to the Pacific Highway, Dumaresq Street, Moree Street, Park Avenue, Wade Lane (south of Clipsham Lane) and St Johns Avenue.

v) Provide active street frontages to Wade Lane (north of Clipsham Lane), Clipsham Lane, and the new streets and lanes wherever possible.

vi) Provide a landmark corner building with distinct articulation at the intersection of St Johns Avenue and Pacific Highway.

vii) Step the retail podiums down from the Pacific Highway in platforms to relate the built form to the change in the topography.

viii) Conserve the heritage significance of 741 and 747 Pacific Highway while allowing for their integration into a new urban context.

ix) Design the built form on the northern side of Moree Street to minimise overshadowing of Moree Street.

x) Provide a well articulated sequence of built forms in Moree Street and St Johns Avenue (west), with residential uses at the upper levels separated into discrete buildings.

xi) Give special design consideration to building heights in relation to low density residential properties within St Johns Avenue (west). A transition in building heights is to be provided from taller buildings towards the eastern end of the block near the Pacific Highway, stepping down to lower buildings on the western side adjoining the new street.

14D.8 PRECINCT G2: PACIFIC HIGHWAY RETAIL (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14D.6
Building Entries, Car Parking and Service Access

Building Entries, Car Parking and Service Access

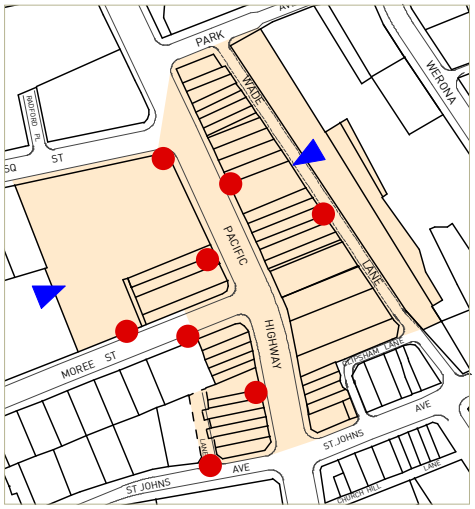


Figure 14D.8-6:
Building entries, car parking and service access plan.

12 Provide vehicle and service access via Wade Lane, Clipsham Lane and the new street.

13 Vehicle access via the Pacific Highway is not permissible.

14 Residential and commercial foyers and lobbies are to be located off Moree Street, St Johns Avenue and Dumaresq Street, Wade Lane, Park Avenue or the Pacific Highway.

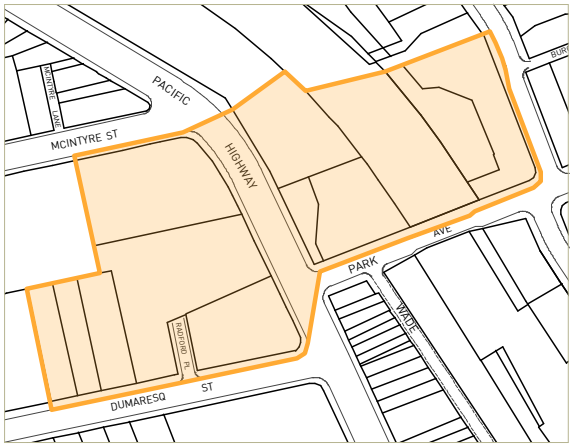
14D.9 PRECINCT G3: CIVIC HUB

Objectives

Refer to
Objectives and Controls
PART 14D.1
Urban Precincts

Controls

Planned Future Character



G3

Legend

- Precinct G3

Figure 14D.9-1: Precinct G3

This precinct is located at the northern edge of the retail core and is broadly defined by the intersection of the Pacific Highway, Park Avenue, Pearson Avenue and Dumaresq Street.

The area currently supports a number of Council and community services including: Council chambers and administration building: Gordon pre-school; Gordon library; Lifeline Harbour to Hawkesbury; Gordon police station; and the old Gordon school building (which provides rooms for a number of groups and activities including a heritage society and a youth activity centre).

1 Development is to be designed to support and enhance the planned future character for this precinct as follows:

i) The precinct also contains three significant heritage items including the old Gordon school building, the Council chambers building and Gordon pre-school.

ii) The vision for this precinct is for it to become the civic hub for the LGA. Council will retain a strong long term presence in the area, Council is planning for a range of improved civic and community facilities as well as a public park. Accommodation for a range of community services will be encouraged.

iii) New buildings will be designed to protect and enhance the setting of the two of the three heritage listed buildings by creating setbacks between new and old and allowing the heritage buildings to be viewed in “the round”.

iv) Improvements to Park Avenue are also proposed to provide better safety and amenity including widening the walkways on the bridge over the rail line and reducing traffic movements in Park Avenue.

14D.9 PRECINCT G3: CIVIC HUB (continued)

Objectives

Refer to
Objectives and Controls
PART 14D.2
Public Domain and Pedestrian Access

Controls

Public Domain and Pedestrian Access

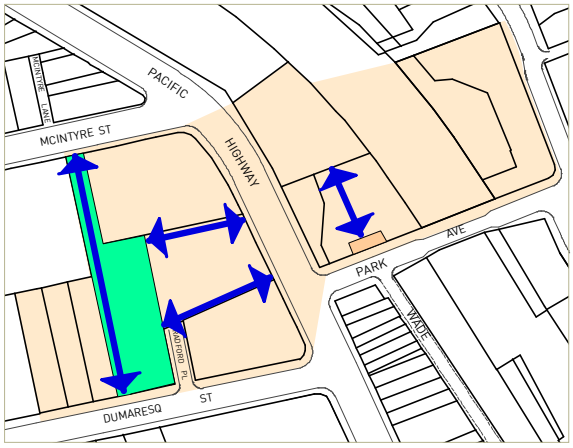


Figure 14D.9-2: Public domain and pedestrian access plan.

2 Retain and upgrade existing public accessways between the Pacific Highway and Radford Place and the proposed park.

3 Retain and upgrade existing public accessway between Dumaresq Street and McIntyre Street.

4 Provide an entry forecourt to the new building on No.2 Park Avenue site off Park Avenue.

5 Incorporate a new internal pedestrian link within the new buildings at No.2 Park Avenue between Park Avenue and the 'old school building' (799 Pacific Highway).

14D.9 PRECINCT G3: CIVIC HUB (continued)

Objectives

Refer to
Objectives and Controls
PART 14D.3
Proposed Community Infrastructure

Controls

Proposed Community Infrastructure

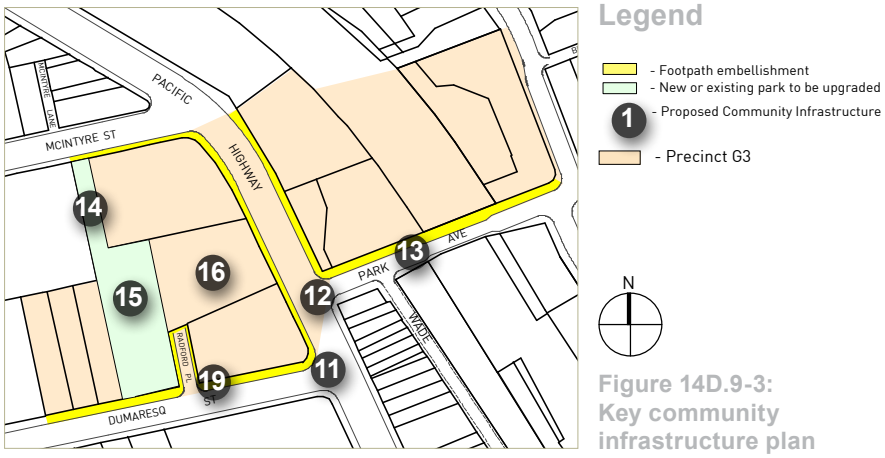


Figure 14D.9-3: Key community infrastructure plan

6 The following development is to be designed to support and compliment the provision of Key Community Infrastructure through the *Ku-ring-gai Contributions Plan 2010* or by Voluntary Planning Agreement (VPA):

11 Modification of the traffic signals at the intersection of Pacific Highway and Dumaresq Street and removal the traffic signals at the intersection Pacific Highway and Park Street to improve traffic flow.

12 Conversion of Park Avenue to one way traffic (east bound) and reduction of the road width to improve pedestrian conditions.

13 Modification to the railway bridge on Park Avenue to provide wider footpaths .

14 Improvements to the existing pedestrian way between Dumaresq Street and McIntyre Street.

15 Construction of a new urban park on Council owned land in Dumaresq Street.

16 Construction of a multi-purpose community facility.

19 Embellishment of the footpath areas throughout the area including underground power lines, new lighting, high quality paving and furniture and street tree planting.

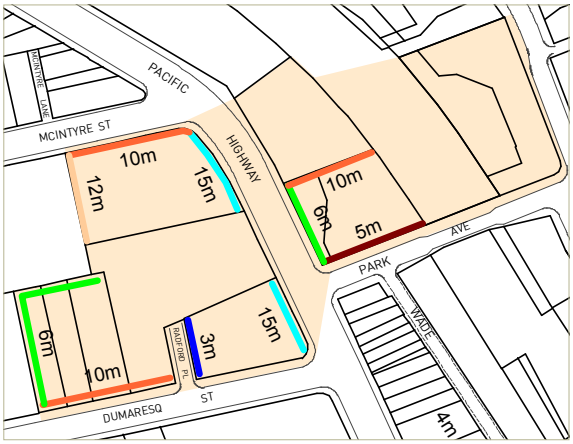
14D.9 PRECINCT G3: CIVIC HUB (continued)

Objectives

Refer to
Objectives and Controls
PART 14D.4
Setbacks

Controls

Setbacks



Legend
- 12m setback
- 10m setback
- 6m setback
- 5m setback
- 3m setback
- Precinct G3

Figure 14D.9-4 Building alignment and setbacks plan.

7 Building setbacks are to be in accordance with *Figure 14C.9-4*, and all buildings in the B2 zone are required to be built to the street alignment and with a zero setback to all boundaries with the following exceptions:

i) A 5 metre setback to Park Avenue applying to property No.2 Park Avenue for street tree planting and building forecourt.

ii) A 6 metre setback to the Pacific Highway applying to No.2 Park Avenue to protect existing trees and for street tree planting.

iii) A 6 metre side and rear setback to Nos.9, 15 and 17 Dumaresq Street to protect existing trees.

iv) 10 metre side setback applying to property No.2 Park Avenue to provide building separation to the heritage item ('old school building') 799 Pacific Highway.

v) 10 metre setback to Dumaresq Street applying to property Nos.9, 15 and 17 Dumaresq Street and 818 Pacific Highway for landscaped gardens.

vi) 3 metre setback to Radford Place applying to property no.810 Pacific Highway for wider footpaths. Land is to be dedicated to Council at no cost.

vii) 15 metre setback to the Pacific Highway applying to no.810 and no. 828 Pacific Highway for a landscaped forecourt and view corridors to the heritage item at 818 Pacific Highway.

viii) 10 metre setback to McIntyre Street applying to no.828 Pacific Highway for landscaped gardens.

ix) 12 metre rear setback applying to no.828 Pacific Highway for a public pedestrian accessway. Land is to be dedicated to Council at no cost.

14D.9 PRECINCT G3: CIVIC HUB (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14D.5
Built Form

Built Form

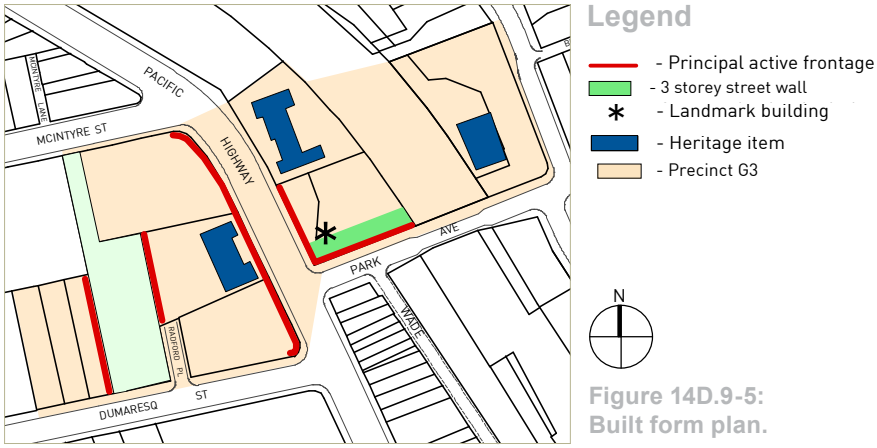


Figure 14D.9-5: Built form plan.

8 Buildings are to be designed in accordance with this Development Control Plan, *Figure 14D.9-5*, and as follows:

i) Align new building on No.2 Park Avenue site to be parallel with Park Avenue street alignment and aligned with heritage listed 'old school building' at no.799 Pacific Highway.

ii) Provide active frontage to the western and eastern edges of the proposed park on Dumaresq Street.

iii) Provide active frontage to the Pacific Highway where ever possible.

iv) Provide a landmark corner building on the corner of Pacific Highway and Park Avenue (No.2 Park Avenue) with active frontages.

14D.9 PRECINCT G3: CIVIC HUB (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14D.6
Building Entries, Car Parking and Service Access

Building Entries, Car Parking and Service Access

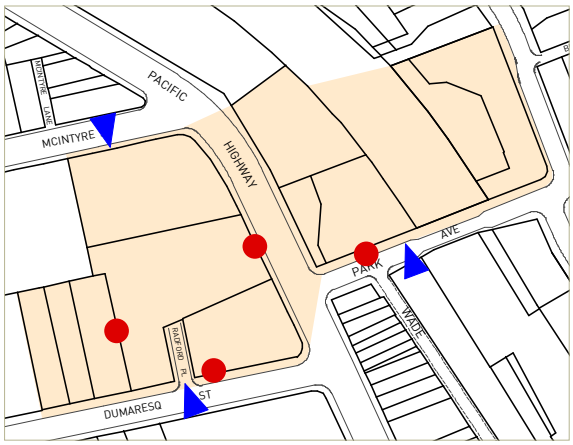


Figure 14D.9-6: Building entries, carpark and service access plan.

9 Provide vehicle access via Dumaresq Street, Radford Place, Park Avenue and McIntyre Street only.

10 Commercial and residential foyers and lobbies are to be located off Pacific Highway, Park Avenue, Radford Place, Dumaresq Street and off the new walkways adjoining the proposed park.

14D.10 PRECINCT G4: MIXED USE

Objectives

Refer to
Objectives and Controls
PART 14D.1
Urban Precincts

Controls

Planned Future Character

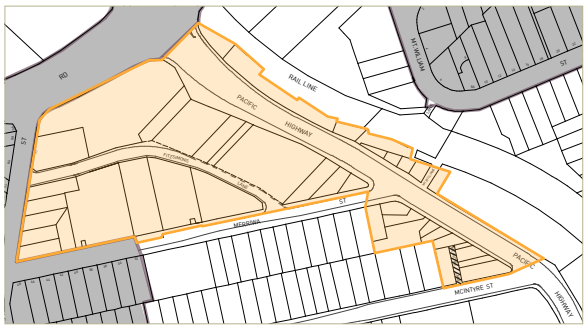


Figure 14D.10-1: Precinct G4

This precinct is located on the northern periphery of Gordon Centre between Ryde Road, the Pacific Highway and Merriwa Street.

1 Development is to be designed to support and enhance the planned future character for this precinct as follows:

i) The area is planned to become a mixed use precinct providing a support role to the core retail precincts. The precinct will offer opportunities for a wide range of uses such as bulky goods, bulk suppliers and the like; business and employment related uses; medical, recreational and other professional services; as well as residential apartment buildings.

ii) This precinct will provide an urban edge to define the Pacific Highway and provide a good quality entry experience for drivers and train passengers arriving in Gordon from the north.

iii) Fitzsimons Lane has potential to become a smaller scale street with active uses including small retail facilities, cafes or corner stores where they meet the needs of employees and residents in the precinct.

14D.10 PRECINCT G4: MIXED USE (continued)

Objectives

Refer to
Objectives and Controls
PART 14D.2
Public Domain and Pedestrian Access

Controls

Public Domain and Pedestrian Access

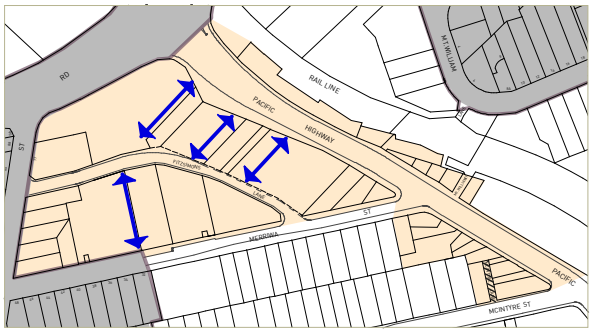


Figure 14D.10-2: Public domain and pedestrian access plan.

2 Retain and upgrade existing pedestrian link between Fitzsimons Lane and Pacific Highway.

3 Provide new pedestrian accessway linking the Pacific Highway with Fitzsimons Lane.

4 Provide new pedestrian accessway linking Merriwa Street and Fitzsimons Lane.

14D.10 PRECINCT G4: MIXED USE (continued)

Objectives

Refer to
Objectives and Controls
PART 14D.3
Proposed Community Infrastructure

Controls

Proposed Community Infrastructure

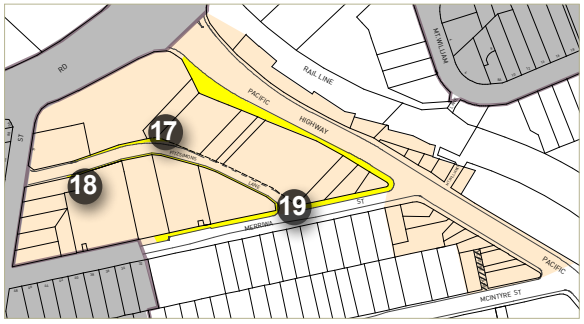


Figure 14D.10-3: Key community infrastructure plan

5 The following development is to be designed to support and compliment the provision of Key Community Infrastructure through the *Ku-ring-gai Contributions Plan 2010* or by Voluntary Planning Agreement (VPA):

17 Provision of a new bus stop on the highway servicing the strategic bus corridor link to Macquarie Centre.

18 Reconstruction of Fitzsimmons Lane to be a 15 metre wide right-of-way with footpaths both sides and on-street parking.

19 Embellishment of the footpath areas throughout the area including underground power lines, new lighting, high quality paving and furniture and street tree planting.

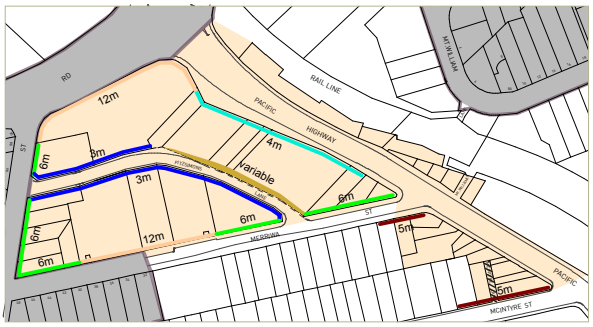
14D.10 PRECINCT G4: MIXED USE (continued)

Objectives

Refer to
Objectives and Controls
PART 14D.4
Setbacks

Controls

Setbacks



Legend
- 12m setback
- 6m setback
- 5m setback
- 3m setback
- Potential relocation of laneway to enable lot consolidation
- Precinct G4

Figure 14D.10-4 Building alignment and setbacks plan.

6 Building setbacks are to be in accordance with *Figure 14D.10-4*, and all buildings in the B4 zone are to provide setbacks in accordance with Part 8 of this DCP in relation to commercial buildings and Part 7 in relation to residential buildings with the following exceptions:

i) 5 metre building setbacks to McIntyre Street and Merriwa Streets applying to 2 Merriwa Street, 1 McIntyre Street, 836 and 850 Pacific Highway for landscaped gardens.

ii) 4 metre building setback to Pacific Highway applying to the properties Nos. 870-916 Pacific Highway for a landscaped gardens and courtyards. A front fence or wall must be provided on the property boundary or setback a maximum of 1 metre. Fences and walls must comply with Part 7C.11 in relation to residential buildings.

iii) Properties nos.870-914 Pacific Highway are to provide building variable setbacks as required (up to 5 metres) to Fitzsimmons Lane to achieve a minimum 15m wide right-of-way between the property boundary of Nos. 1 and 7-9 Merriwa Street. Land is to be dedicated to Council at no cost.

iv) 3 metre setback to Fitzsimmons Lane applying to the properties nos. 1, 7-9, 11-15, 17-23 Merriwa Street and no.71 Vale Street for building forecourts and landscaped gardens.

v) 12 metre setback to Merriwa Street applying to the properties nos. 7-9, 11-15 and 17-23 Merriwa Street for landscaped gardens.

vi) 6 metre setback to Merriwa Street applying to the properties nos. 1 and 25 Merriwa Street and 854-870 Pacific Highway for landscaped gardens.

vii) 6 metre setback to Vale Street applying to no.25 Merriwa Street and nos.71 and 77 Vale Street for landscaped gardens.

viii) 3 metre setback to Fitzsimons Lane applying to 77 Vale Street and 924 Pacific Highway for landscaped gardens.

ix) 12 metre setback to Ryde Road and Pacific Highway applying to 924 Pacific Highway for landscaped gardens.

x) 5 metre building setback to McIntyre Street applying to no.1 McIntyre Street and 836 Pacific Highway. Setback starts at a distance of 15 metres back from the Pacific Highway property line.

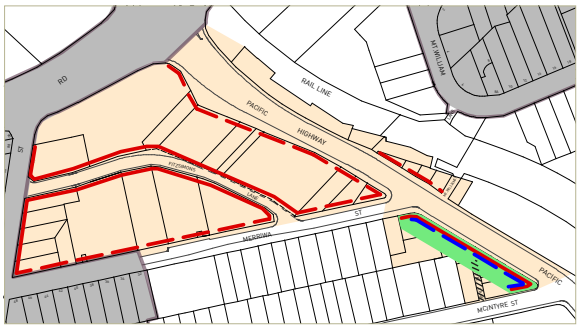
14D.10 PRECINCT G4: MIXED USE (continued)

Objectives

Refer to
Objectives and Controls
PART 14D.5
Built Form

Controls

Built Form



Legend

- Principal active frontage
- Supporting active frontage
- 3 storey street wall
- 2m upper level setback above street wall height
- Potential relocation of laneway to enable lot consolidation
- Precinct G4

N

Figure 14D.10-5: Built form plan.

7 Buildings are to be designed in accordance with this Development Control Plan, *Figure 14D.10-5*, and as follows:

i) Provide active frontage to the Pacific Highway between McIntyre Street and Merriwa Street.

ii) Provide active street frontages to Fitzsimmons Lane where ever possible.

iii) Create a consistent 3 storey (11.5m) street wall that is built parallel to the street alignment of the Pacific Highway between McIntyre Street and Merriwa Street.

iv) All levels above street wall height are to have a 2m setback.

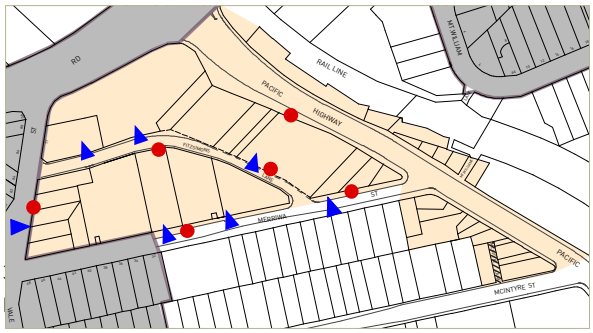
14D.10 PRECINCT G4: MIXED USE (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14D.6
Building Entries, Car Parking and Service Access

Building Entries, Car Parking and Service Access



Legend

- Vehicular access to site
- Pedestrian access to site
- Potential relocation of laneway to enable lot consolidation
- Precinct G4

N

Figure 14D.10-6: Building entries, carpark and service access plan.

8 All vehicle service and loading access is to be from Fitzsimons Lane, Merriwa Street or Vale Street.

9 Vehicle access via the Pacific Highway is not permissible.

10 Where sites have dual frontage to Merriwa Street and Fitzsimons Lane, vehicular access or service loading is to be via Merriwa Street only.

11 Residential and commercial lobbies are to be located on Fitzsimons Lane, Merriwa Street, Vale Street and the Pacific Highway.

14D.11 PRECINCT G5: BUILDINGS IN R4 ZONES

Objectives

Refer to
Objectives and Controls
PART 14D.1
Urban Precincts

Controls

Planned Future Character

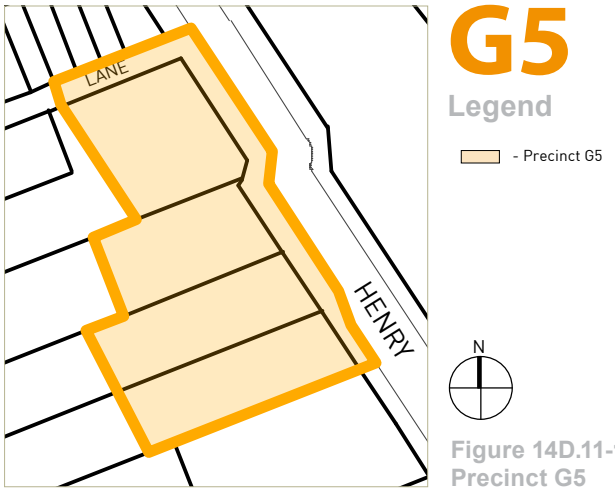


Figure 14D.11-1: Precinct G5

This precinct consists of R4 High Density Residential zones within close proximity to the commercial zones.

1 Development is to be designed to support and enhance the planned future character for this precinct as follows:

i) The precinct will be designed to provide a transition from the core urban areas to the surrounding high and medium density residential areas.

ii) Schedule 1 of the KLEP allows mixed use buildings within this precinct.

iii) All properties will provide reduced front setbacks to enhance the urban character.

14D.11 PRECINCT G5: BUILDINGS IN R4 ZONES (continued)

Objectives

Refer to
Objectives and Controls
PART 14D.4
Setbacks

Controls

Setbacks

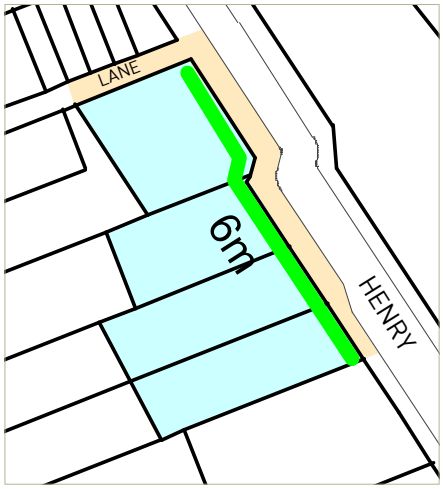


Figure 14D.11-2
Building alignment and setbacks plan.

2 Building setbacks are to be in accordance with *Figure 14D.11-2,* and the following controls are applicable for R4 zones, where mixed use buildings are premitted:

i) Properties 30, 32, 34 and 36 Henry Street are to provide a minimum front setback of 6m;

ii) The maximum site coverage applicable to the properties identified in i) above is:

- 60% where a commercial component with an FSR greater than 0.3:1 on the ground floor is proposed;
- 40% in other cases.

iii) The minimum deep soil landscaping requirement for these properties is:

- 25% where a commercial component with an FSR greater than 0.3:1 on the ground floor is proposed;
- 30% in other cases.

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PART 14E

LINDFIELD LOCAL CENTRE

14E Lindfield Local Centre

14E.1 Lindfield Local Centre Context

14E.2 Public Domain and Pedestrian Access

14E.3 Proposed Community Infrastructure

14E.4 Setbacks

14E.5 Built Form

14E.6 Building Entries, Car Parking and Service Access

14E.7 Heritage

14E.8 Precinct L1: Balfour Street Retail Area

14E.9 Precinct L2: Pacific Highway Retail Area

14E.10 Precinct L3: Tryon Place Mixed Use Area

14E.11 Precinct L4: Tryon Road and Lindfield Avenue Retail Area

14E.12 Precinct L5: Lindfield Community Hub

14E.13 Precinct L6: Former Library Site

14E.14 Precinct L7: Buildings in R4 Zones

14E.15 Precinct L8: Buildings in R4 Zones

14E.1 LINDFIELD LOCAL CENTRE CONTEXT

Further controls that may apply		
SECTION A **Part 7 -** Residential Flat Buildings **Part 8 -** Mixed Use Development	**SECTION B** **Part 20 -** Heritage Items and Heritage Conservation Areas	

Objectives

1 *To create distinct precincts that provide a range of services, facilities and experiences.*

2 *To create vibrant local centres with distinctive and memorable character.*

3 *To provide opportunities for new speciality retail, cafes and restaurants to be located away from the Pacific Highway.*

4 *To establish a new mixed use precinct on the eastern side of Lindfield focused around a new urban park.*

5 *To establish a new mixed use precinct on the western side of Lindfield focused around a community hub and a new urban park.*

6 *To encourage restaurants, cafes, outdoor dining and offices fronting on to rear lanes to contribute to increased activity and passive surveillance.*

7 *To provide opportunities for new supermarkets to support and anchor the local centre.*

8 *To promote ease of circulation and connectivity between the railway station and the local centre.*

Controls

Urban Precincts

1 All development within the Lindfield local centre, as outlined in *Figure 14E.1-1,* is to be designed to support and enhance the planned future character of the centre. This is to be done through compliance with the general requirements and precinct specific requirements as stipulated in this DCP.

Note: Refer to Ku-ring-gai's *Public Domain Plan 2010, Open Space Aquisition Strategy 2007* and the *Ku-ring-gai Contributions Plan 2010* on Councils website: *http://www.kmc.nsw.gov.au/Home.*



Figure 14E.1-1:
Lindfield Local Centre Precinct Plan

Legend

Core Urban Precinct (B2 and B4 zones)

- Masterplan Site

14E.2 PUBLIC DOMAIN AND PEDESTRIAN ACCESS

Objectives

1 *To increase the pedestrian permeability of the local centre.*

2 *To improve pedestrian amenity by providing continuous sun and rain protection to footpath areas.*

3 *To provide a consistently high quality and visually pleasing streetscape environment.*

4 *To improve and enhance accessibility to the commercial precinct particularly for pedestrians, pram walkers, people with disabilities, cyclists and public transport users.*

5 *To improve commercial activity in the local centre by promoting street-level activity.*

6 *To facilitate opportunities for outdoor dining in quiet locations away from the highway.*

7 *To minimise the number of vehicle access points off streets and lanes by encouraging amalgamation of sites.*

8 *To improve the saftey and passive surveillance of the public domain by encouraging street-level activity.*

9 *To improve the overall pedestrian experience in the local centre, thereby promoting active living.*

10 *To promote mid-block and through-site links as a way of improving permeability of the local centre.*

Controls

1 All development within the Lindfield local centre, as outlined in *Figure 14E.2-1*, is to be designed to support and enhance the planned future character of the centre. This is to be done through compliance with the Public Domain and Pedestrian Access requirements for each Precinct as stipulated in this DCP.

2 Havilah Road and Havilah Lane: provide a new pedestrian walkway between Havilah Lane and Milray Street.



Figure 14E.2-1:
Public domain and pedestrian access plan.

Legend

- Pedestrian through site link
- Entry plaza/forecourt
- Awnings
- Awnings where possible
- Colonnade or awning
- New/realigned road

14E.3 PROPOSED COMMUNITY INFRASTRUCTURE

Objectives

1 *To be consistent with the objectives and strategies of Council's* Town Centre Public Domain Plan 2010.

2 *To implement the work programs within the* Ku-ring-gai Contributions Plan 2010.

3 *To identify locations for new local parks in accordance with the requirements of Council's* Open Space Acquisition Strategy 2007.

4 *To enhance service and infrastructure provisions for existing and planned residential communities.*

Controls

1 All development within the Lindfield local centre is to be designed to support the planned future character of the centre through the provision of Key Community Infrastructure as stated in the *Ku-ring-gai Contributions Plan 2010* and outlined in *Figure 14E.3-1*. This is to be done through the Proposed Community Infrastructure requirements for each Precinct as stipulated in this DCP.

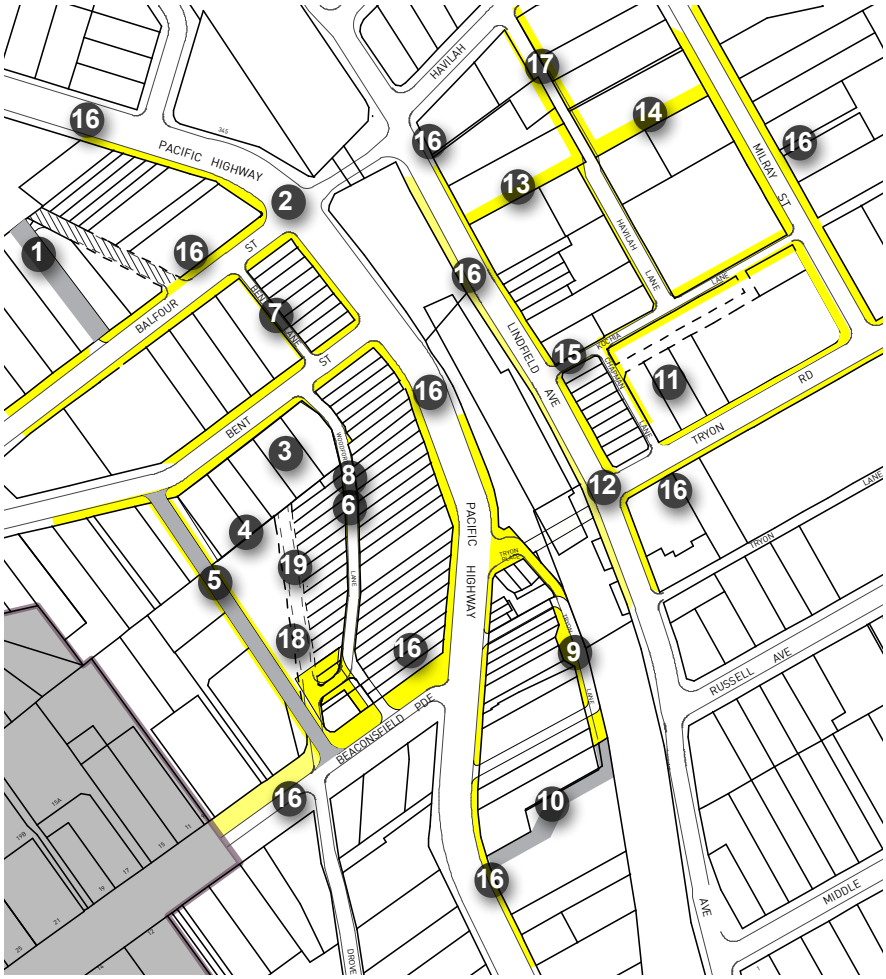


Figure 14E.3-1:
Key community infrastructure plan

N

Legend

- Footpath embellishment
- New/realigned road
- 1 - Proposed Community Infrastructure
- Proposed road closure

14E.3 PROPOSED COMMUNITY INFRASTRUCTURE (continued)

Objectives **Controls**

2 Key Community Infrastructure provision is to be in accordance with *Figure 14E.3-1*, the *Ku-ring-gai Contributions Plan 2010* and Masterplans at Part 14R. It is to be delivered through a Voluntary Planning Agreement (VPA) or other delivery mechanism, and include the following:

1. Construction of a new Balfour Lane on the south-western boundary of the site which retains the current level of access to properties fronting the Pacific Highway. The lane will have footpaths both sides of the carriageway and include a landscape zone with significant screen planting along the western edge side of the lane. (Land dedicated to Council as part of site redevelopment).
2. Extend right turn bay on Pacific Highway and Balfour Street/Havilah Road intersection.
3. A community park on Bent Street of minimum 3,000m^2 in size. It is to include a large open space with deep soil planting on the north eastern corner of the site fronting Bent Street and Woodford Lane, amphitheatre seating, play space, flexible open space and a library cafe.
4. A new multi-purpose community building including a library of minimum 1,265m^2 , child care centre of minimum 533m^2 , and community facility of minimum 1,200m^2.
5. Realignment of Drovers Way to create a new 15.0m wide two-way street providing a link from Bent Street to Beaconsfield Parade and including on-street parking and access to basement parking.
6. A new kiss-and-ride zone and taxi ranks on Woodford Lane.
7. Upgrade and widening of Bent Lane including new footpaths.
8. Upgrade and widening of Woodford Lane including new footpaths, parking and access to basement parking and loading/service access.
9. Tryon Lane is retained and improved with new footpaths and car parking.
10. Construction of new 13.0m wide two way lane with footpath between Pacific Highway and Tryon Lane (land dedicated to Council as part of site redevelopment). The road is to be designed as a high quality accessway with broad footpaths on both sides of the carriageway.
11. Creation of new Village Green on Council car park precinct incorporating public basement car parking and commuter carpark spaces (to be funded by Transport for NSW).
12. Installation of new traffic signals at the intersection of Tryon Road and Lindfield Avenue (and removal of existing pedestrian activated traffic signals on Lindfield Avenue).
13. A new pedestrian lane way from Lindfield Ave to Havilah Road.
14. A new pedestrian lane way from Havilah Lane to Milray Street.
15. Modifications to pedestrianise Kochia Lane (part).
16. Embellishment of the footpath areas and public domain throughout the area including underground power lines, new lighting, high quality paving and furniture and street tree planting.
17. Upgrade and widening of Havilah Lane including new footpaths (additional land dedicated to Council as part of redevelopment of adjoining sites).
18. Construction of new commuter car park spaces (to be funded by Transport for NSW) and a new kiss and ride area, public parking, and additional parking associated with newly proposed land uses.
19. A civic plaza area with public seating and outdoor dining opportunities.

14E.4 SETBACKS

Objectives

1 *To create cohesive streetscapes in the local centre.*

2 *To allow for future widening of roads, lanes and streets.*

3 *To allow for visual and acoustic privacy between the centres and adjoining residential zones.*

Controls

1 All development within the Lindfield local centre, as outlined in *Figure 14E.4-1,* is to be designed to support and enhance the planned future character of the centre. This is to be done through the Setback requirements for each Precinct as stipulated in this DCP.

Note: In all cases, where land dedication is required for a public purpose, such as a road or walkway, the affected land is to be excluded from deep soil calculations and included in setback requirements.

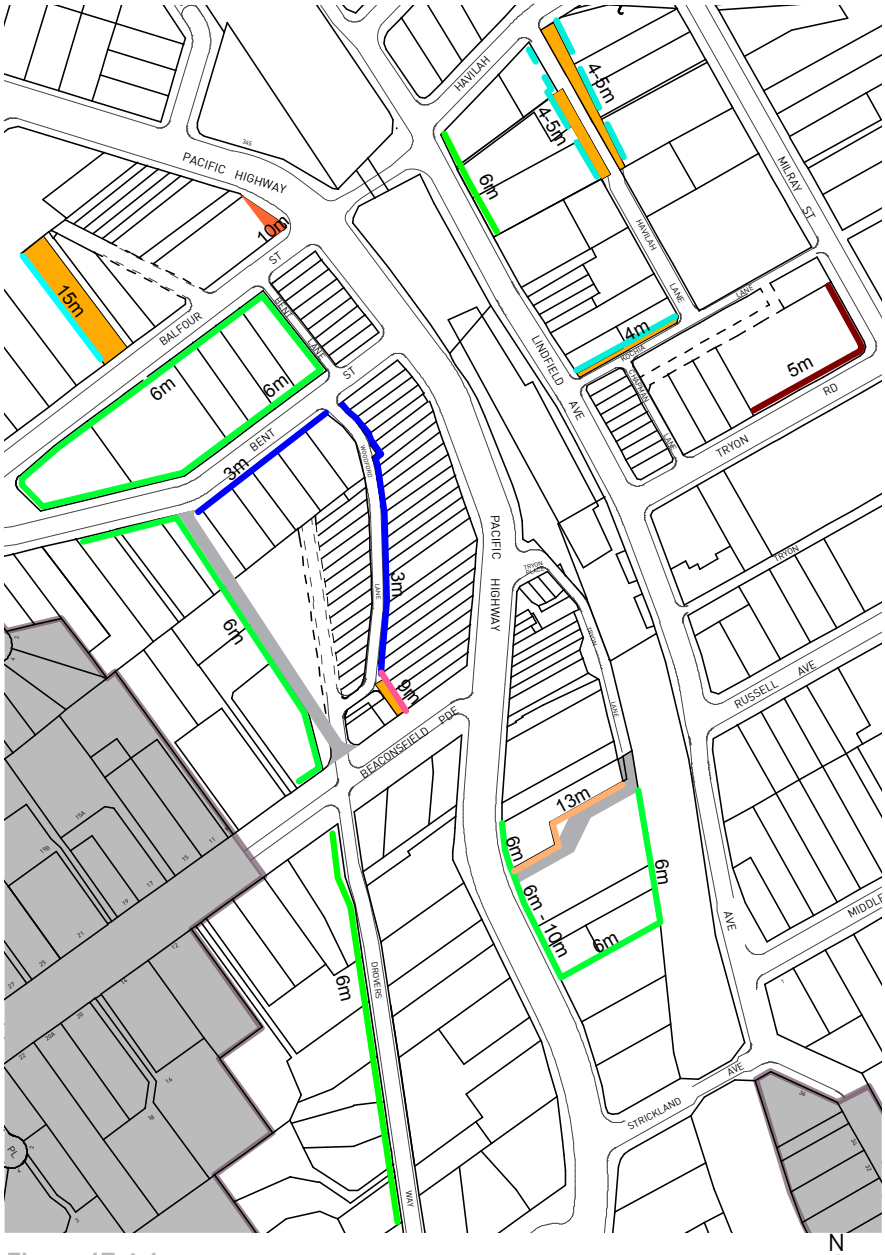


Figure 1E.4-1
Building alignment and setbacks plan.

Legend

- 15m setback
- 13m setback
- 11m setback
- 10m setback
- 9m setback
- 6m setback
- 5m setback
- 4m setback
- 3m setback
- New/realigned road
- Land dedication

14E.4 SETBACKS (continued)

Objectives

Controls

2 All properties within the R4 High Density Residential zone are to have a 10-12 metre front setback (refer to Part 7 of this DCP) with the following exceptions and requirements:

i) 17-21 and 9-15 Bent Street are to provide 6 metre setbacks to Bent Street and Balfour Street.

ii) 10-14 Milray Street and 4 Havilah Road and 51, 55, 55A Lindfield Avenue are to provide a reduced setback to Havilah Lane consistent with that established on properties nos.2-6 and 8 Milray Street (indicatively 3-5 metres).

iii) 51, 55, 55A and 57 Lindfield Avenue are to provide 6 metre setbacks to Lindfield Avenue.

iv) Setbacks to accommodate property boundary realignment affecting 51, 55, 55A Lindfield Avenue, 10, 12, 14 Milray and 3 Havilah Road to widen Havilah Lane to achieve a continuous 12 metre right-of-way (width varies indicatively between 4-5 metres). The affected land is to be excluded from deep soil calculations and included in setback requirements and the land is to be dedicated to Council at no cost.

v) A site coverage of 40% and deep soil requirement of 30% applies to 51, 55 and 55A Lindfield Avenue to accommodate boundary realignment.

vi) 4 and 8 Beaconsfield Parade and A2, 2, 4, 6, 8, 8A and 10 Drovers Way are to provide a 6m setback to Drovers Way.

14E.5 BUILT FORM

Objectives

1 *To maintain a consistent street wall height with reference to existing buildings along the Pacific Highway.*

2 *To encourage new infill development along the Pacific Highway which respects the existing characteristics of the street including the fine-grained character of the original subdivision, setback, height, and rhythm of facades, and is sympathetic to the materials and detailing of the earlier facades.*

3 *To ensure building facades are well designed, articulated and address public streets, public spaces, footpaths, parks and reserves.*

4 *To provide active frontages to all streets, lanes and public open spaces.*

5 *To minimise the visual bulk and scale of new buildings when viewed from any public domain area.*

6 *To enhance the quality and character of the public domain in the commercial precincts.*

7 *To promote development that responds to the pedestrian scale of the street.*

8 *To ensure that buildings are designed to interact and engage with pedestrians at the street level.*

9 *To encourage design excellence in all new development.*

Controls

1 All development within the Lindfield local centre, as outlined in *Figure 14E.5-1*, is to be designed to support and enhance the planned future character of the centre. This is to be done through the Built Form requirements for each Precinct as stipulated in this DCP.



Figure 14E.5-1:
Built form plan.

Legend

- Principal active frontage
- Supporting active frontage
- 3 storey street wall
- 4m upper level setback above street wall height
- Landmark building
- Heritage item
- Public open space
- New/realigned road

14E.6 BUILDING ENTRIES, CAR PARKING AND SERVICE ACCESS

Objectives

1 *To locate building foyers and lobbies in areas of high pedestrian activity.*

2 *To activate the main commercial streets.*

3 *To minimise pedestrian and vehicle conflicts.*

4 *To improve vehicle access and circulation and enhance associated services and infrastructure.*

5 *To encourage co-ordinated development that allows the provision of underground vehicle connections between basement car parks on private land and public land.*

6 *To ensure vehicular access points do not visually detract from the streetscape.*

7 *To promote pedestrian saftey and ease of movement through the local centre.*

Controls

1 All development within the Lindfield local centre, as outlined in *Figure 14E.6-1,* is to be designed to support and enhance the planned future character of the centre. This is to be done through the Building Entries, Car Parking and Service Access requirements for each Precinct as stipulated in this DCP.

2 Havilah Road and Havilah Lane: residential and commercial lobbies and foyers are to be located off Lindfield Ave and Havilah Lane.

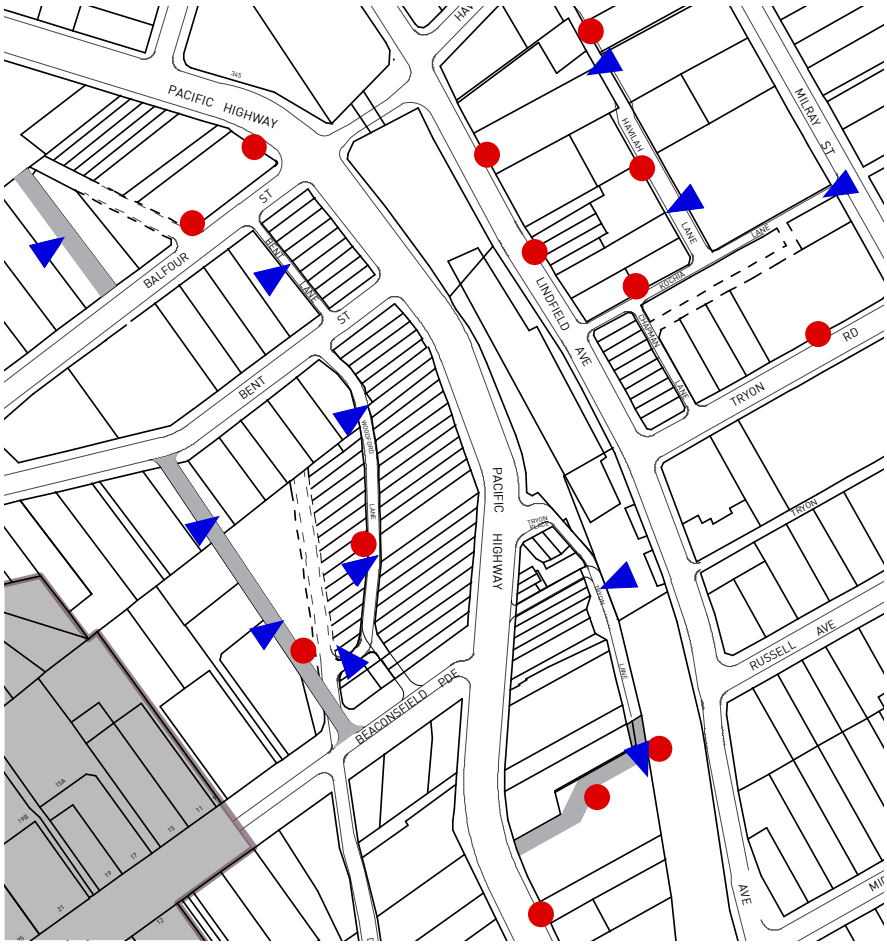


Figure 14E.6-1:
Building entries, car parking and service access plan.

Legend

- Vehicular access to site
- Pedestrian access to site
- New/realigned road

14E.7 HERITAGE

1 To conserve the heritage significance of listed items.

2 To allow for and encourage the adaptive re-use of Heritage Items in the local centre.

3 To ensure that new development responds appriopriately to the quality and context of any adjoining and neighbouring listed Heritage Items.

1 All development within the Lindfield local centre, as outlined in *Figure 14E.7-1*, is to be designed to support and enhance the planned future character of the centre. This is to be done through compliance with Heritage requirements for each Precinct as stipulated in this DCP.



Figure 14E.7-1
Heritage plan.

Legend

- Heritage item
- New/realigned road

14E.8 PRECINCT L1: BALFOUR STREET RETAIL AREA

Objectives

Refer to
Objectives and Controls
PART 14E.1
Urban Precincts

Controls

Planned Future Character

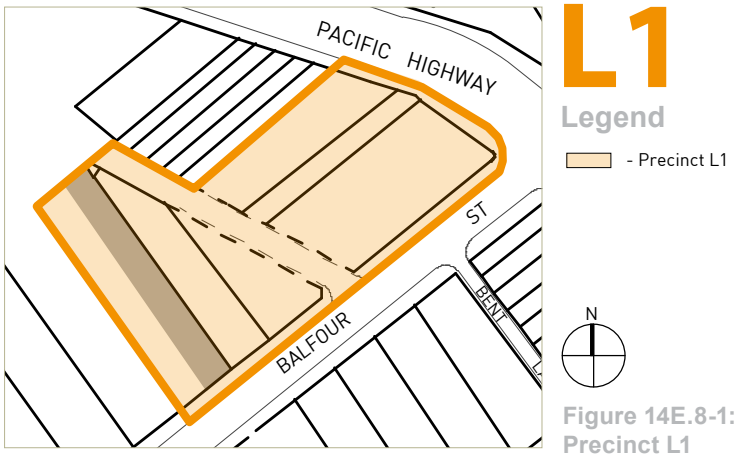


Figure 14E.8-1: Precinct L1

1 This precinct is located at the northern end of the Lindfield local centre on the intersection of the Pacific Highway and Balfour Street. The location of Precinct L1 is illustrated in *Figure 14E.8-1*. The precinct is highly visible from all approaches and includes a Heritage Item representing an example of an Inter War “Old English” style commercial building.

Development is to be designed to support and enhance the planned future character for the precinct as following:

i) This precinct will become a major retail hub anchoring the western side of Lindfield local centre. Retail will form active edges to the Pacific Highway and Balfour Street. Closure and realignment of Balfour Lane will facilitate the incorporation of a larger contemporary supermarket and additional specialty retail. Future development will maintain a sympathetic context for the Heritage Item at 386-390 Pacific Highway which has a potential for adaptive re-use.

ii) The precinct offers a significant opportunity for shop-top housing positioned along Balfour Street to achieve good solar access and amenity for residents. The built form will reduce in height towards the western boundary providing a transition to the adjoining single houses. The provision of screen planting will also assist in providing a visual buffer between properties.

14E.8 PRECINCT L1: BALFOUR STREET RETAIL AREA (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14E.2
Public Domain and Pedestrian Access

Public Domain and Pedestrian Access

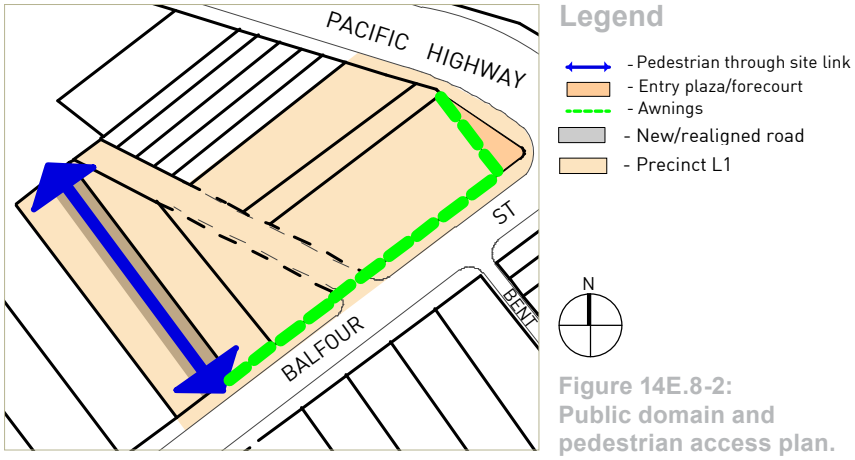


Figure 14E.8-2: Public domain and pedestrian access plan.

2 Create an entry plaza and public address to the building at the intersection of the Pacific Highway and Balfour Street.

3 Provide continuous awnings to the Pacific Highway and Balfour Street frontages.

14E.8 PRECINCT L1: BALFOUR STREET RETAIL AREA (continued)

Objectives

Refer to
Objectives and Controls
PART 14E.3
Proposed Community Infrastructure

Controls

Proposed Community Infrastructure

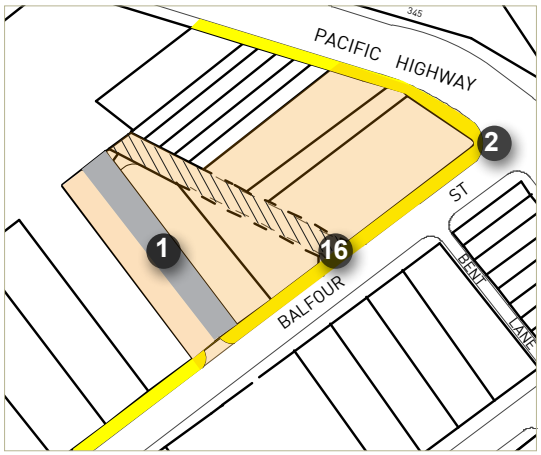


Figure 14E.8-3: Key community infrastructure plan

4 The following development as indicated in *Figure 14E.8-3*, is to be included to support and compliment the provision of Key Community Infrastructure through the *Ku-ring-gai Contributions Plan 2010,* Voluntary Planning Agreement (VPA), or other delivery mechanism:

1. Construction of a new Balfour Lane on the south-western boundary of the site which retains the current level of access to properties fronting the Pacific Highway. The lane will have footpaths both sides of the carriageway and include a landscape zone with significant screen planting along the western edge side of the lane. (Land dedicated to Council as part of site redevelopment).

2. Extend right turn bay on Pacific Highway and Balfour Street/ Havilah Road intersection.

16. Embellishment of the footpath areas and public domain throughout the area including underground power lines, new lighting, high quality paving and furniture and street tree planting.

14E.8 PRECINCT L1: BALFOUR STREET RETAIL AREA (continued)

Objectives

Refer to
Objectives and Controls
PART 14E.4
Setbacks

Controls

Setbacks

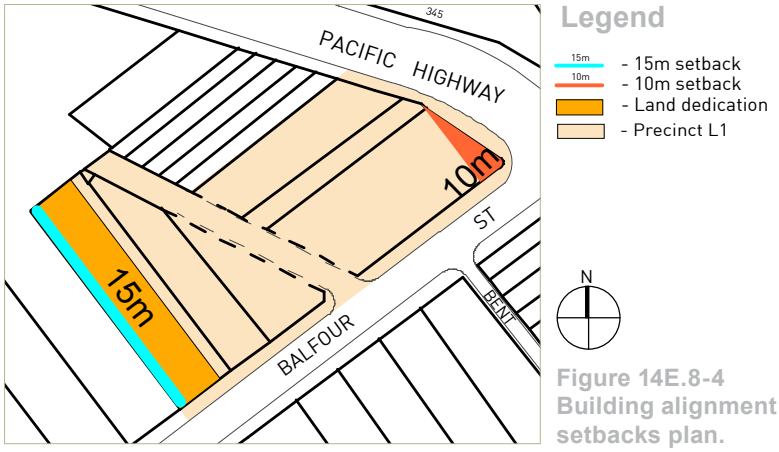


Figure 14E.8-4
Building alignment and setbacks plan.

5 Building setbacks are to be in accordance with *Figure 14E.8-4* and all buildings within this precinct are required to be built to the street alignment and with a zero setback to property boundaries with the following exceptions:

i) Provide 15 metre side setback from the western boundary of property No.1 Balfour Street for the provision of a new (re-aligned) Balfour Lane and landscaping. Land is to be dedicated to Council at no cost.

ii) Provide a variable setback (maximum 10 metres) from the Pacific Highway along the eastern corner of the properties Nos.376-394 Pacific Highway for the provision of a building forecourt.

14E.8 PRECINCT L1: BALFOUR STREET RETAIL AREA (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14E.5
Built Form

Built Form

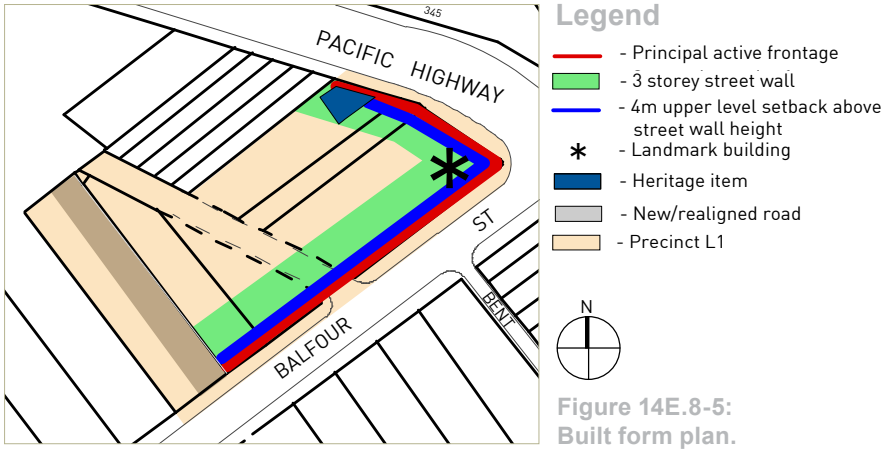


Figure 14E.8-5: Built form plan.

6 Buildings are to be designed in accordance with this Development Control Plan, *Figure 14E.8-5,* and as follows:

i) Create a consistent 3 storey (11.5 metres) street wall that is built parallel to the street alignment of Pacific Highway and Balfour Street.

ii) All levels above the street wall height are to have a 4 metre setback.

iii) The maximum building height of a development adjacent to new Balfour Lane is to be 4 storeys.

iv) Provide active street frontages to the Pacific Highway and Balfour Street.

v) Orientate residential buildings on the retail podium so that they maximise the distance from the substation and maximise the northern aspect.

vi) Provide roof gardens on the podium for screening apartments from the neighbouring substation and roof top building services.

vii) Design a corner building with distinct articulation that defines the intersection of the Pacific Highway and Balfour Street.

viii) Integrate the Heritage Item and adapt for re-use (refer to specific heritage controls in Part 20 Heritage and Conservation Areas).

14E.8 PRECINCT L1: BALFOUR STREET RETAIL AREA (continued)

Objectives

Refer to
Objectives and Controls
PART 14E.6
Building Entries, Car Parking and Service Access

Controls

Building Entries, Car Parking and Service Access

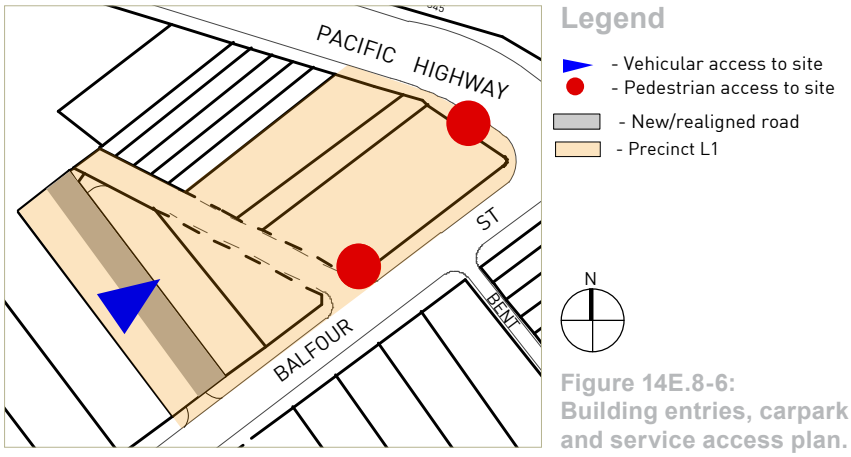


Figure 14E.8-6: Building entries, carpark and service access plan.

7 Provide vehicle entries via new lane (re-aligned Balfour Lane). Direct vehicle access from the Pacific Highway and Balfour Street is not permissible.

8 Provide residential and commercial entry foyers and lobbies off Balfour Street and the Pacific Highway.

14E.8 PRECINCT L1: BALFOUR STREET RETAIL AREA (continued)

Objectives

Refer to
Objectives and Controls
PART 14E.7
Heritage

Controls

Heritage

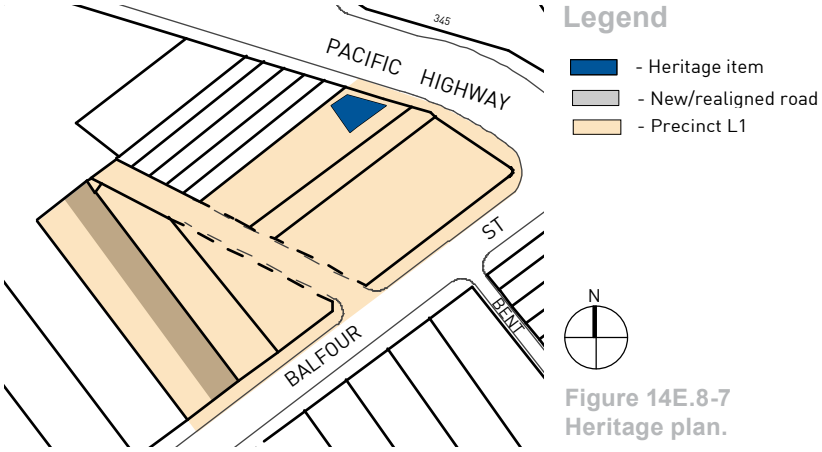


Figure 14E.8-7
Heritage plan.

9 Development adjoining the existing Heritage Item at 386-390 Pacific Highway is to comply with the following controls:

i) Retain and conserve the front portion of the building from the alignment of the facade to the beginning of the recessed link section (the roof form of the front portion of the building should remain apparent from the Pacific Highway).

ii) The front portion of the building is to be integrated with new additions to the rear via a link that does not exceed the height of the eaves at the rear of the front portion of the building, and is to be recessed from the alignment of the northern wall.

iii) The form, detailing material and proportion of any additions to the item are to be sympathetic to the Heritage Item and yet identifiable as new work.

iv) Any additions to the item are to allow for conservation works to the façade; any intact internal spaces; to the shop fronts; and to the front portion of the roof. The significance of any interiors in the front portion of the building should be assessed in any scheme prior to approval being given for alterations.

v) New development to the south of the Heritage Item is to be sympathetic in scale, massing and alignment to the Heritage Item. The maximum building height for buildings adjoining the item is 3 storeys (11.5 metres).

Objectives

Refer to
Objectives and Controls
PART 14E.1
Urban Precincts

14E.9 PRECINCT L2: PACIFIC HIGHWAY RETAIL AREA

Controls

Planned Future Character

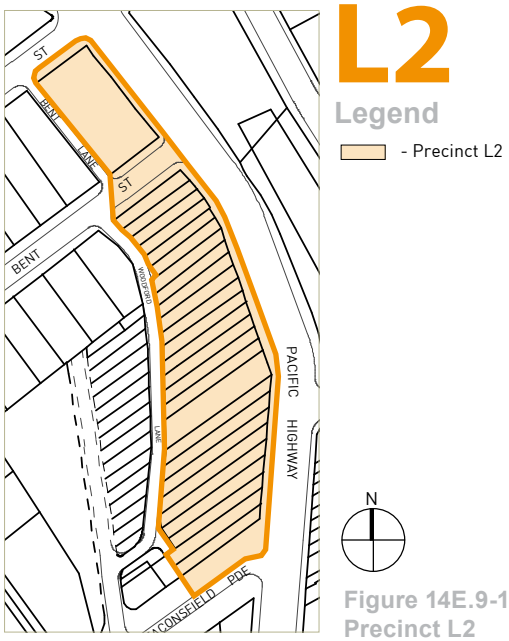


Figure 14E.9-1: Precinct L2

1 This precinct forms the strip retail shopping precinct on western side of Lindfield local centre. The location of Precinct L2 is illustrated in *Figure 14E.9-1*. This area incorporates small shops and businesses fronting the Pacific Highway which are serviced via Woodford and Bent lanes to the rear of the properties. The highway shops are anchored by a supermarket at Balfour Street and the train station.

Development is to be designed to support and enhance the planned future character for the precinct as follows:

i) The main street role of this precinct will be reinforced. The shops are encouraged to provide dual frontage with an urban retail edge addressing the rear lanes as well as the Pacific Highway. This will activate Bent and Woodford Lanes, both of which are proposed to be upgraded with new footpaths and street trees.

14E.9 PRECINCT L2: PACIFIC HIGHWAY RETAIL AREA (continued)

Objectives

Refer to
Objectives and Controls
PART 14E.2
Public Domain and Pedestrian Access

Controls

Public Domain and Pedestrian Access



Figure 14E.9-2:
Public domain and pedestrian access plan.

2 Provide continuous awnings to Pacific Highway, Balfour Street, Bent Street and Beaconsfield Parade.

3 Provide awnings to Bent Lane and Woodford Lane where possible.

4 Internal shopping arcades linking Pacific Highway and Woodford Lane are encouraged.

5 Provide new footpaths to Bent Lane and Woodford Lane.

14E.9 PRECINCT L2: PACIFIC HIGHWAY RETAIL AREA (continued)

Objectives

Refer to
Objectives and Controls
PART 14E.3
Proposed Community Infrastructure

Controls

Proposed Community Infrastructure

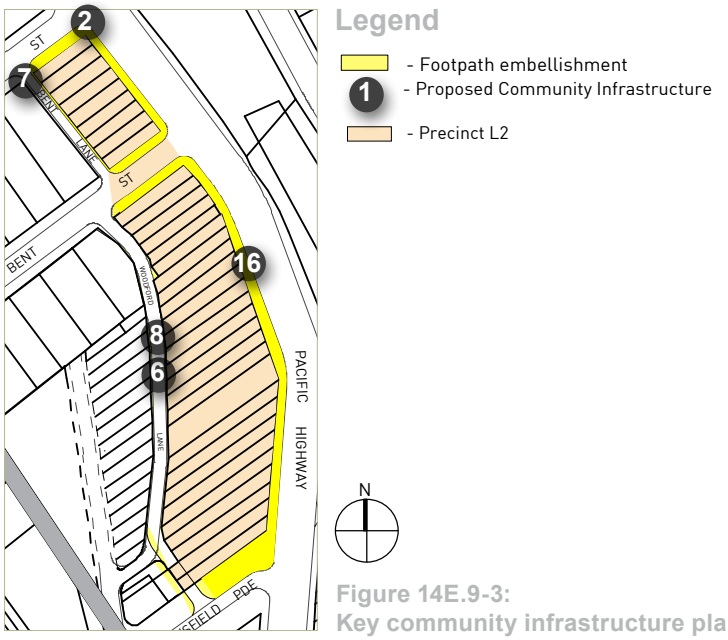


Figure 14E.9-3:
Key community infrastructure plan

6 The following development as indicated in *Figure 14E.9-3*, is to be included to support and compliment the provision of Key Community Infrastructure through the *Ku-ring-gai Contributions Plan 2010,* Voluntary Planning Agreement (VPA), or other delivery mechanism:

- 2 Extend right turn bay on Pacific Highway and Balfour Street/ Havilah Road intersection.
- 6 A new kiss-and-ride zone and taxi ranks on Woodford Lane.
- 7 Upgrade and widening of Bent Lane including new footpaths.
- 8 Upgrade and widening of Woodford Lane including new foot-paths.
- 16 Embellishment of the footpath areas and public domain through-out the area including underground power lines, new lighting, high quality paving and furniture and street tree planting.

14E.9 PRECINCT L2: PACIFIC HIGHWAY RETAIL AREA (continued)

Objectives

Refer to
Objectives and Controls
PART 14E.4
Setbacks

Controls

Setbacks

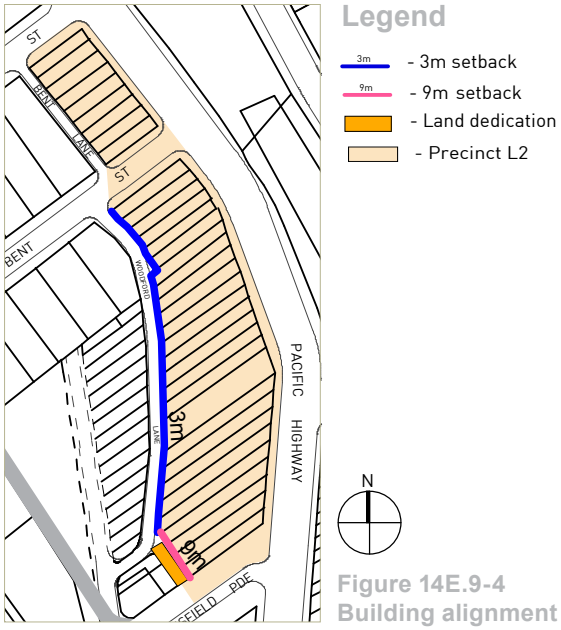


Figure 14E.9-4
Building alignment and setbacks plan.

7 All buildings within this precinct are required to be built to the street alignment and with a zero setback to property boundaries with the following exceptions:

i) 3 metre setback to the eastern side of Woodford Lane applying to the properties Nos.306-356 Pacific Highway to create a 11 metre right of way with footpaths on both sides.

ii) 9 metre setback to eastern side of Woodford Lane applying to the properties 302-304 Pacific Highway to create a new pedestrian link.

14E.9 PRECINCT L2: PACIFIC HIGHWAY RETAIL AREA (continued)

Objectives

Refer to
Objectives and Controls
PART 14E.5
Built Form

Controls

Built Form

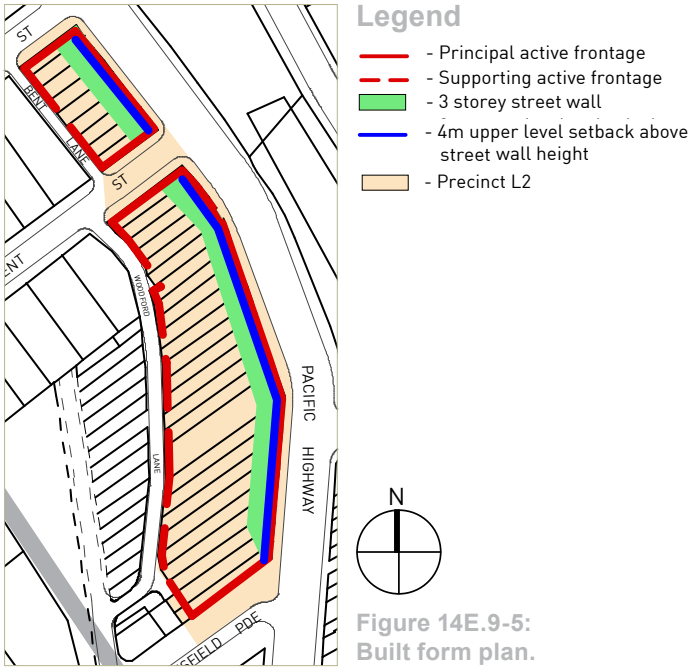


Figure 14E.9-5: Built form plan.

8 Create a consistent 3 storey (11.5 metres) street wall that is built parallel to the street alignment of the Pacific Highway.

9 Provide active retail frontages that are built to the street alignments of the Pacific Highway, Balfour Street, Bent Street and Beaconsfield Parade.

10 Provide active street frontages along Bent Lane and Woodford Lane wherever possible.

14E.9 PRECINCT L2: PACIFIC HIGHWAY RETAIL AREA (continued)

Objectives

Refer to
Objectives and Controls
PART 14E.6
Building Entries, Car Parking and Service Access

Controls

Building Entries, Car Parking and Service Access

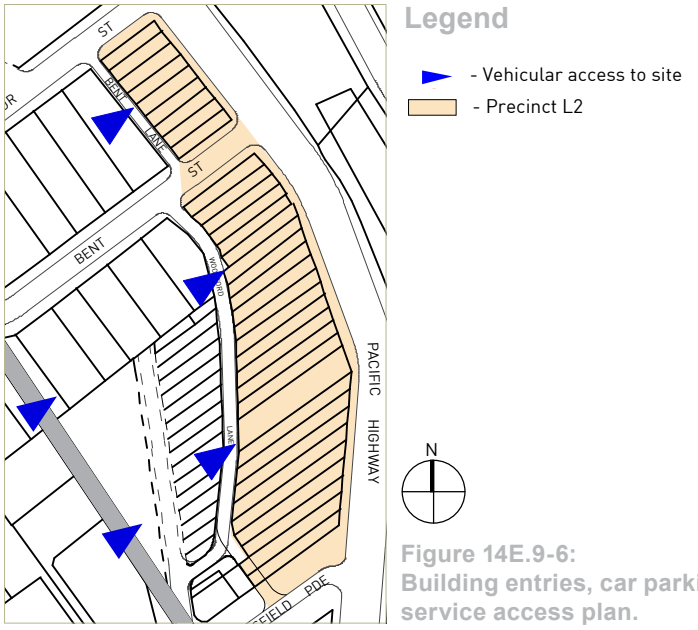


Figure 14E.9-6: Building entries, car parking and service access plan.

11 Vehicle and service access is to be via Woodford Lane, Bent Lane and the new street (re-aligned Drovers Way). No access is to be provided from the Pacific Highway.

14E.10 PRECINCT L3: TRYON PLACE MIXED USE AREA

Objectives

Refer to
Objectives and Controls
PART 14E.1
Urban Precincts

Controls

Planned Future Character

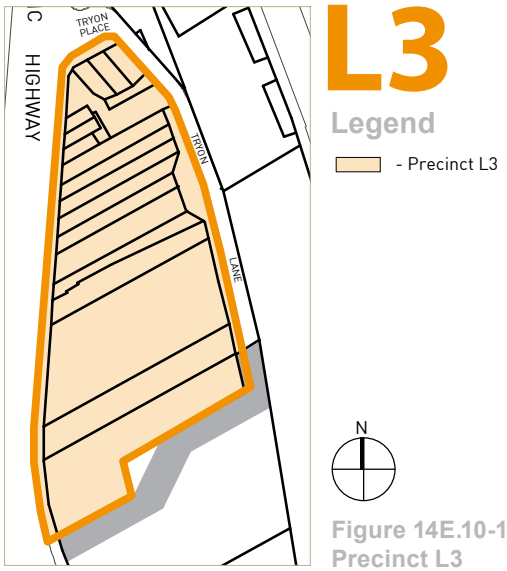


Figure 14E.10-1: Precinct L3

1 This precinct is located between the Pacific Highway and the railway corridor directly adjoining the entry forecourt of the Lindfield train station at Tryon Place. The location of Precinct L3 is illustrated in *Figure 14E.10-1*. Currently the precinct is somewhat isolated from other parts of the centre by the highway and rail line.

Development is to be designed to support and enhance the planned future character for the precinct as follows:

i) The area is planned to become a mixed use precinct with retail and commercial uses on the lower floors and residential apartments on the upper floors. A high quality landmark building will define the corner of Tryon Place and the Pacific Highway. The area has a high visual prominence from the rail and road and is in an important location adjoining the rail station.

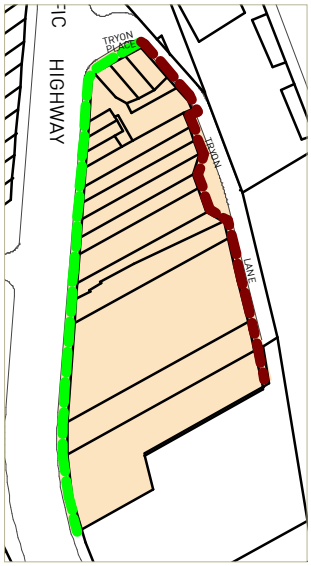
14E.10 PRECINCT L3: TRYON PLACE MIXED USE AREA (continued)

Objectives

Refer to
Objectives and Controls
PART 14E.2
Public Domain and Pedestrian Access

Controls

Public Domain and Pedestrian Access



Legend
- Pedestrian through site link
- Awnings
- Awnings where possible
- Precinct L3

Figure 14E.10-2:
Public domain and pedestrian access plan.

2 Provide continuous awnings to Pacific Highway and Tryon Place.

3 Provide awnings to Tryon Lane where possible.

14E.10 PRECINCT L3: TRYON PLACE MIXED USE AREA (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14E.3
Proposed Community Infrastructure

Proposed Community Infrastructure

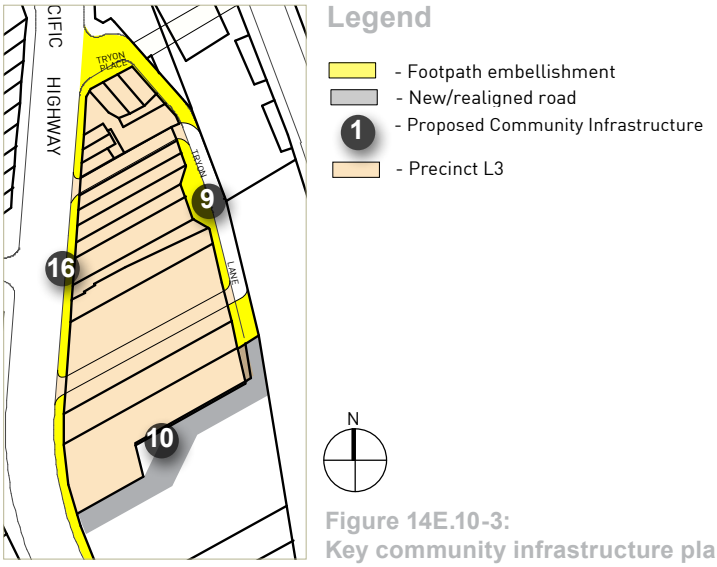


Figure 14E.10-3:
Key community infrastructure plan

4 The following development as indicated in *Figure 14E.10-3*, is to be included to support and compliment the provision of Key Community Infrastructure through the *Ku-ring-gai Contributions Plan 2010,* Voluntary Planning Agreement (VPA), or other delivery mechanism:

9 Tryon Lane is retained and improved with new footpaths and car parking.

10 Construction of new two way lane between Pacific Highway and Tryon Lane (land dedicated to Council as part of site redevelopment) with footpaths.

16 Embellishment of the footpath areas and public domain throughout the area including underground power lines, new lighting, high quality paving and furniture and street tree planting.

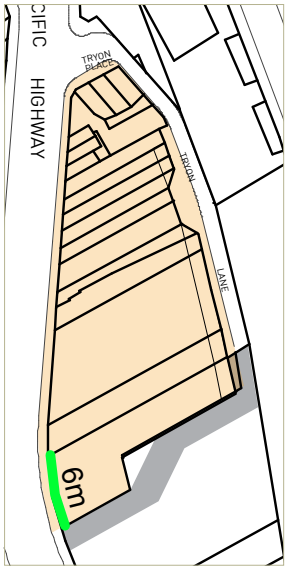
14E.10 PRECINCT L3: TRYON PLACE MIXED USE AREA (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14E.4
Setbacks

Setbacks



Legend
- 6m setback
- New/realigned road
- Precinct L3

Figure 14E.10-4
Building alignment and setbacks plan.

5 All buildings within this precinct are required to be built to the street alignment and with a zero setback to property boundaries with the following exceptions:

i) 6 metre setback to 283 Pacific Highway.

14E.10 PRECINCT L3: TRYON PLACE MIXED USE AREA (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14E.5
Built Form

Built Form

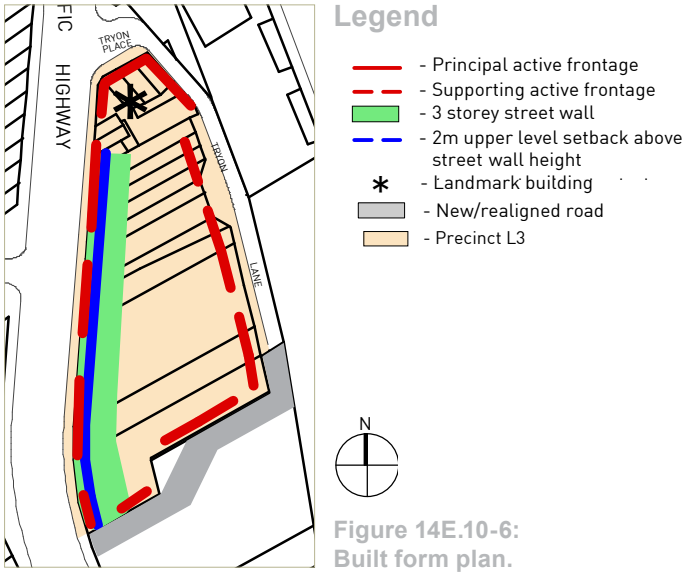


Figure 14E.10-6:
Built form plan.

6 Create a consistent 3 storey (11.5 metres) street wall that is built parallel to the street alignment of Pacific Highway.

7 All levels above the street wall height are to have a 4 metre setback (not including frontage to Tryon Place).

8 Provide active street frontages to the Pacific Highway and Tryon Place.

9 Provide active street frontage to new lane and Tryon Lane where possible.

10 Provide a distinctive corner treatment on the intersection of the Pacific Highway and Tryon Place.

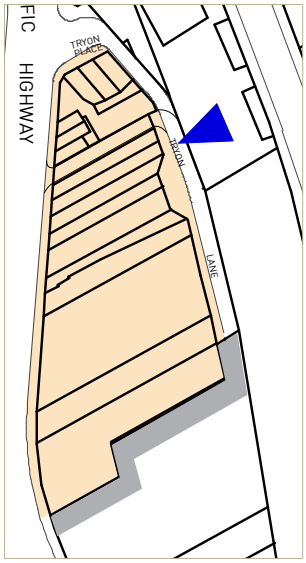
14E.10 PRECINCT L3: TRYON PLACE MIXED USE AREA (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14E.6
Building Entries, Car Parking and Service Access

Building Entries, Car Parking, and Service Access



Legend

- Vehicular access to site
- Precinct L3

Figure 14E.10-7:
Building entries, car parking and service access plan.

11 Vehicle and service access is to be via Tryon Lane and the new lane. Direct access from the Pacific Highway is not permissible.

14E.11 PRECINCT L4: LINDFIELD AVENUE RETAIL AREA AND VILLAGE GREEN

Objectives

Refer to
PART 14E.1
Urban Precincts

Refer to
PART 14R.1
Lindfield Village Green Masterplan

1 *To ensure development is consistent with the Lindfield Village Green Masterplan.*

2 *To provide a large flexible public open space for the community.*

3 *To service the public parking demands of the area.*

4 *To provide enhanced vehicular and pedestrian connectivity between the railway station, Pacific Highway and the Lindfield Village Green site.*

5 *To provide for public open space in the local centre.*

6 *To facilitate community interaction.*

7 *To facilitate the provision of commuter car parking spaces located in basement levels.*





Controls

Planned Future Character

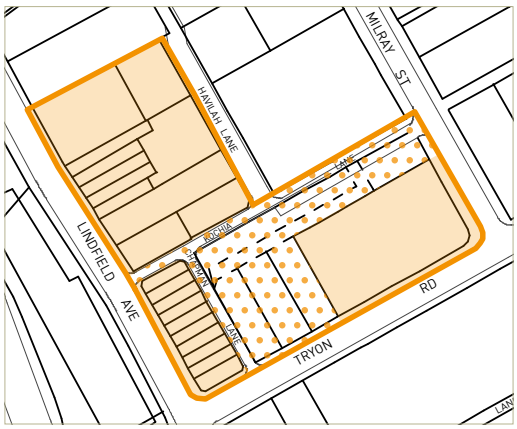


Figure 14E.11-1
Precinct L4
(Refer to Part 14R.1 Lindfield Village Green Masterplan)

1 This precinct is the retail core for the eastern side of Lindfield local centre. The area contains a Council car park on Tryon Road and a distinctive heritage building fronting Lindfield Avenue. Lindfield Avenue forms the "main street" shopping precinct for the eastern side of Lindfield.

Refer to Lindfield Village Green Masterplan at Part 14R.1 for a comprehensive collection of illustrations, plans and design principles. Where there is an inconsistency between the controls in this Part 14E.11 and the Lindfield Village Green Masterplan, then the latter prevails to the extent of the inconsistency.

Development is to be designed in accordance with the Lindfield Village Green Masterplan at Part 14R.1 and is to support and enhance the planned future character for the precinct including the following:

i) In the future the precinct will provide an improved retail centre with a supermarket, speciality retail, offices and shop top housing.

ii) This area will have a strong community focus with a new public park.

iii) Public car parking will be provided in a basement under the Village Green.

iv) The heritage listed shops at 1-21 Lindfield Avenue will be protected as an example of an Inter War Mediterranean style commercial building. Sensitive redevelopment at the rear of the existing heritage building will replace the existing Chapman Lane garages and alterations with new retail uses that contribute to the success and vibrancy of the Village Green; for example, cafes and restaurants that address and open onto Chapman Lane.

Refer to Figure *14E.11-2* (see Lindfield Village Green Masterplan at Part 14R.1 for complete illustrations).

Figure 14E.11-2
Lindfield Village Green
(Refer to Part 14R.1 Lindfield Village Green Masterplan)

14E.11 PRECINCT L4: TRYON ROAD AND LINDFIELD AVENUE RETAIL AREA (continued)

Objectives

Refer to
PART 14E.2
Public Domain and Pedestrian Access

Refer to
PART 14R.1
Lindfield Village Green Masterplan

8 To provide high quality streetscapes with a leafy outlook supporting the Ku-ring-gai landscape character.

9 To provide a pleasant pedestrian experience to, around and through the site.

10 To maximise pedestrian connectivity and circulation (vertical and horizontal) around and through the site.

11 To improve and enhance pedestrian connection from Lindfield railway station to the site.

12 To provide quality space for gatherings and events.

Controls

Public Domain and Pedestrian Access

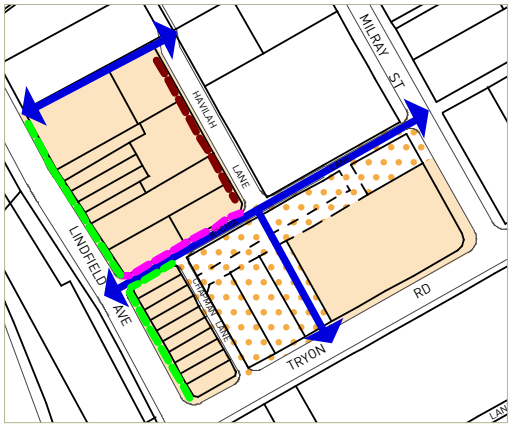


Figure 14E.11-3
Public domain and pedestrian access
(Refer to Part 14R.1 Lindfield Village Green Masterplan)

2 Public domain works and pedestrian access is to be in accordance with *Figure 14E.11-3* and the Lindfield Village Green Masterplan at Part 14R.1, including the following:

i) provide continuous awnings to Lindfield Avenue and Kochia Lane;

ii) provide awnings to Havilah Lane where possible;

iii) provide a new pedestrian walkway between Lindfield Avenue and Havilah Lane;

iv) provide new footpaths to Kochia Lane, Chapman Lane and Havilah Lane;

v) provide solar access to the Village Green;

Refer to *Figure 14E.11-4* (see Lindfield Village Green Masterplan at Part 14R.1 for complete illustrations).

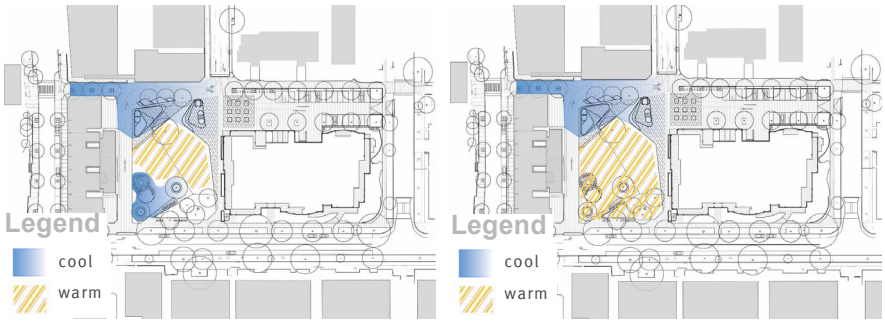


Figure 14E.11-4
Solar access
(Refer to Part 14R.1 Lindfield Village Green Masterplan)

14E.11 PRECINCT L4: TRYON ROAD AND LINDFIELD AVENUE RETAIL AREA (continued)

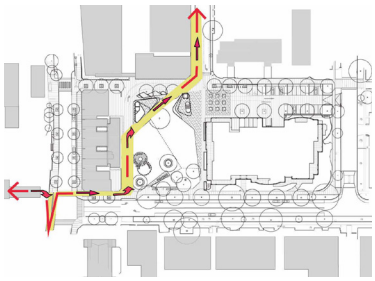
Objectives

Controls

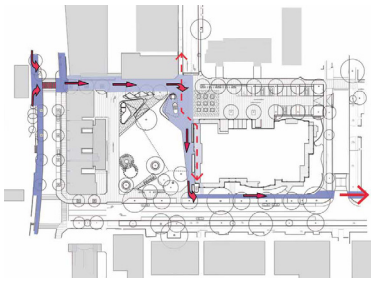
vi) improved pedestrian access is to be provided, including the following:

- Lindfield Station to Kochia Lane via a new pedestrian crossing;
- Lindfield Ave to Kochia Lane;
- Lindfield Ave to Tryon Road;
- Lindfield Station to Havilah Lane.

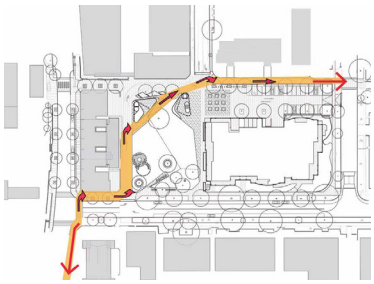
Refer to *Figure 14E.11-5* (see Lindfield Village Green Masterplan at Part 14R.1 for complete illustrations).



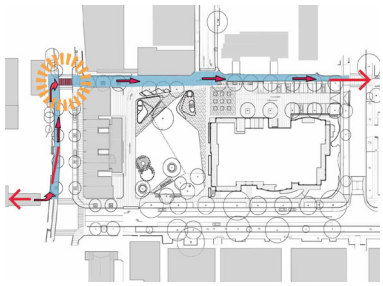
Lindfield Ave - Kochia Lne



Lindfield Ave - Tryon Rd



Station - Havilah Lane



Station - Kochia Lane

Figure 14E.11-5
Pedestrian desire lines
(Refer to Part 14R.1 Lindfield Village Green Masterplan)

vii) provide the following features within the Village Green:

- gazebos and pavillions on northern edge of park;
- plaza area within the northern portion of the park;
- open grass areas on southern portion of park to capture maximum solar exposure;
- landscaping features including a water feature, pavillions, water sensitive urban design (WSUD) gardens.

Refer to *Figure 14E.11-6* (see Lindfield Village Green Masterplan at Part 14R.1 for complete illustrations).





North plaza



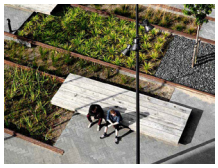
Gazebo



Water feature



Pavillions



WSUD gardens

Figure 14E.11-6
Village Green features
(Refer to Part 14R.1 Lindfield Village Green Masterplan)

14E.11 PRECINCT L4: TRYON ROAD AND LINDFIELD AVENUE RETAIL AREA (continued)

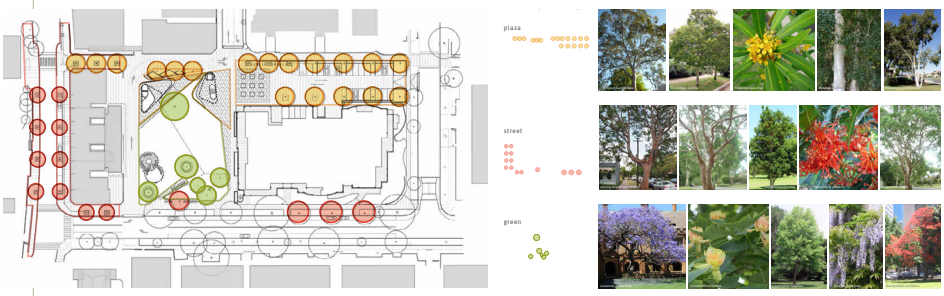
Objectives

Controls

viii) provide street planting on the plaza, street and Village Green;

Refer to *Figure 14E.11-7* (see Lindfield Village Green Masterplan at Part 14R.1 for complete illustrations).

Figure 14E.11-7
Tree planting
(Refer to Part 14R.1 Lindfield Village Green Masterplan)



Tree planting plan

Tree planting examples

ix) provide spaces that allow the Village Green to be used for small events, markets, festivals, night screen/stage and markets.

Refer to *Figure 14E.11-8* (see Lindfield Village Green Masterplan at Part 14R.1 for complete illustrations).

Figure 14E.11-8
Village Green uses
(Refer to Part 14R.1 Lindfield Village Green Masterplan)



Park use - small event



Park use - festival



Park use - market day

14E.11 PRECINCT L4: TRYON ROAD AND LINDFIELD AVENUE RETAIL AREA (continued)

Objectives

Refer to
PART 14E.3
Proposed Community Infrastructure

Refer to
PART 14R.1
Lindfield Village Green Masterplan

13 To adequately service the community infrastructure requirements of the local community.

14 To enhance and improve road and road related infrastructure.

15 To showcase leadership in design excellence and Ecologically Sensitive Development (ESD) provisions.

16 To promote urban 'green living'.

Controls

Proposed Community Infrastructure

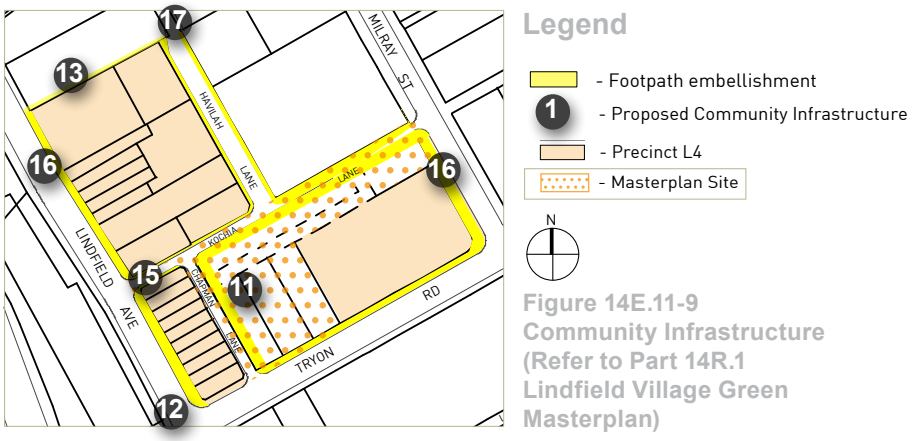


Figure 14E.11-9 Community Infrastructure (Refer to Part 14R.1 Lindfield Village Green Masterplan)

3 Key Community Infrastructure provision is to be in accordance with *Figure 14E.11-9*, the *Ku-ring-gai Contributions Plan 2010* and the Lindfield Village Green Masterplan at 14R.1. It is to be delivered through a Voluntary Planning Agreement (VPA) or other delivery mechanism, and include the following:

11 Creation of new Village Green on Council car park precinct incorporating public basement car parking and commuter carpark spaces (to be funded by Transport for NSW).

12 Installation of new traffic signals at the intersection of Tryon Road and Lindfield Avenue (and removal of existing pedestrian activated traffic signals on Lindfield Avenue).

13 A new pedestrian lane way from Lindfield Ave to Havilah Road.

15 Modifications to pedestrianise Kochia Lane (part).

16 Embellishment of the footpath areas and public domain throughout the area including underground power lines, new lighting, high quality paving and furniture and street tree planting.

17 Upgrade and widening of Havilah Lane including new footpaths (additional land dedicated to Council as part of redevelopment of adjoining sites).

14E.11 PRECINCT L4: TRYON ROAD AND LINDFIELD AVENUE RETAIL AREA (continued)

Objectives

Refer to
PART 14E.4
Setbacks

Refer to
PART 14R.1
Lindfield Village Green Masterplan

17 To ensure that the landscape character of Lindfield is retained.

18 To maintain and enhance a leafy outlook along all streetscapes.

19 To provide for a pleasant pedestrian experience within the local centre.

Controls

Setbacks

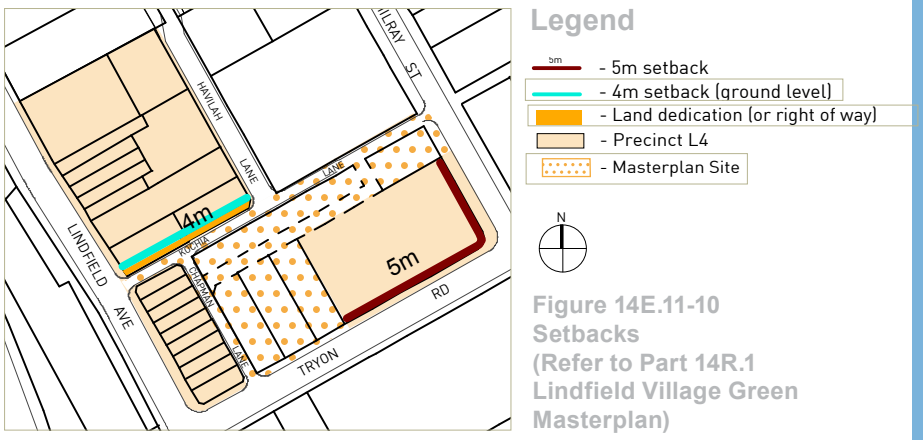


Figure 14E.11-10
Setbacks
(Refer to Part 14R.1
Lindfield Village Green
Masterplan)

4 Building setbacks are to be in accordance with *Figure 14E.11-10* and the Lindfield Village Green Masterplan at 14R.1. All buildings are to be built to the street alignment and with a zero setback to property boundaries with the following exceptions:

i) 4.0 metre setback, at ground level, to Kochia Lane along the southern boundaries of 2 Kochia Lane and 23-25 Lindfield Avenue. Land is to be dedicated to Council at no cost, or a right of way is to be established over the land for Council's benefit.

ii) 5.0 metre landscape setback to Tryon Road and Milray Street applying to the property Nos.12-18 Tryon Road.

14E.11 PRECINCT L4: TRYON ROAD AND LINDFIELD AVENUE RETAIL AREA (continued)

Objectives

Refer to
PART 14E.5
Built Form

Refer to
PART 14R.1
Lindfield Village Green Masterplan

20 *To ensure active street frontages and outdoor dining.*

21 *To minimise overshadowing of parks and open space.*

22 *To encourage design excellence and Ecologically Sustainable Development (ESD) provisions in all new developments.*

23 *To promote well-articulated and modulated building facades.*

24 *To encourage the use of varied materials to enhance the visual quality of buildings.*

Controls

Built Form

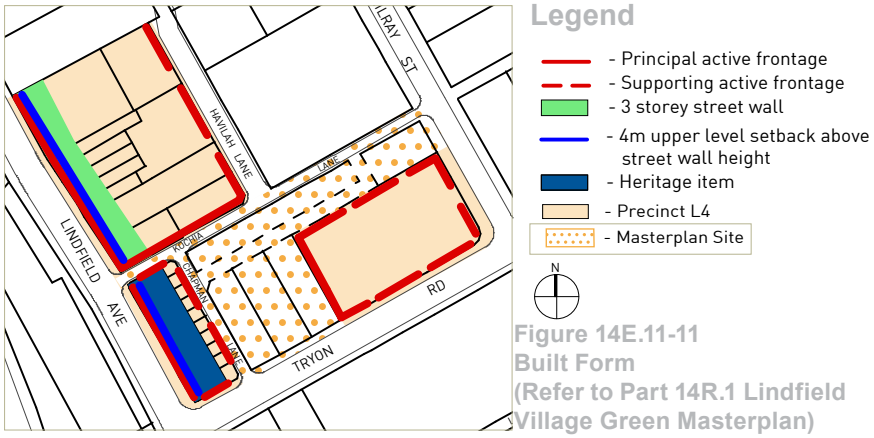


Figure 14E.11-11
Built Form
(Refer to Part 14R.1 Lindfield Village Green Masterplan)

5 A consistent 3 storey (11.5 metres) street wall is to be built parallel to the street alignment of Lindfield Avenue. Refer to *Figure 14E.11-11*.

6 All levels above the street wall height are to have a 4.0 metre setback. *Refer to Figure 14E.11-11*.

7 Provide active street frontages to Kochia Lane, Chapman Lane, Lindfield Avenue and the proposed Village Green. *Refer to Figure 14E.11-11.*

8 Provide supporting active street frontages to Havilah Lane, Tryon Road and Milray Street wherever possible. *Refer to Figure 14E.11-11.*

14E.11 PRECINCT L4: TRYON ROAD AND LINDFIELD AVENUE RETAIL AREA (continued)

Objectives

Refer to
PART 14E.6
Building Entries, Car Parking and Service Access

Refer to
PART 14R.1
Lindfield Village Green Masterplan

25 To allow ease of access and circulation for the mobility impaired.

26 To minimise vehicular entry points to the site.

27 To retain a cohesive streetscape character.

28 To minimise conflicts between vehicular, pedestrian and service entry points.

Controls

Building Entries, Car Parking and Service Access

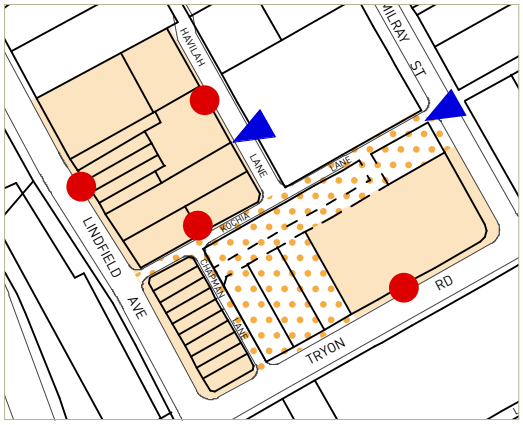


Figure 14E.11-12
Building entries, car parking and service access
(Refer to Part 14R.1 Lindfield Village Green Masterplan)

9 Building entries, car parking and service access is to be in accordance with *Figure 14E.11-12* and the Lindfield Village Green Masterplan at Part 14R.1, including the following:

i) vehicle and service access is to be via Havilah Lane, Milray Street or Chapman Lane. Direct vehicle access from Tryon Road or Lindfield Avenue is not permissible;

ii) residential and commercial lobbies and foyers are to be located off Lindfield Avenue, Kochia Lane, Tryon Road or Havilah Lane;

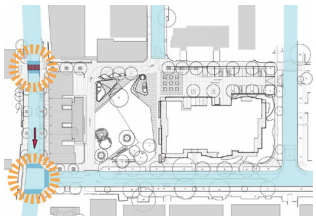
iii) Kochia Lane is to be closed to traffic and the signalised intersection moved to Tryon Road;

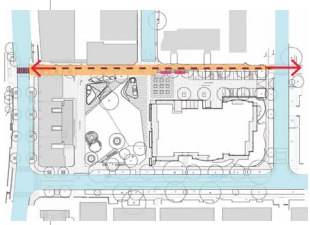
iv) provide a shared pedestrian cycleway on Kochia Lane;

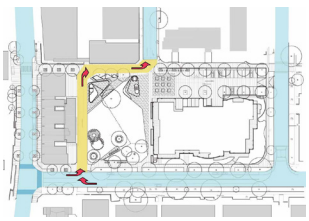
v) Chapman Lane is to be a one way street towards Havilah Lane;

vi) provide entry and exit points off Milray Street and create a one way through link from Havilah Lane to Milray Street;

Refer to *Figure 14E.11-13* (see Lindfield Village Green Masterplan at Part 14R.1 for complete illustrations).


Kochia Lane closed and lights on Tryon Road


Kochia Lane pedestrian cycleway


Chapman Lane

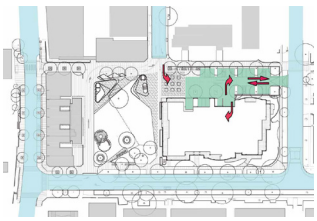

Milray Street entry and exit

Figure 14E.11-13
Vehicular movement
(Refer to Part 14R.1 Lindfield Village Green Masterplan)

14E.11 PRECINCT L4: TRYON ROAD AND LINDFIELD AVENUE RETAIL AREA (continued)

Objectives

29 To accommodate car parking within basement levels to minimise adverse impacts on the surrounding streetscapes.

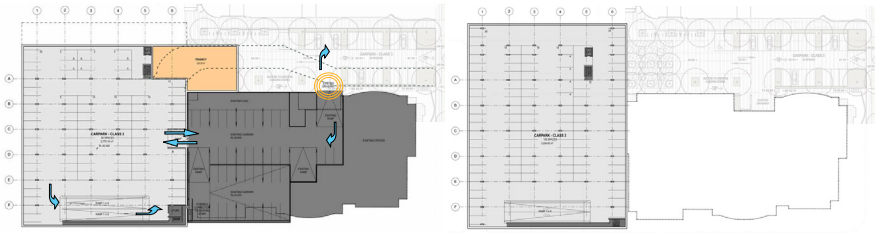
30 To provide clearly marked building entry points.

31 To provide parking for a range of vehicle types within car park structures.

Controls

vii) provide electrical charging points and bicycle parking spaces within car parking structures.

Refer to *Figure 14E.11-14.*



Basement level 1 Basement level 2

Figure 14E.11-14
Basement plans
(Refer to Part 14R.1 Lindfield Village Green Masterplan)

viii) on-grade parking is to be provided off Milray Street;

Refer to *Figure 14E.11-15.*

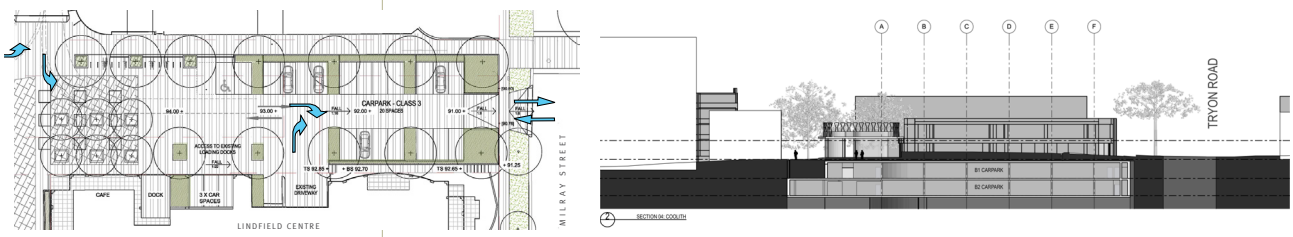


Figure 14E.11-15
Parking and access
(Refer to Part 14R.1 Lindfield Village Green Masterplan)

14E.11 PRECINCT L4: TRYON ROAD AND LINDFIELD AVENUE RETAIL AREA (continued)

Objectives

Refer to
PART 14E.7
Heritage

Refer to
PART 14R.1
Lindfield Village Green Masterplan

32 To retain and conserve forms, significant elevations, details and finishes of residential and commercial buildings at 1-21 Lindfield Ave.

33 Provide a clear understanding of the heritage values and streetscape character of the site.

34 To retain and conserve original shopfronts.

35 To ensure that services do not detract from the traditional architectural elements and the amenity and visual presentation of the streetscape such as views to and from Kochia Lane and Tryon Road.

36 To ensure that rear alterations and additions are of sympathetic design and construction and do not obscure significant aspects of the site.

37 To enable sympathetic contemporary design and use of contemporary materials in appropriate circumstances.

Controls

Heritage

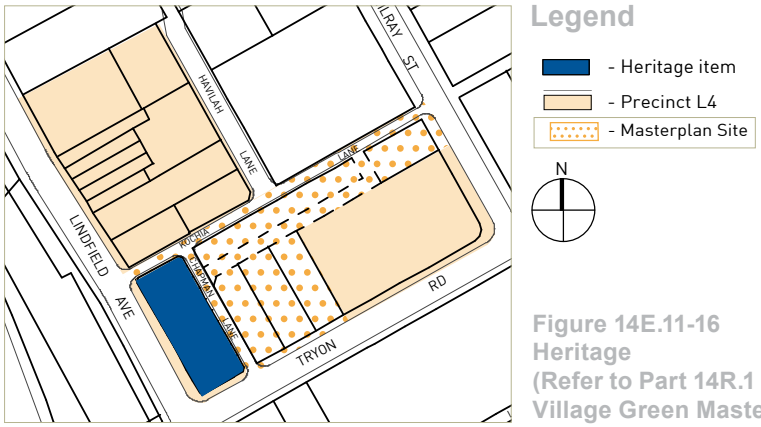


Figure 14E.11-16
Heritage
(Refer to Part 14R.1 Lindfield Village Green Masterplan)

10 Development at the rear of 1-21 Lindfield Avenue, Lindfield should enable the upper portion of each building to be observed from ground level. Rear additions should reflect the façade symmetry of the existing heritage item and ultimately the additions are to present a continuous whole.

i) Rear addition should not be openly visible from Lindfield Train Station or St Alban's Anglican Church.

ii) Minimise the extent of change to significant fabric.

iii) Existing face brickwork and stone walls are not to be coated, rendered or painted.

iv) Rendered keystones and other rendered architectural details should be painted the same colour as 1-3 Lindfield Avenue for continuity.

v) Retain and conserve the front main portion of buildings, maintaining the current façade alignment and proportions. The existing roofscape should remain defined and unobstructed when viewed from Lindfield Avenue, Pacific Highway and Lindfield Station.

vi) Any major works should allow for conservation to original building fabric including any intact internal spaces, shop fronts and facades.

vii) New materials are to complement the proportion, colour and finishes of existing materials on the "Ramsay Building" and be identifiable as new on close inspection without detracting from the character and heritage significance of the building.

viii) A Heritage Impact Statement should be prepared by a suitably qualified heritage professional to accompany any future Development Applications assessing the impact of any major proposed development.

14E.11 PRECINCT L4: TRYON ROAD AND LINDFIELD AVENUE RETAIL AREA (continued)

Objectives

Controls

11 Site specific development controls for end bays, 1-3 Lindfield Avenue & 17-21 Lindfield Avenue

i) The two end bays were designed to be viewed from three elevations, it is essential views to these elevations are maintained.

ii) Maintain the monumental form of end bays, and ensure views to the upper two stories of the buildings from and to Tryon Road and Kochia Lane remain uninterrupted.

iii) A setback to align with interior line of rendered wall strip should be introduced to both end bays from Tryon Road and Kochia Lane respectively (Figure 14E.11-19).

iv) Retain significant fabric and building elements

v) Consider reinstating elements such as spiral barley-twist columns in-between raking arches on second level of 1-3 Lindfield Avenue façade.

vi) The brick retaining wall on Chapman Lane may be removed or altered to accommodate a secondary entrance.

vii) Additions should not exceed 4m including the top of parapet or balustrade. (Figure 14E.11-19)

viii) An additional mezzanine or second level may be constructed to the rear of 17-21 Lindfield Avenue. The additional level must be transparent glass, including the roof so the upper portion of the façade can still be seen. The height of this transparent addition must be below the rendered horizontal band of the existing upper storey at the maximum. (Figure 14E.11-19

12 Site specific development controls for central retail section, 5-15 Lindfield Avenue, Lindfield:

i) Non-original rear additions to 5-15 Lindfield Avenue, Lindfield may be removed and replaced with contemporary additions that are sympathetic in form, detailing and proportion. New additions should be easily identifiable as new work.

ii) Rear additions should be limited to one level and should not exceed 4m including top of a parapet of balustrade. (Figure 14E.11-19).

iii) The rooftop terrace may remain or be introduced above new rear additions. A limited number of removable structures will allow for the rear elevation to be appreciated in an unobstructed way.

iv) Removal of non-original fabric including paintwork should be considered.

v) Existing breezeways between the central retail section and end bays must not be obscured or obstructed, breezeways between in between central retail section may be infilled at ground level. (See Figure 14E.11-19).

vi) Air conditioning units and services should be removed to a more discrete location.

14E.11 PRECINCT L4: TRYON ROAD AND LINDFIELD AVENUE RETAIL AREA (continued)

Objectives

Controls

13 To encourage resotration and redevelopment to the rear of Nos. 1-21 Lindfield Avenue and to protect the Heritage Item of the building the retail parking requirements may be reduced by up to 100%. The applicant will be required to provide a report assessing the potential impacts on public parking around the centre in order for a parking reduction to be considered. The report is to be consistent with the Councils Town Centre Parking Management Plan.



Figure 14E.11-17
Current rear of 1-21 Lindfield Ave



Figure 14E.11-18
The distinct components of the “Ramsay Building”. (Original Image Source: LPI, 2016)

14E.11 PRECINCT L4: TRYON ROAD AND LINDFIELD AVENUE RETAIL AREA (continued)

Objectives

Controls

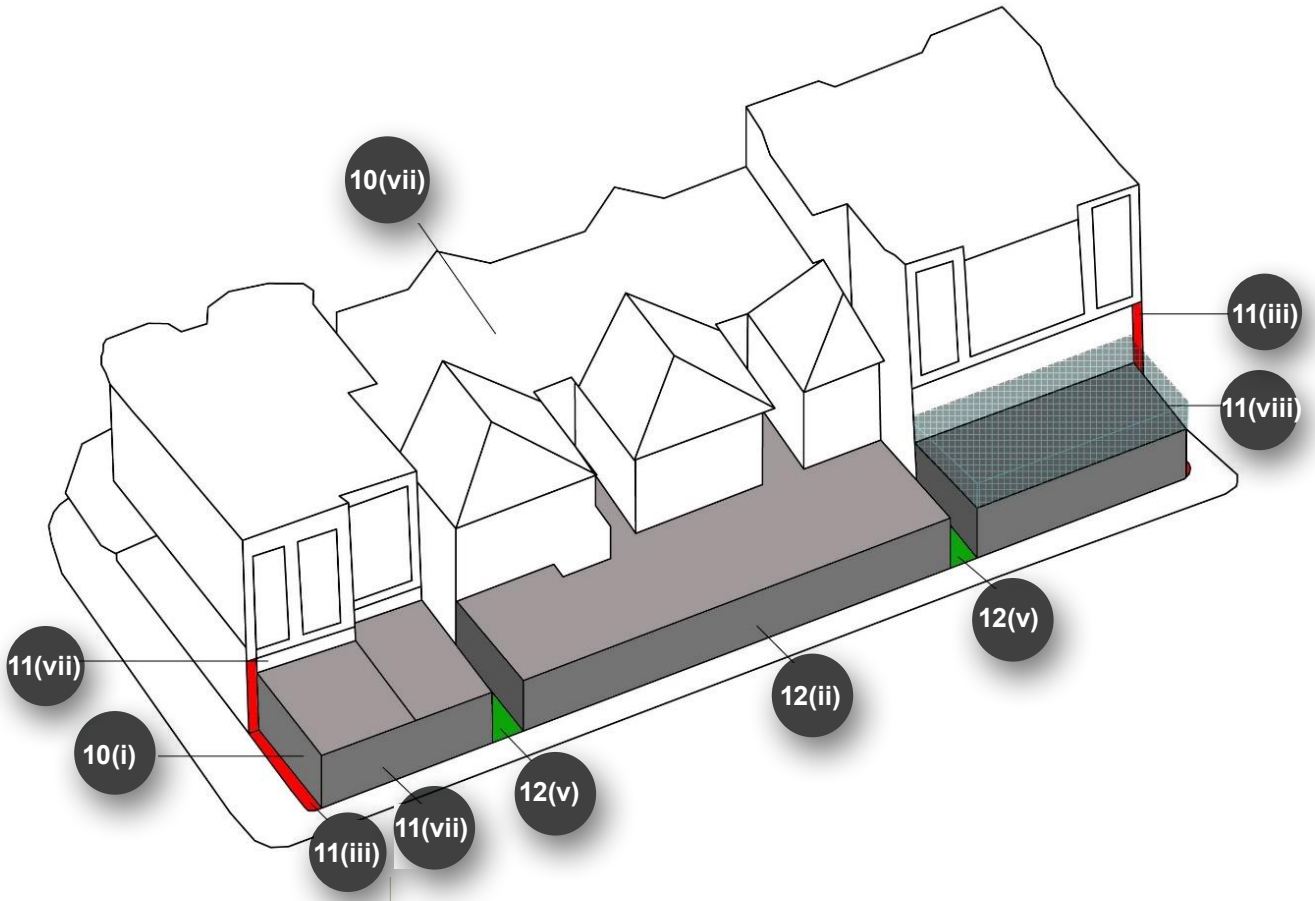


Figure 14E.11-19
3D image of the heritage item showing the extent of potential future development.

14E.12 PRECINCT L5: LINDFIELD HUB

Objectives

Refer to
PART 14E.1
Urban Precincts

Refer to
PART 14R.2
Lindfield Hub Masterplan

1 *To ensure development is consistent with the Lindifeld Hub Masterplan.*

2 *To provide a vibrant community hub with a mix of retail, residential, commercial and community facilities.*

3 *To provide a large flexible public open space for the community.*

4 *To improve vehicular movement through the area.*

5 *To retain the existing number of Council car parking spaces.*

6 *To provide adequate parking associated with the new land uses developed on the site.*

7 *To provide enhanced vehicular and pedestrian connectivity between the railway station, Pacific Highway and the Lindfield Hub site.*

8 *To provide a civic plaza that connects the site to Pacific Highway.*

Controls

Planned Future Character

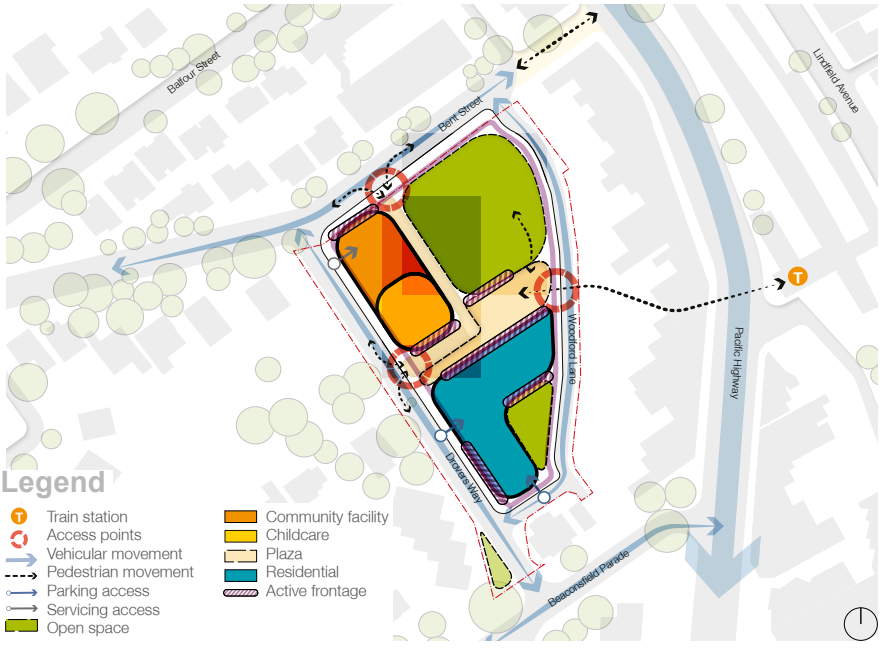


Figure 14E.12-1
Lindfield hub structure.
(Refer to Part 14R.2
Lindfield Hub Masterplan)

1 This precinct is located on the western side of Lindfield local centre and is owned by Ku-ring-gai Council. The Lindfield Hub is to become a community focal point with recreational activities and community facilities. It will include a new urban park, multi-purpose community facilities, commuter and community car parking, residential buildings and a new road connecting Bent Street and Beaconsfield Parade. Council has adopted a masterplan for the site which is supported by the controls in this DCP.

Refer to the Lindfield Hub Masterplan at Part 14R.2 for a comprehensive collection of illustrations, plans and design principles. Where there is an inconsistency between the controls in this Part 14E.12 and the Lindfield Hub Masterplan, then the latter prevails to the extent of the inconsistency.

Development is to be designed in accordance with the Lindfield Hub Masterplan at Part 14R.2 and is to support and enhance the planned future character of this Precinct by providing the following:

i) **Community Hub:** a range of facilities including a community centre, new park, restaurants and cafes, commuter car parking, new library with direct ground level access located adjacent to a new town square, and parking associated with new and existing uses.

ii) **Public Realm:** A community park with a retail and community facility frontage providing passive surveillance opportunities and a civic plaza for outdoor dining and other leisure and social activities.

14E.12 PRECINCT L5: LINDFIELD HUB (continued)

Objectives

Controls

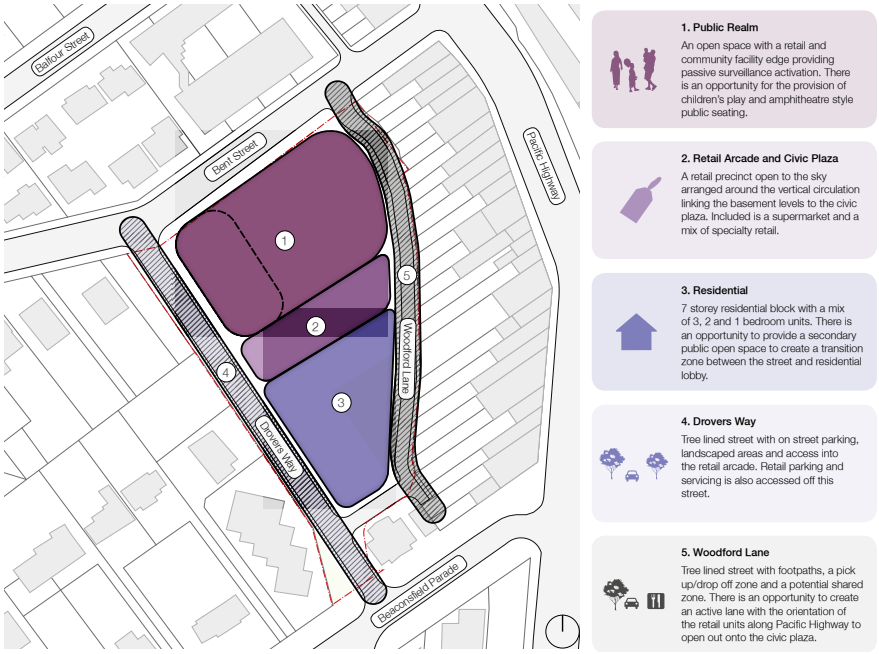
iii) **Retail Arcade:** A retail area arranged around the vertical circulation linking the basement levels to a civic plaza; including a supermarket and a mix of specialty retail at ground level.

iv) **Residential**: Buildings providing a mix of 1, 2 and 3 bedroom units.

v) **Drovers Way:** A new tree lined street with on street parking, landscaped areas and access into the retail arcade, and access to basement parking and servicing.

vi) **Woodford Lane:** An active lane providing opportunities for the retail units fronting Pacific Highway to open out to the civic plaza at the rear.

Refer to *Figure 14E.12-1* and *Figure 14E.12-2* (see Lindfield Hub Masterplan at Part 14R.2 for complete illustrations).



Urban structure plan



Visualisation of Open Space



Visualisation of Woodford Lane

Figure 14E.12-2
Lindfield hub structure.
(Refer to Part 14R.2 Lindfield Hub Masterplan)

14E.12 PRECINCT L5: LINDFIELD HUB (continued)

Objectives

Refer to
PART 14E.2
Public Domain and Pedestrian Access

Refer to
PART 14E.6
Building Entries, Car Parking and Service Access

Refer to
PART 14R.2
Lindfield Hub Masterplan

9 To provide a pleasant pedestrian experience through, around and to the site.

10 To maximise pedestrian connectivity and circulation (vertical and horizontal) around and through the site.

11 To improve and enhance pedestrian connection from the railway station to the site.

12 To allow ease of access and circulation for the mobility impaired.

13 To minimise vehicular entry points to the site.

Controls

Access and Movement

2 Pedestrian access is to be in accordance with the Lindfield Hub Masterplan at Part 14R.2, including the following:

i) a pedestrian through site link from Pacific Highway to Drovers Way along the new retail/commercial/community building frontages and through the civic plaza;

ii) a pedestrian walkway from Beaconsfield Parade to Bent Street, with direct access to the new retail/commercial/community facilities;

iii) a pedestrian link from Woodford Lane to Beaconsfield Parade;

iv) pedestrian access off Woodford Lane to the large civic plaza in the centre of the site that connects the community hub building, open spaces, library, childcare centre, and facilitating primary vertical circulation on the site;

v) pedestrian access from all surrounding streets;

vi) pedestrian access to residential lobbies/foyers from Woodford Lane and Drovers Way.

Refer to *Figure 14E.12-3* (see Lindfield Hub Masterplan at Part 14R.2 for complete illustrations).

3 Vehicular access is to be in accordance with the Lindfield Hub Masterplan at Part 14R.2, including the following:

i) all basement parking is to be accessed from Drovers Way (new road);

ii) residential parking is to be accessed from Woodford Lane (south) or Drovers Way;

iii) service access to all buildings is to be from Drovers Way;

iv) pick up drop off areas are to be provided on Drovers Way and Woodford Lane.

Refer to *Figure 14E.12-3* (see Lindfield Hub Masterplan at Part 14R.2 for complete illustrations).

14E.12 PRECINCT L5: LINDFIELD HUB (continued)

Objectives

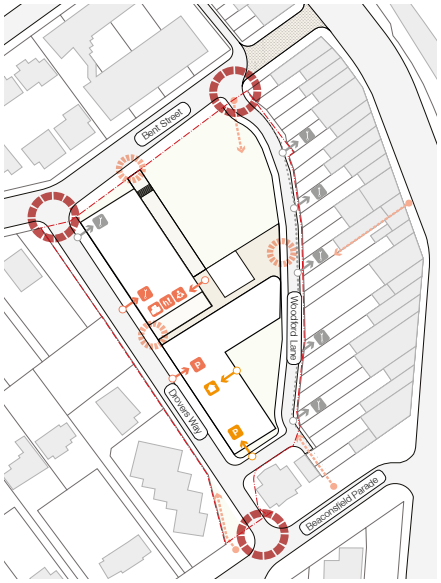
14 *To retain a cohesive streetscape character.*

15 *To minimise conflicts between vehicular, pedestrian and service entry points.*

16 *To provide unambiguous and clearly marked building entry points.*

17 *To provide a clear distinction between commercial, retail and residential building entry points.*

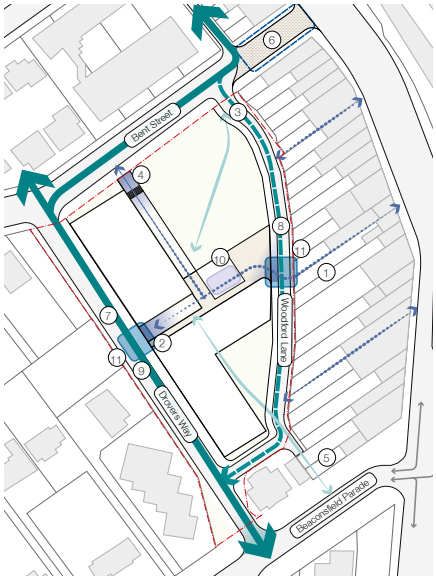
Controls



Legend

- Access point
- Pedestrian access point
- Secondary pedestrian point
- Community hub access
- Residential access
- Servicing access
- Library
- Community centre
- Childcare
- Public parking
- Hub services
- Residential
- Residential parking
- Servicing

Access Plan



Legend

- Secondary vehicle movement
- Primary pedestrian movement
- Secondary pedestrian movement
- Primary vehicular movement
- Vehicular movement external
- Vertical circulation
- Pick up/drop off zone

Movement Plan

Figure 14E.12-3
Access and movement plans
(Refer to Part 14R.2
Lindfield Hub Masterplan)

14E.12 PRECINCT L5: LINDFIELD HUB (continued)

Objectives

Refer to
PART 14E.2
Public Domain and Pedestrian Access

Refer to
PART 14R.2
Lindfield Hub Masterplan

18 To provide a new community public park.

19 To maximise and enhance the Ku-ring-gai landscape character to all streetscapes.

20 To provide open spaces that cater for a range of uses, including day and night uses.

21 To provide open spaces that cater for different age groups.

22 To create accessible, comfortable and safe open spaces.

23 To maximise pedestian connections to open spaces.

24 To provide open green spaces for passive recreation.

25 To maximise connections to the new community hub building.

Controls

Public Domain

4 Public domain areas are to be in accordance with the Lindfield Hub Masterplan at Part 14R.2, including the following:

i) existing and upgraded streets are to provide pedestrian and cycle access, generous footpaths, on-street parking, public seating and tree canopy;

ii) the number of mature trees within the new public park constructed on top of a basement structure is to be maximised;

iii) deep soil planting is to be provided to a minimum of 20% of the site;

Refer to *Figure 14E.12-4* (see Lindfield Hub Masterplan at Part 14R.2 for complete illustrations).



Figure 14E.12-4
Open space plans
(Refer to Part 14R.2 Lindfield Hub Masterplan)

iv) Provide a community park on Bent Street with a minimum area of 3000m², including the following:

- strong connections to the new community hub;
- areas for highly programmed community activities, including, but not limited to carols, outdoor movies, yoga and passive recreational opportunities and native play;
- an open turf area with:
  - a perimeter path for informal passive parkland use;
  - a terraced seating edge for informal gathering and small scaled events;
  - perimeter path connects to key entries;
- a main pedestrian movement spine with:
  - a formal paved path adjoining the park and fronting the library;
  - generous seating spaces along path;
  - a path that connects to the lower level plaza and escalators/retail area.

14E.12 PRECINCT L5: LINDFIELD HUB (continued)

Objectives

Controls

- mass planted deep soil perimeter embankment with:
  - an informal tree grove planting to park perimeter within deep soil embankment zone;
  - endemic tree species planted in deep soil (offset tree planting);
  - mass planted under-storey consisting of a mix of native and exotic species appropriate for the site conditions;
  - pedestrian footpaths, stairs and ramps providing accessible connections to the street;
  - clear sight lines through all landscaped areas
- a play space with:
  - an adjacent cafe outdoor seating area;
  - play areas to cater for toddlers and young children (0-7);
  - a water and native play theme;
- a lower terrace path and external seating zone with:
  - a paved edge to the building frontage providing a pedestrian connection between street, park and upper plaza levels;
  - a widened paved area for external seating for library/ cafe etc as an active edge to the park;
- provide an amphitheatre space which is to address the parkland, enclose the turf area and provide stair access to the plaza.

Refer to *Figure 14E.12-5* (see Lindfield Hub Masterplan at Part 14R.2 for complete illustrations).



Figure 14E.12-5
Bent Street park
(Refer to Part 14R.2 Lindfield Hub Masterplan)

14E.12 PRECINCT L5: LINDFIELD HUB (continued)

Objectives

Controls

v) provide a civic plaza with an approximate area of 1000m^2, including the following:
   - a high quality public space with a northern aspect and views over the park landscape;
   - circulation paths in high quality unit pavers;
   - external seating zones for informal gatherings;
   - grove tree planting and seating to street edge;
   - access to centralised lift and escalators to retail below;
   - a lift entry to library, childcare, community hub and retail below;
   - improved connections to Pacific Highway and train station;
   - mass planting under trees.

Refer to *Figure 14E.12-6* (see Lindfield Hub Masterplan at Part 14R.2 for complete illustrations).



Figure 14E.12-6
Civic plaza
(Refer to Part 14R.2
Lindfield Hub Masterplan)

14E.12 PRECINCT L5: LINDFIELD HUB (continued)

Objectives

26 To ensure solar access to onsite open spaces, community facilities and residential dwellings.

Controls

5 Solar access is to be in accordance with the Lindfield Hub Masterplan at Part 14R.2, including the following:

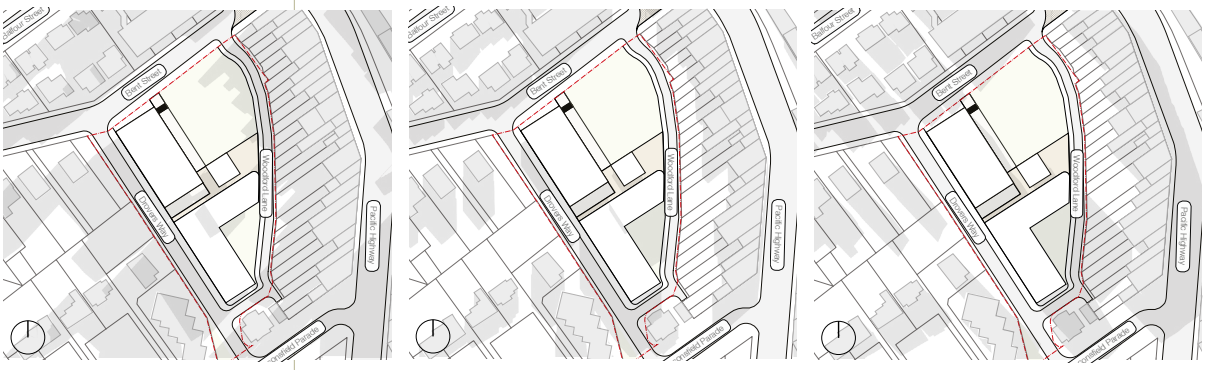
i) both primary and secondary open spaces are to receive morning sun with minimal overshadowing from the new development;

ii) the community facility, library and childcare are to have the opportunity to be naturally lit on the eastern side through the morning sun;

iii) the large open space and area of landscaping fronting Bent Street is to receive afternoon sun with no impact of overshadowing from existing or proposed development;

iv) the northern end of Drovers Way is to receive afternoon sun and provide opportunities for natural lighting into the community facility, library and childcare.

Refer to *Figure 14E.12-7* (see Lindfield Hub Masterplan at Part 14R.2 for complete illustrations).



21st June 9am shadow | 21st June 12pm shadow | 21st June 3pm shadow

Figure 14E.12-7
Solar access plans
(Refer to Part 14R.2 Lindfield Hub Masterplan)

14E.12 PRECINCT L5: LINDFIELD HUB (continued)

Objectives

Refer to
PART 14E.3
Proposed Community Infrastructure

Refer to
PART 14R.2
Lindfield Hub Masterplan

27 To adequately service the community infrastructure requirements of the local community.

28 To provide for public open space in the local centre.

29 To create a vibrant mixed-use precinct.

30 To facilitate community interaction.

31 To provide quality space for gatherings and events.

32 To enhance and improve road and road related infrastructure.

33 To showcase leadership in design excellence and ESD provisions.

34 To promote a high quality live-work precinct.

35 To facilitate the provision of commuter car parking spaces located in basement levels of new developments.

36 To promote urban 'green living'.

Controls

Proposed Community Infrastructure

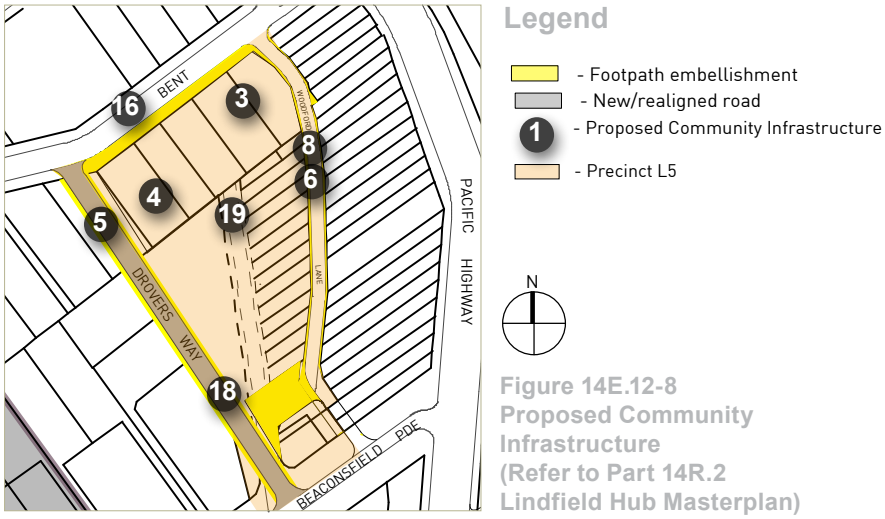


Figure 14E.12-8
Proposed Community Infrastructure
(Refer to Part 14R.2 Lindfield Hub Masterplan)

6 Key Community Infrastructure provision is to be in accordance with *Figure 14E.12-8*, the *Ku-ring-gai Contributions Plan 2010* and the Lindfield Hub Masterplan at Part 14R.2. It is to be delivered through a Voluntary Planning Agreement (VPA), or other delivery mechanism, and include the following:

3 A community park on Bent Street of minimum 3,000m² in size. It is to include a large open space with deep soil planting on the north eastern corner of the site fronting Bent Street and Woodford Lane, amphitheatre seating, play space, flexible open space and a library cafe. Refer to 14E.12(4iv).

4 A new multi-purpose community building including a library of minimum 1,265m² , child care centre of minimum 533m² , and community facility of minimum 1,200m².

5 Realignment of Drovers Way to create a new 15.0m wide two-way street providing a link from Bent Street to Beaconsfield Parade and including on-street parking and access to basement parking.

6 A new kiss-and-ride zone and taxi ranks on Woodford Lane.

8 Upgrade and widening of Woodford Lane including new footpaths, parking and access to basement parking and loading/service access.

16 Embellishment of the footpath areas and public domain including underground power lines, new lighting, high quality paving and furniture and street tree planting.

18 Construction of new commuter car park spaces (to be funded by Transport for NSW) and a new kiss and ride area, public parking, and additional parking associated with newly proposed land uses.

19 A civic plaza area with public seating and outdoor dining opportunities. Refer to 14E.12(4v).

Refer to *Figure 14E.12-9* (see Lindfield Hub Masterplan at Part 14R.2 for complete illustrations).

14E.12 PRECINCT L5: LINDFIELD HUB (continued)

Objectives

37 To provide streetscapes with a leafy outlook and a high quality Ku-ring-gai landscape character.

Controls

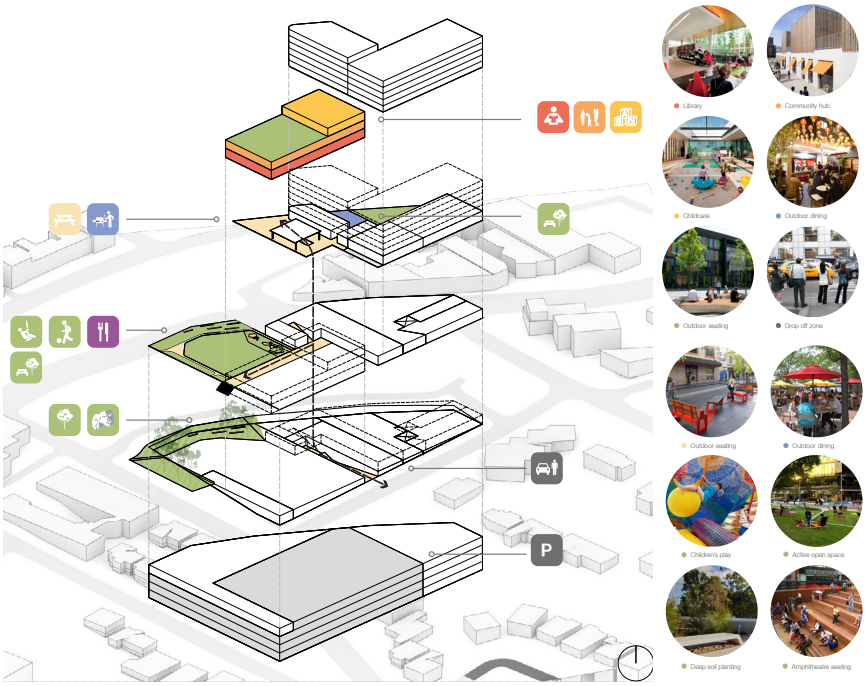


Figure 14E.12-9
Proposed Community Infrastructure
(Refer to Part 14R.2
Lindfield Hub Masterplan)

14E.12 PRECINCT L5: LINDFIELD HUB (continued)

Objectives

Refer to
PART 14E.4
Setbacks

Refer to
PART 14R.2
Lindfield Hub Masterplan

38To support the Ku-ring-gai landscape character within Lindfield.

39To maintain and enhance a leafy outlook along all streetscapes.

40To provide for a pleasant pedestrian experience within the local centre.

Controls

Setbacks

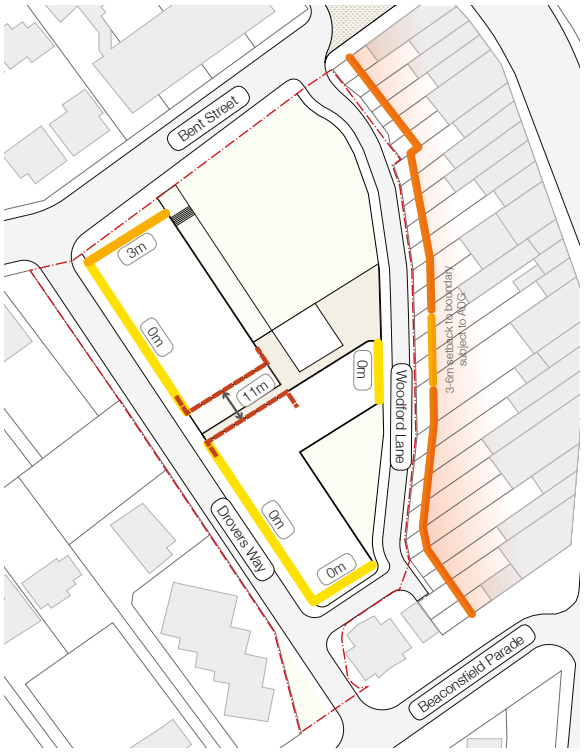


Figure 14E.12-10 Setbacks (Refer to Part 14R.2 Lindfield Hub Masterplan)

7 Building setbacks are to be in accordance with the Lindfield Hub Masterplan at Part 14R.2 and all buildings within this precinct are to be built to the street alignment with a zero setback to property boundaries with the following exceptions:

i) a minimum 3.0m front setback Bent Street;

ii) 3.0 to 5.0m setback to eastern side of Woodford Lane applying to the properties 302-304 Pacific Highway for landscape frontage.

Refer to *Figure 14E.12-10* (see Lindfield Hub Masterplan at Part 14R.2 for complete illustrations).

14E.12 PRECINCT L5: LINDFIELD HUB (continued)

Objectives

Refer to
PART 14E.5
Built Form

Refer to
PART 14R.2
Lindfield Hub Masterplan

41 To ensure buildings are located to minimise overshadowing of parks and open spaces.

42 To encourage design excellence and Ecologically Sustainable Development (ESD) provisions in all new developments.

43 To promote well-articulated and modulated building facades.

44 To encourage the use of a varied materials to enhance the visual quality of buildings.

45 To design and locate new buildings to maximise district views.

46 To ensure design and choice of building materials incorporate appropriate noise attenuation measures in all new developments.

47 To accommodate car parking within basement levels of new buildings, to ensure minimal adverse impact to surrounding streetscapes.

Controls

Built Form

8 Buildings are to be located and designed in accordance with the Lindfield Hub Masterplan at Part 14R.2, including the following:

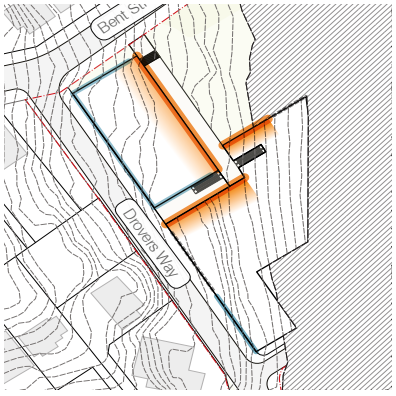
i) retail, commercial and community buildings are to provide frontages that allow passive surveillance to streets, lanes and public spaces;

ii) active frontages are to be provided to all external areas adjacent to community and retail and commercial buildings;

iii) all buildings fronting the civic plaza and public open space are to incorporate active frontages;

Refer to *Figure 14E.12-11* (see Lindfield Hub Masterplan at Part 14R.2 for complete illustrations).

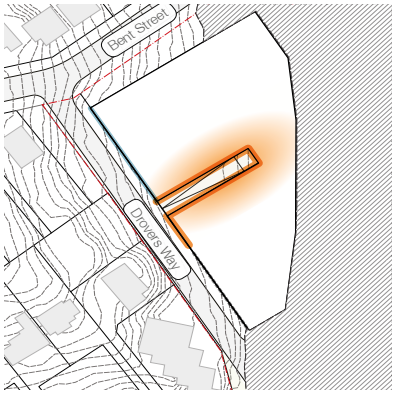
iv) provision of continuous shade structures (awnings or colonnades) to all buildings fronting the new park at the corner of Bent and Woodford Lane;



Ground Level



Plaza Level



Supermarket Level

Legend
Active frontages
Passive frontages
Dead frontages

Figure 14E.12-11
Lindfield hub frontages
(Refer to Part 14R.2
Lindfield Hub Masterplan)

14E.12 PRECINCT L5: LINDFIELD HUB (continued)

Objectives

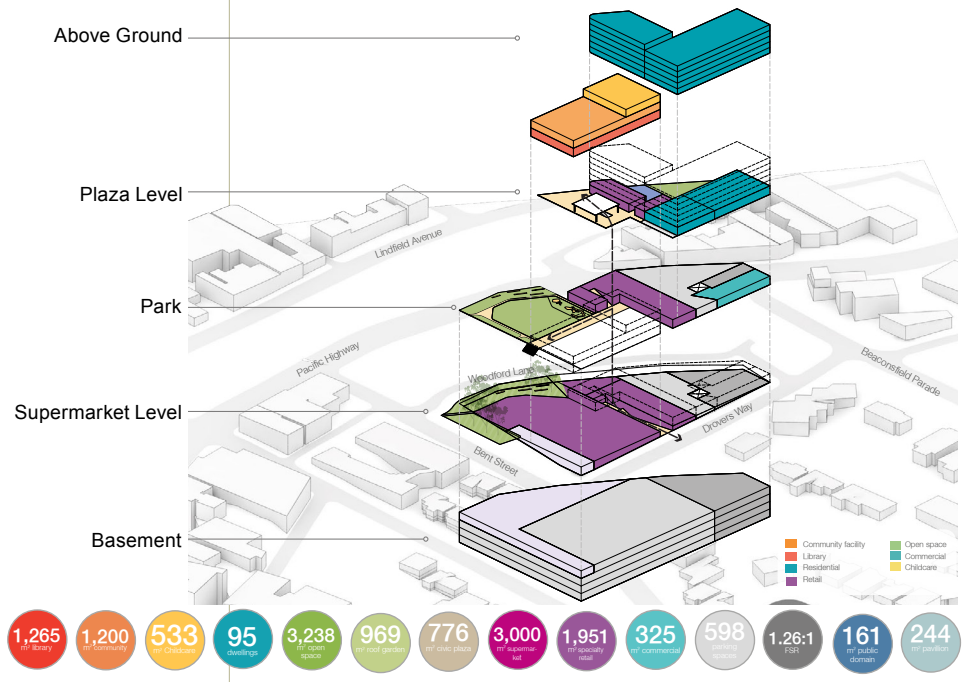
48To allow provisions for electrical charging points and bicycle parking spaces within car park structures in new developments.

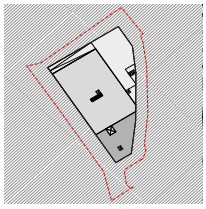
Controls

v) locating all built form to the western edge of the site adjacent to Drovers Way;

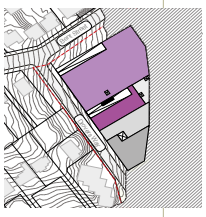
vi) locating open areas adjacent to Woodford Lane;

Refer to *Figure 14E.12-12* (see Lindfield Hub Masterplan at Part 14R.2 for complete illustrations).

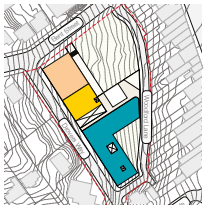




Basement Plan



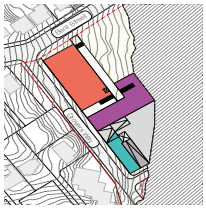
Supermarket Plan



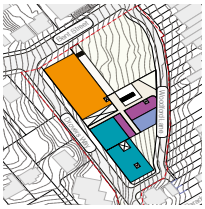
Plaza Plan



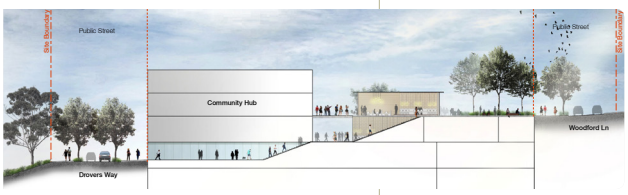
Typical Plan



Ground Plan



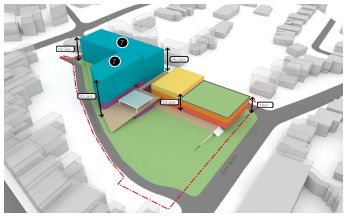
Top Floor Plan

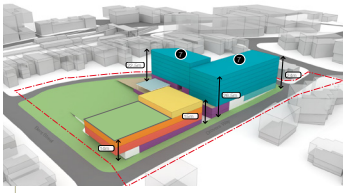


Section: Drovers Way - Civic Plaza - Woodford Lane



Section: Bent Street - Community Park - Civic Plaza





Massing plans

Legend

- Boundary
- Community facility
- Library
- Residential
- Retail
- Open space
- Commercial
- Childcare

Figure 14E.12-12
Lindfield hub built form
(Refer to Part 14R.2 Lindfield Hub Masterplan)

14E.12 PRECINCT L5: LINDFIELD HUB (continued)

Objectives

49 To ensure the community facility has street presence and opens to the public domain.

Controls

vii) the community facility is to provide active frontages to Bent Street and the community park;

viii) provide an active pedestrian street at Bent Street with direct access to the community hub, community park, civic plaza and into the main vertical circulation;

ix) Bent Street is to have a visual connection to the open space, community facility, library and civic plaza;

Refer to *Figure 14E.12-13* (see Lindfield Hub Masterplan at Part 14R.2 for complete illustrations).



Figure 14E.12-13
Bent Street south view
(Refer to Part 14R.2
Lindfield Hub Masterplan)

14E.12 PRECINCT L5: LINDFIELD HUB (continued)

Objectives

Refer to
PART 14E.6
Building Entries, Car Parking and Service Access

Refer to
PART 14R.2
Lindfield Hub Masterplan

50To provide high quality streetscapes that encourage active transport.

Controls

Roads

9 All roads and associated footpath embellishment is to be in accordance with the Lindfield Hub Masterplan at Part 14R.2, including the following:

i) Woodford Lane is to be a one way street and 10.0m wide, including:

- 3.0m one way traffic lane running south;
- 2.4m parking zone;
- 1.5m wide footpath to eastern edge;
- 1.8m wide clear footpath area to west, with additional 1.3m for tree planting at 6.0m centres.

Refer to *Figure 14E.12-14* (see Lindfield Hub Masterplan at Part 14R.2 for complete illustrations).



Figure 14E.12-14
Woodford Lane
(Refer to Part 14R.2
Lindfield Hub Masterplan)

14E.12 PRECINCT L5: LINDFIELD HUB (continued)

Objectives

Controls

ii) Woodford Lane (South) is to be a two way street and 8.7m wide, including:
- 6.0m two way carriageway;
- 1.5m wide footpath to north edge;
- 1.2m wide footpath to south edge;
- street tree planting.

Refer to *Figure 14E.12-15* (see Lindfield Hub Masterplan at Part 14R.2 for complete illustrations).



Figure 14E.12-15
Woodford Lane (South)
(Refer to Part 14R.2
Lindfield Hub Masterplan)

14E.12 PRECINCT L5: LINDFIELD HUB (continued)

Objectives

Controls

iii) Drovers Way is to be a two way street and 15.0m wide, including:
- 5.7m two way carriageway;
- 2.3m parking zone/tree planting on both sides of carriageway;
- 2.35m wide footpaths both sides of street;
- street trees at 12.0m centres.

Refer to *Figure 14E.12-16* (see Lindfield Hub Masterplan at Part 14R.2 for complete illustrations).



Figure 14E.12-16
Drovers Way
(Refer to Part 14R.2
Lindfield Hub Masterplan)

14E.12 PRECINCT L5: LINDFIELD HUB (continued)

Objectives

Controls

iv) Bent Street is to be upgraded to include:
- new 3.5 metre wide footpath on southern side;
- street trees at 6.0m centres in a mass planted verge;
- underground power;
- 2.0m wide concrete footpath to north side;
- increased on-street parking.

Refer to *Figure 14E.12-17* (see Lindfield Hub Masterplan at Part 14R.2 for complete illustrations).



Figure 14E.12-17
Bent Street
(Refer to Part 14R.2 Lindfield Hub Masterplan)

14E.13 PRECINCT L6: 259-271 PACIFIC HIGHWAY, LINDFIELD

Objectives

Refer to
PART 14E.1
Urban Precincts

Refer to
PART 14R.3
Lindfield Library Site Masterplan

1 *To ensure development aligns with the Lindfield Library Precinct Masterplan (259-271 Pacific Highway, Lindfield).*

2 *To integrate the site within the Lindfield local centre.*

3 *To extend and activate Tryon Place and improve access to the station for 'kiss & ride' trips.*

4 *To increase the permeability of the local centre for pedestrians and cyclists.*

5 *To improve vehicular access and circulation to the site and precinct.*

6 *To encourage a range of building mass and depths to achieve high quality urban amenity.*

7 *To minimise impacts of noise pollution generated by the railway and Pacific Highway.*

8 *To respect and express the cultural heritage of the site.*

9 *To provide housing choice and diversity.*

Controls

Planned Future Character

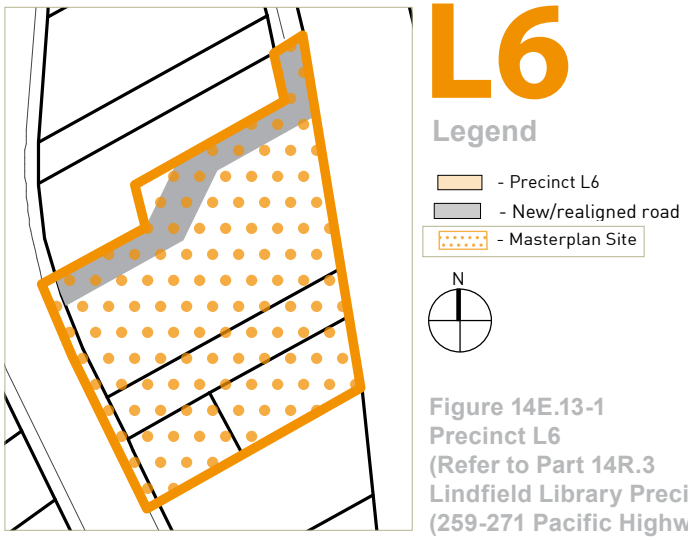


Figure 14E.13-1
Precinct L6
(Refer to Part 14R.3
Lindfield Library Precinct Masterplan
(259-271 Pacific Highway, Lindfield))

1 The precinct is located between the Pacific Highway and the North Shore rail line at the southern edge of the Lindfield local centre. The precinct sits between the existing retail and commercial development to the north and the established mid-rise residential developments to the south.

Refer to the Lindfield Library Precinct Masterplan (259-271 Pacific Highway, Lindfield) at Part 14R.3 for a comprehensive collection of illustrations, plans and design principles. Where there is an inconsistency between the controls in this Part 14E.13 and the Lindfield Library Precinct Masterplan (259-271 Pacific Highway, Lindfield), then the latter prevails to the extent of the inconsistency.

Development is to be designed in accordance with *Figure 14E.13-1* and the Lindfield Library Precinct Masterplan (259-271 Pacific Highway, Lindfield) at Part 14R.3. It is to support a number of movement, activity and development outcomes, including the following:

i) a new road connecting Pacific Highway and Tyron Lane will improve access to the station for 'kiss & ride' trips, and increase the permeability of the site for pedestrians and cyclists. The new connection also presents opportunities for the activation of Tyron Lane.

ii) orientation of residential development towards the new road and towards internal spaces to avoid major noise sources.

iii) provision of child care facility within the site at the junction of Tryon Lane and the through site link to reflect the community use of the site over recent history.

Refer to *Figure 14E.13-2* (see Lindfield Library Precinct Masterplan (259-271 Pacific Highway, Lindfield) at Part 14R.3 for complete illustrations).

14E.13 PRECINCT L6: 259-271 PACIFIC HIGHWAY, LINDFIELD

Objectives

Controls



Figure 14E.13-2
Lindfield Library Precinct
(Refer to Part 14R.3
Lindfield Library Precinct Masterplan
(259-271 Pacific Highway, Lindfield))

14E.13 PRECINCT L6: 259-271 PACIFIC HIGHWAY, LINDFIELD

Objectives

Refer to
PART 14E.2
Public Domain and Pedestrian Access

Refer to
PART 14R.3
Lindfield Library Site Masterplan

10 To maximise pedestrian connectivity and circulation within the local centre.

11 To improve and enhance access to the rail station for vehicles, pedestrians and cyclists.

12 To provide a pleasant pedestrian experience to around and through the site.

Controls

Public Domain and Pedestrian Access

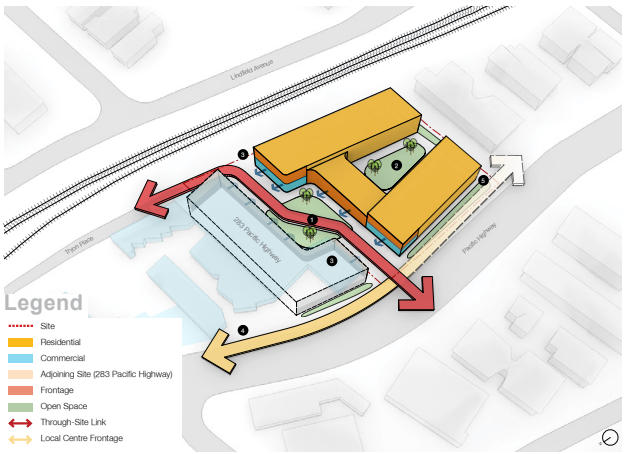
2 Public domain areas and pedestrian access is to be in accordance with the Lindfield Library Precinct Masterplan at Part 14R.3, including the following:

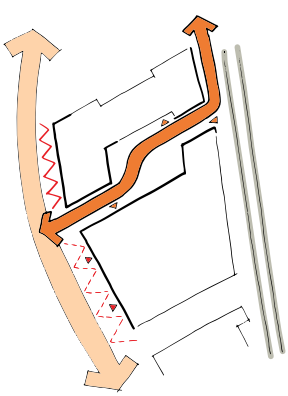
i) provide new footpaths along the new road linking Pacific Highway and Tryon Lane. (The new road is to align with the northern boundary and weave though the site.)

ii) provide pedestrian access into the buildings from Pacific Highway and from the new road;

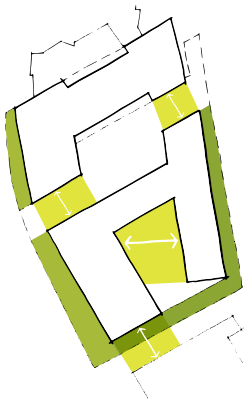
iii) provide centrally located landscaped public open spaces adjoining the new road.

Refer to *Figure 14E.13-3* (see Lindfield Library Precinct Masterplan (259-271 Pacific Highway, Lindfield) at Part 14R.3 for complete illustrations).





Through site link



Open space and setbacks

Figure 14E.13-3
Public domain and access plans
(Refer to Part 14R.3
Lindfield Library Precinct Masterplan
(259-271 Pacific Highway, Lindfield))

14E.13 PRECINCT L6: 259-271 PACIFIC HIGHWAY, LINDFIELD

Objectives

Refer to
PART 14E.3
Proposed Community Infrastructure

Refer to
PART 14R.3
Lindfield Library Site Masterplan

13 *To adequately service the community infrastructure requirements of the local community.*

14 *To enhance, improve and extend the road and road related infrastructure.*

Controls

Proposed Community Infrastructure

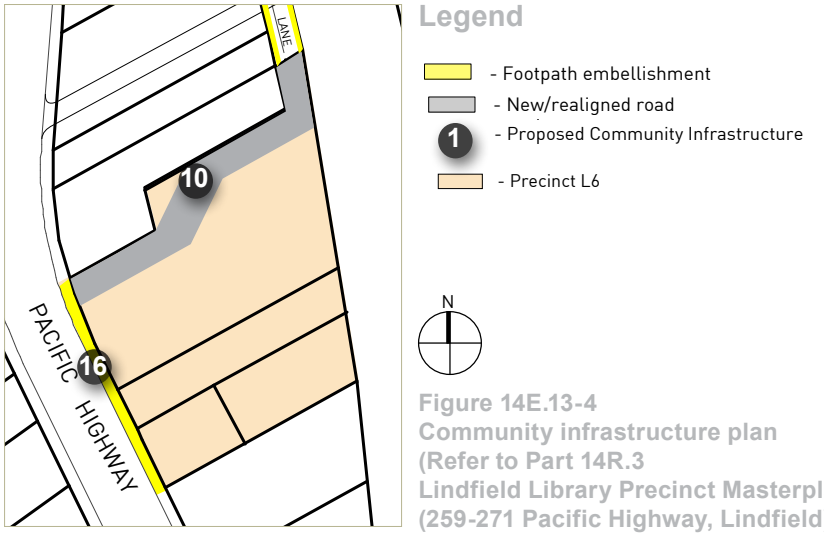


Figure 14E.13-4
Community infrastructure plan
(Refer to Part 14R.3
Lindfield Library Precinct Masterplan
(259-271 Pacific Highway, Lindfield))

3 Key Community Infrastructure provision is to be in accordance with *Figure 14E.13-4*, the *Ku-ring-gai Contributions Plan 2010* and the Lindfield Library Precinct Masterplan (259-271 Pacific Highway, Lindfield) at Part 14R.3. It is to be delivered through a Voluntary Planning Agreement (VPA) or other delivery mechanism, and include the following:

10 Construction of new 13.0m wide two way lane with footpath between Pacific Highway and Tryon Lane (land dedicated to Council as part of site redevelopment). The road is to be designed as a high quality accessway with broad footpaths on both sides of the carriageway.

16 Embellishment of the existing footpath areas and public domain along the Pacific Highway, including underground power lines, new lighting, high quality paving and furniture and street tree planting.

14E.13 PRECINCT L6: 259-271 PACIFIC HIGHWAY, LINDFIELD

Objectives

Refer to
PART 14E.4
Setbacks

Refer to
PART 14R.3
Lindfield Library Site Masterplan

15 To ensure the landscape character of Lindfield is retained.

16 To maintain and enhance a leafy outlook along all streetscapes.

17 To provide for a pleasant pedestrian experience in the local centre.

18 To provide deep soil landscaping areas along the eastern, western and southern boundaries.

19 To provide setbacks that respond to the existing residential pattern and commercial character of the local area.

Controls

Setbacks

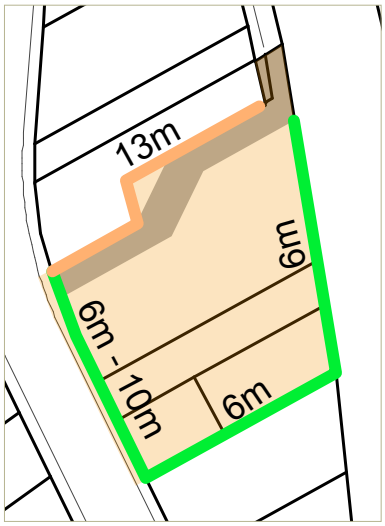


Figure 14E.13-5
Setback plan
(Refer to Part 14R.3
Lindfield Library Precinct Masterplan
(259-271 Pacific Highway, Lindfield))

4 Building setbacks are to be in accordance with *Figure 14E.13-5* and the Lindfield Library Precinct Masterplan (259-271 Pacific Highway, Lindfield) at Part 14R.3. All buildings are to be built to the street alignment with a zero setback to property boundaries with the following exceptions:

i) a minimum 6.0m setback to Pacific Highway, increasing to a 10.0m setback at the southern boundary in response to the surrounding residential pattern;

ii) a minimum of 6.0m setback along the southern and eastern boundary for deep soil landscaping;

iii) a minimum 13.0m setback from the northern site boundary to the built form is to be provided to allow for a new public road.

Note: The Site Coverage requirements in Part 7A.5, and Deep Soil Landscape requirements in Part 7A.6 do not apply to this site.

14E.13 PRECINCT L6: 259-271 PACIFIC HIGHWAY, LINDFIELD

Objectives

Refer to
PART 14E.5
Built Form

Refer to
PART 14R.3
Lindfield Library Site Masterplan

20 To minimise overshadowing of parks and open space.

21 To encourage design excellence and Ecologically Sustainable Development (ESD) provisions in all new developments.

22 To promote well-articulated and modulated building facades.

23 To encourage the use of varied materials to enhance the visual quality of buildings.

24 To design and site new buildings to maximise district views.

25 To incorporate appriopriate noise attenuation measures in all new developments, through design and through choice of building materials.

Controls

Built Form

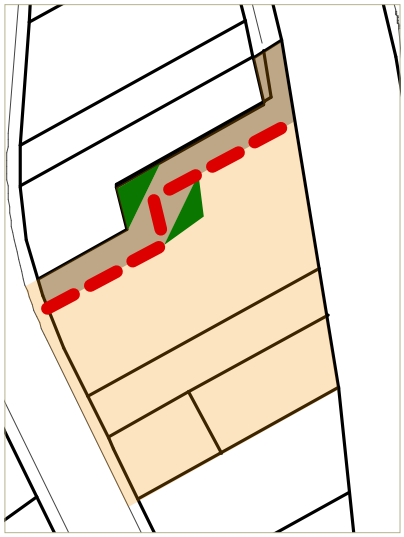


Figure 14E.13-6
Built form plan
(Refer to Part 14R.3
Lindfield Library Precinct Masterplan
(259-271 Pacific Highway, Lindfield))

5 Building are to be located and designed in accordance with *Figure 14E.13-6* and the Lindfield Library Precinct Masterplan (259-271 Pacific Highway, Lindfield) at Part 14R.3, including the following:

i) provide supporting active frontages to the new road;

ii) private and communal open space is to be split into two key areas:

- central communal space;
- deep soil areas, at the boundaries of the site;

iii) ground floor commercial is to be located at the northern edge of the site, immediately to the south of the road.

iv) integration with the town centre's character at the northern extent of the Pacific Highway frontage;

v) maximum 22.0m building depth to Pacific Highway frontage to allow for double-loaded corridors and apartments that orientate to all frontages;

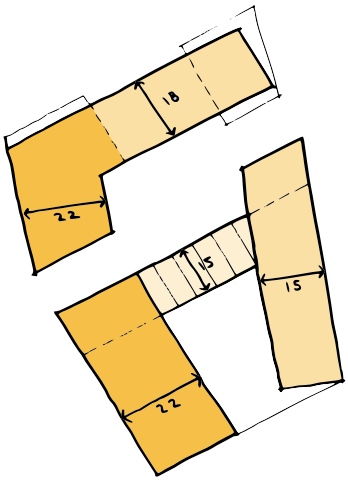
vi) 15.0m to 18.0m building depth to rear of site to allow for single aspect apartment layouts, typically oriented to maximise residential amenity.

Refer to *Figure 14E.13-7* (see Lindfield Library Precinct Masterplan (259-271 Pacific Highway, Lindfield) at Part 14R.3 for complete illustrations).

14E.13 PRECINCT L6: 259-271 PACIFIC HIGHWAY, LINDFIELD

Objectives

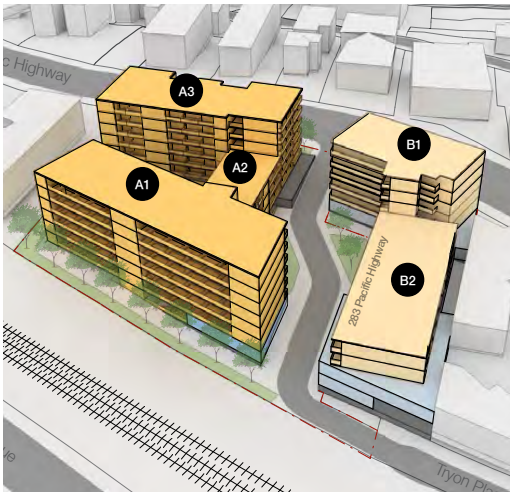
Controls



Built form



Ground floor plan



View from East

Figure 14E.13-7
Built form plans
(Refer to Part 14R.3
Lindfield Library Precinct Masterplan
(259-271 Pacific Highway, Lindfield))

14E.13 PRECINCT L6: 259-271 PACIFIC HIGHWAY, LINDFIELD

Objectives

Controls

Road



Figure 14E.13-8
New road
(Refer to Part 14R.3
Lindfield Library Precinct Masterplan
(259-271 Pacific Highway, Lindfield))

6 The new road is to be a one way, 13.0m wide street, including:

i) 6.0m one way carriageway;

ii) 3.5m verges with 2.0m wide footpaths;

iii) 1.5m landscaping with street tree zone planting;

iv) on street parking on one side.

Refer to *Figure 14E.13-8* (see Lindfield Library Precinct Masterplan (259-271 Pacific Highway, Lindfield) at Part 14R.3 for complete illustrations).

14E.13 PRECINCT L6: 259-271 PACIFIC HIGHWAY, LINDFIELD

Objectives

Refer to
PART 14E.6
Building Entries, Car Parking and Service Access

Refer to
PART 14R.3
Lindfield Library Site Masterplan

26 To minimise conflicts between pedestrians, and vehicular and service entry points.

27 To minimise vehicular entry points to the site.

28 To retain a cohesive streetscape character.

29 To accommodate car parking within basement levels of new buildings so that adverse impacts on the surrounding streetscapes is minimal.

30 To provide for unambiguous and clearly marked building entry points.

31 To provide a clear distinction between commercial, retail and residential building entry points.

Controls

Building Entries, Car Parking and Service Access

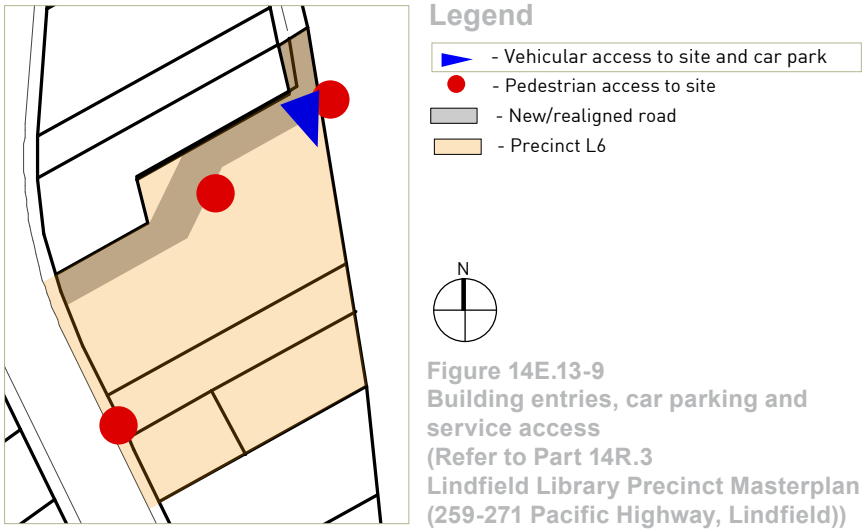


Figure 14E.13-9
Building entries, car parking and service access
(Refer to Part 14R.3 Lindfield Library Precinct Masterplan (259-271 Pacific Highway, Lindfield))

7 Building entries, car parking and service access is to be in accordance with *Figure 14E.13-9* and the Lindfield Library Precinct Masterplan (259-271 Pacific Highway, Lindfield) at 14R.3, including the following:

i) vehicle and service access is to be via the new road at the lowest part of the site;

ii) residential and commercial lobbies and foyers are to be located off the new through site link (road) and Pacific Highway.

Refer to *Figure 14E.13-9* (see Lindfield Library Precinct Masterplan (259-271 Pacific Highway, Lindfield) at Part 14R.3 for complete illustrations).

14E.14 PRECINCT L7: BUILDINGS IN R4 ZONES

Objectives

Refer to
Objectives and Controls
PART 14E.1
Urban Precincts

Controls

Planned Future Character

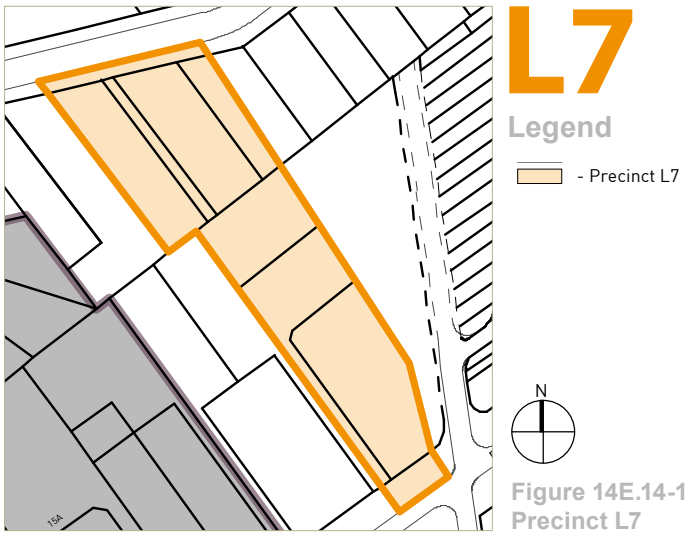


Figure 14E.14-1: Precinct L7

1 This precinct consists of R4 High Density Residential zones within close proximity to the commercial zones. The location of Precinct L7 is illustrated in *Figure 14E.14-1.*

Development is to be designed to support and enhance the planned future character for the precinct as follows:

i) The precinct will be designed to provide a transition from the core urban areas to the surrounding high and medium density residential areas.

ii) Schedule 1 of the KLEP allows mixed use buildings within this precinct.

iii) All properties will provide reduced front setbacks to enhance the urban character.

14E.14 PRECINCT L7: BUILDINGS IN R4 ZONES (continued)

Objectives

Refer to
Objectives and Controls
PART 14E.4
Setbacks

Controls

Setbacks

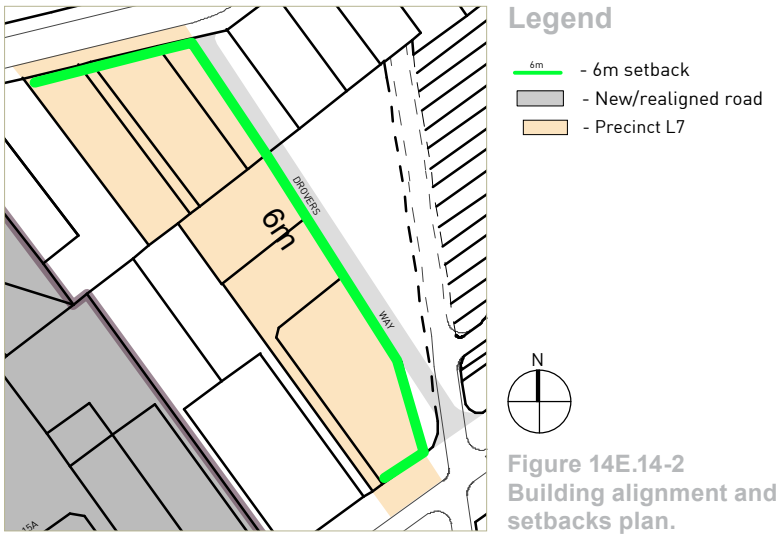


Figure 14E.14-2
Building alignment and setbacks plan.

2 The following are applicable for buildings in R4 zones, where mixed use buildings are permitted:

i) Properties 3-32 Beaconsfield Parade and 12-16 Bent Street are to provide a 6 metre setback to the proposed new street, Bent Street and Beaconsfield Parade.

Objectives

Refer to
Objectives and Controls
PART 14E.1
Urban Precincts

14E.15 PRECINCT L8: BUILDINGS IN R4 ZONES

Controls

Planned Future Character

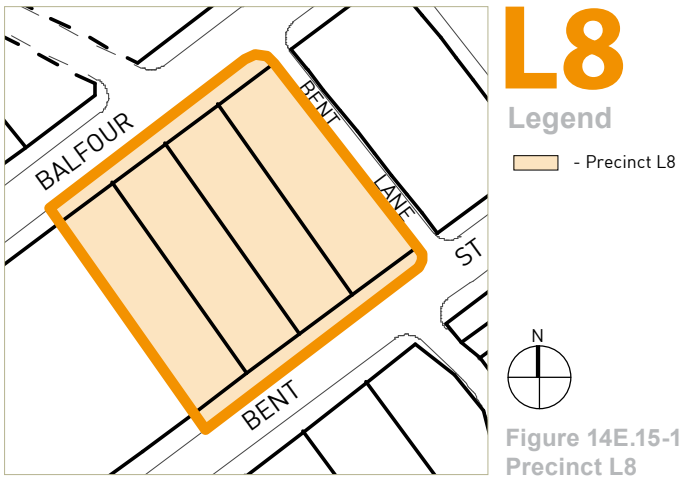


Figure 14E.15-1: Precinct L8

1 This precinct consists of R4 High Density Residential zones within close proximity to the commercial zones. The location of Precinct L8 is illustrated in *Figure 14E.15-1.*

Development is to be designed to support and enhance the planned future character for the precinct as follows:

i) The precinct will be designed to provide a transition from the core urban areas to the surrounding high and medium density residential areas.

ii) Schedule 1 of the KLEP allows mixed use buildings within this precinct.

iii) All properties will provide reduced front setbacks to enhance the urban character.

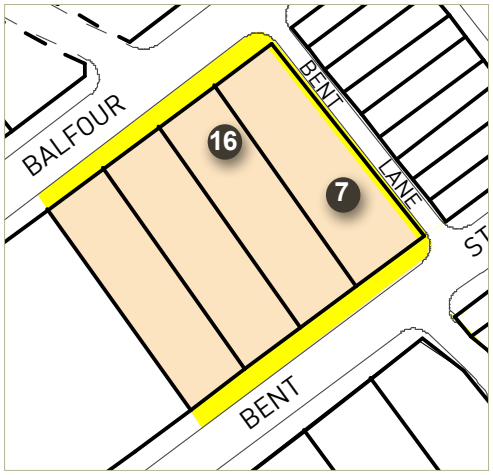
14E.15 PRECINCT L8: BUILDINGS IN R4 ZONES (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14E.3
Proposed Community Infrastructure

Proposed Community Infrastructure



Legend
- Footpath embellishment
1 - Proposed Community Infrastructure
- Precinct L8

Figure 14E.15-2:
Key community infrastructure plan

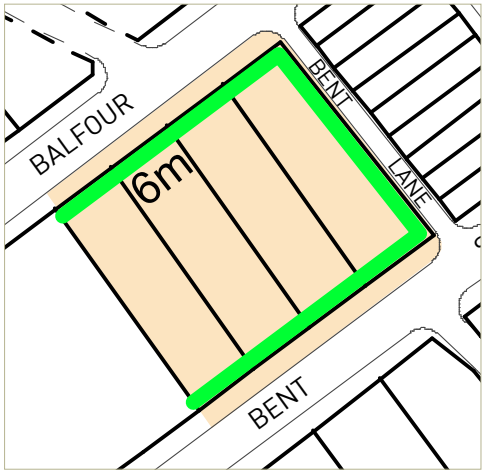
2 The following development as indicated in *Figure 14E.15-2*, is to be included to support and compliment the provision of Key Community Infrastructure through the *Ku-ring-gai Contributions Plan 2010,* Voluntary Planning Agreement (VPA), or other delivery mechanism:

7 Upgrade and widening of Bent Lane including new footpaths.

16 Embellishment of the footpath areas and public domain through-out the area including underground power lines, new lighting, high quality paving and furniture and street tree planting.

Refer to
Objectives and Controls
PART 14E.4
Setbacks

Setbacks



Legend
6m - 6m setback
- Precinct L8

Figure 14E.15-3
Building alignment and setbacks plan.

3 The following are applicable for buildings in R4 zones, where mixed use buildings are permitted:

i) Properties 1-7 Bent Street are to provide a 6 metre setback to Balfour Street, Bent Street and Bent Lane.

14E.15 PRECINCT L8: BUILDINGS IN R4 ZONES (continued)

Objectives

Refer to
Objectives and Controls
PART 14E.5
Built Form

Controls

Built Form

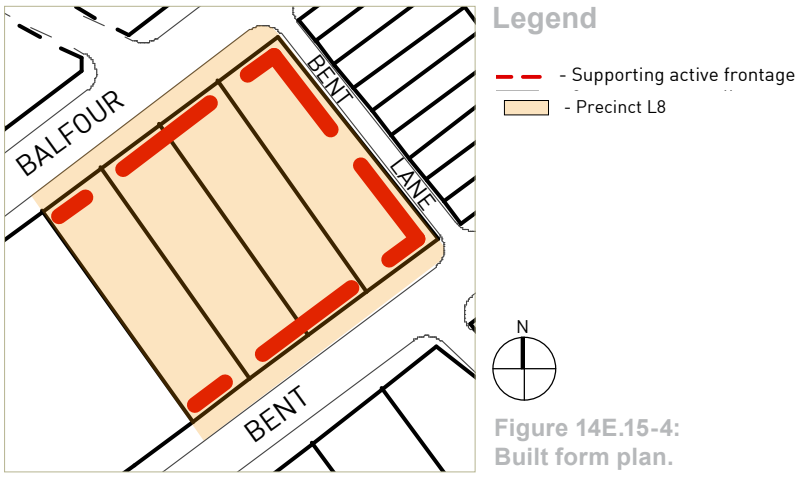


Figure 14E.15-4: Built form plan.

4 Provide supporting active frontages wherever possible.

14F Roseville Local Centre

14F.1 Roseville Local Centre Context
14F.2 Public Domain and Pedestrian Access
14F.3 Proposed Community Infrastructure
14F.4 Setbacks
14F.5 Built Form
14F.6 Building Entries, Car Parking and Service Access
14F.7 Heritage
14F.8 Precinct R1: Hill Street Shops
14F.9 Precinct R2: Pacific Highway Shops
14F.10 Precinct R3: Pacific Highway to Roseville Station

14F.1 ROSEVILLE LOCAL CENTRE CONTEXT

Further controls that may apply		
SECTION A **Part 7 -** Residential Flat Buildings **PART 8 -** Mixed Use Development	**SECTION B** **Part 20 -** Heritage items and Heritage Conservation Areas	

Objectives

1 *To create distinct commercial precincts that provide a range of services, facilities and experiences.*

2 *To create vibrant local centres with distinctive and memorable characters.*

3 *To improve the vitality of the precincts by encouraging a mix of uses and activities as well as housing.*

4 *To retain and enhance the distinctive scale and character of Hill Street.*

5 *To support and enhance the lifestyle and evening entertainment precinct along the Pacific Highway.*

6 *To establish a small mixed use precinct incorporating a new urban square at the western rail station entry.*

7 *To create a new "Village Green" on Lord Street behind the Hill Street shops.*

8 *To encourage restaurants, cafes, outdoor dining and offices fronting onto rear lanes to contribute to increased activity and passive surveillance.*

9 *To provide opportunities for new supermarkets to support and anchor the local centre.*

10 *To promote ease of circulation and connectivity between the railway station and the local centre.*

Controls

1 All development within the Roseville local centre, as outlined in *Figure 14F.1-1,* is to be designed to support and enhance the planned future character of the centre. This is to be done through the general requirements and Precinct specific requirements as stipulated in this DCP.

Note: Refer to Ku-ring-gai's *Public Domain Plan 2010, Open Space Aquisition Strategy 2007* and the *Ku-ring-gai Contributions Plan 2010* on Councils website: *http://www.kmc.nsw.gov.au/Home.*

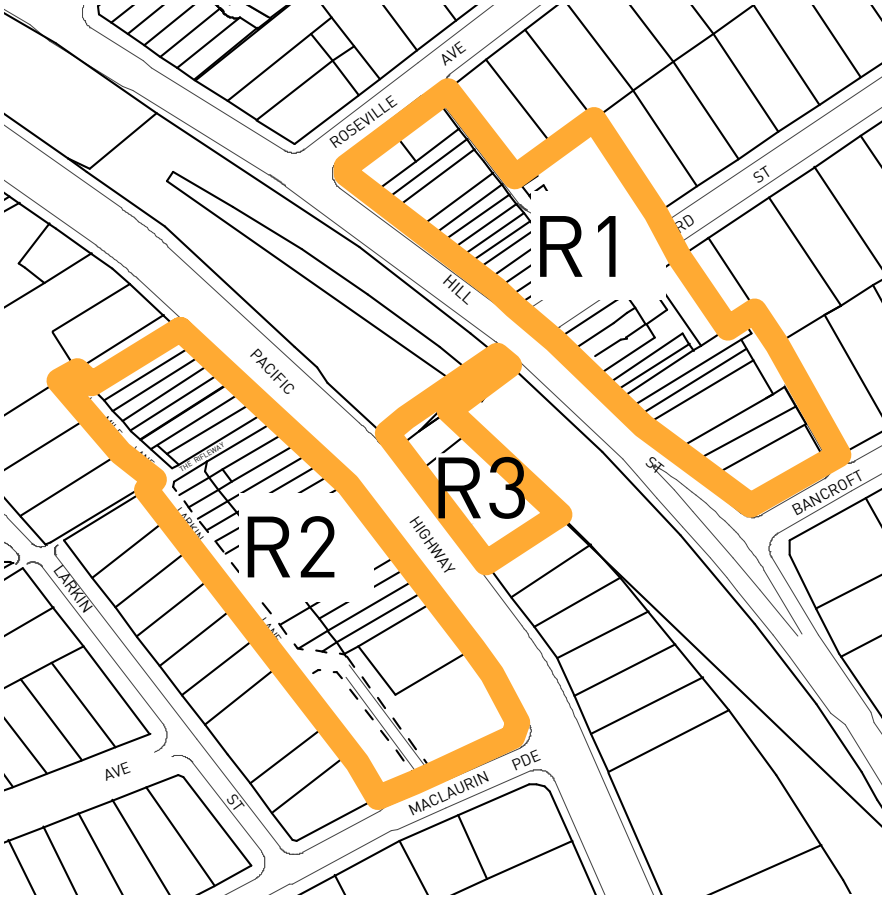


Figure 14F.1-1:
Urban precinct plan

Legend

Core Urban Precinct (B2 and B4 zones)

14F.2 PUBLIC DOMAIN AND PEDESTRIAN ACCESS

Objectives

1 *To increase the pedestrian permeability of the local centre.*

2 *To improve pedestrian amenity by providing continuous sun and rain protection to footpath areas.*

3 *To provide a consistently high quality and visually pleasing streetscape environment.*

4 *To improve and enhance accessibility to the commercial precinct particularly for pedestrians, pram walkers, people with disabilities, cyclists and public transport users.*

5 *To improve commercial activity in the local centre by promoting street-level activity.*

6 *To facilitate opportunities for outdoor dining in quiet locations away from the highway.*

7 *To improve vehicle access and circulation around the centre through the creation and improvement of new rear lanes.*

8 *To improve saftey and passive surveillance of the public domain by encouraging street-level activity.*

9 *To improve the overall pedestrian experience in the local centre, there by promoting active living.*

10 *To promote mid-block and through-site links as a way of improving permeability of the local centre.*

Controls

1 All development within the Roseville local centre, as outlined in *Figure 14F.2-1*, is to be designed to support and enhance the planned future character of the centre. This is to be done through the Public Domain and Pedestrian Access requirements for each Precinct as stipulated in this DCP.



Figure 14F.2-1:
Public domain and pedestrian controls plan.

Legend

- Pedestrian through site link
- Awnings
- Awnings where possible

14F.3 PROPOSED COMMUNITY INFRASTRUCTURE

Objectives

1 *To be consistent with the objectives and strategies of Council's* Town Centre Public Domain Plan 2010.

2 *To implement the work programs within the* Ku-ring-gai Contributions Plan 2010.

3 *To identify locations for new local parks in accordance with the requirements of Council's* Open Space Acquisition Strategy 2007.

4 *To enhance service and infrastructure provisions for existing and planned residential communities.*

Controls

Proposed Community Infrastructure

1 All development within the Roseville local centre is to be designed to support the planned future character of the centre through the provision of Key Community Infrastructure as stated in the *Ku-ring-gai Contributions Plan 2010* and outlined in *Figure 14F.3-1.* This is to be done through the Proposed Community Infrastructure requirements for each Precinct as stipulated in this DCP.



Figure 14F.3-1:
Key community infrastructure plan.

N

Legend

- Footpath embellishment
- New or existing park to be upgraded
- New/realigned road
- 1 - Proposed Community Infrastructure

14F.3 PROPOSED COMMUNITY INFRASTRUCTURE (continued)

Objectives

Controls

2 The following development is to be designed to support and compliment the provision of Key Community Infrastructure through the *Ku-ring-gai Contributions Plan 2010*, Voluntary Planning Agreement (VPA) or other mechanism (refer to individual precincts 14F.8 to 14F.10):

1. Reconstruction of Roseville Lane from Roseville Avenue through to Lord Street (6 metre wide carriage way with 2 metre wide footpaths on both sides). Land to be dedicated to Council as part of site redevelopment.
2. Extension and widening of Bancroft Lane from Bancroft Avenue to Lord Street (6 metre wide carriage way with 2 metre wide footpaths on both sides). Land to be dedicated to Council as part of site redevelopment.
3. New village green with playground facilities on the Lord Street Council car park site (car parking to be relocated to basement parking on-site).
4. Embellishment of existing Railway Gardens on Hill Street to urban park standard.
5. Embellishment existing Hill Street median garden (opposite Bancroft Avenue) to urban park standard.
6. Embellishment of the public domain areas and footpaths on the Pacific Highway and Hill Street including underground power lines, new lighting, high quality paving and furniture.
7. Upgrade of existing pedestrian lane ways including Sixth Mile Lane and the Rifleway.
8. Embellishment of Roseville Memorial Park to urban park standard.
9. Improvements to western rail station entry off Pacific Highway to create new urban square including new paving, street trees and street furniture.
10. Embellishment of existing “railway gardens” on the Pacific Highway to urban park standard (Council to negotiate with Rail Corp to gain public access to part or all of the Railway Gardens).

14F.4 SETBACKS

Objectives

1 *To create cohesive streetscapes.*

2 *To require building setbacks in appropriate locations to provide opportunities for street tree plantings or footpath widening.*

3 *To require building setbacks in appropriate locations to allow widening of roads, lanes and streets.*

4 *To allow for visual and acoustic privacy between the centres and adjoining residential zones.*

Controls

Setbacks

1 All development within the Roseville local centre, as outlined in *Figure 14F.4-1*, is to be designed to support and enhance the planned future character of the centre. This is to be done through the Setback requirements for each Precinct as stipulated in this DCP.

Note: In all cases, where land dedication is required for a public purpose, such as a road or walkway, the affected land is to be excluded from deep soil calculations and included in setback requirements.

2 All properties within the R4 zone are to have standard setbacks with the following exceptions:

i) Properties nos.5-21 Larkin Street are to provide a 4 metre rear setback to Larkin Lane.

ii) Properties 3, 5 and 7 Roseville Avenue are to provide a 6 metre setback to Roseville Avenue.

iii) Properties 1 and 3 Hill Street are to provide a 6 metre setback to Hill Street.



Figure 14F.4-1:
Setbacks plan.

Legend

- 10m setback
- 6m setback
- 4m setback
- variable setback
- Land dedication

14F.5 BUILT FORM

Objectives

1 *To maintain a consistent street wall height with reference to existing buildings along the Pacific Highway.*

2 *To encourage new infill development along the Pacific Highway which respects the existing characteristics of the street including the fine-grained character of the original subdivision, setback, height, and rhythm of facades, and is sympathetic to the materials and detailing of the earlier facades.*

3 *To ensure building facades are well designed, articulated and address public streets, public spaces, footpaths, parks and reserves.*

4 *To provide active frontage to all streets, lanes and public open spaces.*

5 *To minimise the visual bulk and scale of new buildings when viewed from public areas.*

6 *To enhance the quality and character of the public domain in the commercial precincts.*

7 *To promote development that responds to the pedestrian scale of the street.*

8 *To ensure that buildings are designed to interact and engage with pedestrians a tthe street level.*

9 *To encourage design excellence in all new development.*

Controls

1 All development within the Roseville local centre, as outlined in *Figure 14F.5-1*, is to be designed to support and enhance the planned future character of the centre. This is to be done through the Built Form requirements for each Precinct as stipulated in this DCP.



Figure 14F.5-1:
Built form controls plan

Legend

- Principal active frontage
- Supporting active frontage
- 3 storey street wall
- 2m upper level setback above street wall height
- Heritage item
- Character item

14F.6 BUILDING ENTRIES, CAR PARKING AND SERVICE ACCESS

Objectives

1 *To locate building foyers and lobbies in areas of high pedestrian activity.*

2 *To activate the main commercial streets.*

3 *To minimise pedestrian and vehicle conflicts.*

4 *To improve vehicle access and circulation and enhance associated services and infrastructure.*

5 *To ensure vehicular access points do not visually detract from the streetscape.*

6 *To promote pedestrian saftey and ease of movement through the local centre.*

Controls

1 All development within the Roseville local centre, as outlined in *Figure 14F.6-1,* is to be designed to support and enhance the planned future character of the centre. This is to be done through the Building Entries, Car Parking and Service Access requirements for each Precinct as stipulated in this DCP.

2 To ensure viability of redevelopment of sites in precincts R1, R2 and R3 the retail and residential parking requirements may be reduced by up to 100%. The applicant will be required to provide a report assessing the potential impacts on public parking around the centre in order for a parking reduction to be considered. Report to be consistent Council's *Town Centre Parking Management Plan.*

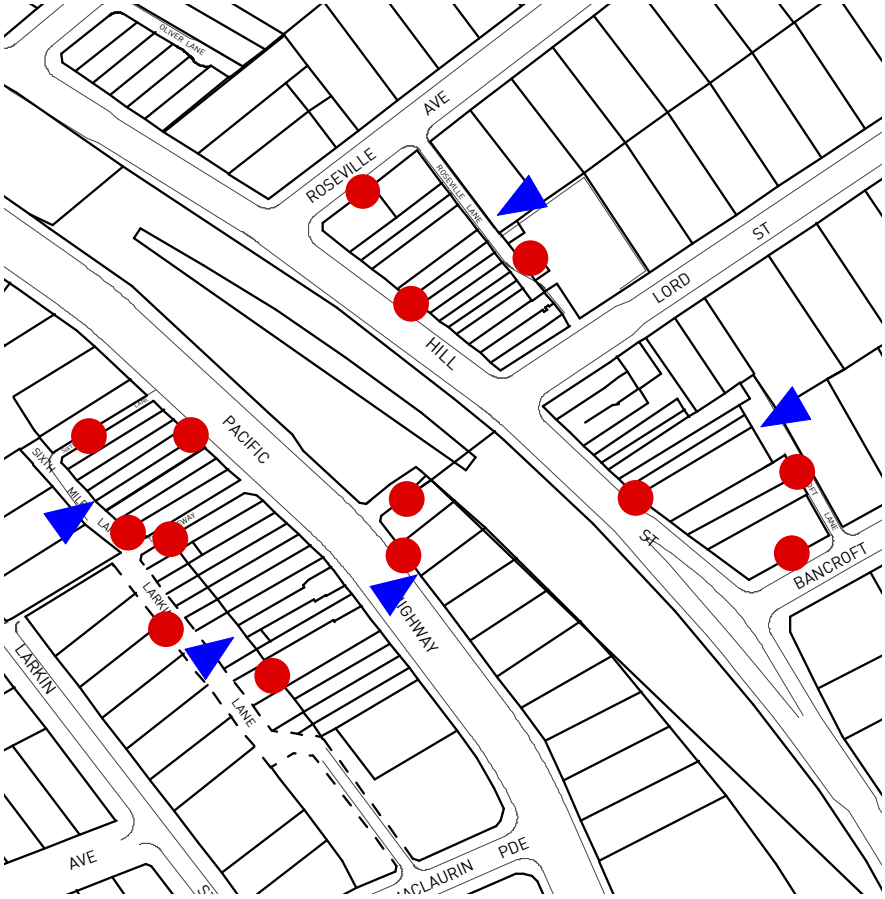


Figure 14F.6-1:
Building entries, car parking and service access plan.

Legend

- Vehicular access to site
- Pedestrian access to site

14F.7 HERITAGE

Objectives

1 *To retain the character of Hill Street streetscape along with some of the more significant Federation and early Inter-War commercial buildings.*

2 *To ensure future in-fill development respects the 'fine grain' urban fabric of Hill Street.*

3 *To encourage retention of elements of existing character buildings within the Hill Street streetscape.*

4 *To conserve heritage items and ensure new buildings respond to the scale, design, and character of adjoining heritage buildings.*

5 *To ensure infill buildings are designed to respect the 'fine grain' urban fabric of the street.*

6 *To ensure that new develpoment responds appropriately to the quality and context of any adjoining and neighbouring listing heritage items.*

7 *To allow for and encourage the adaptive re-use of Heritage items in the local centre.*

Controls

1 All development within the Roseville local centre, as outlined in *Figure 14F.7-1*, is to be designed to support and enhance the planned future character of the centre. This is to be done through the Heritage requirements for each Precinct as stipulated in this DCP.



Figure 14F.7-1:
Heritage plan.

Legend

- Heritage item

14F.8 PRECINCT R1: HILL STREET SHOPS

Objectives

Refer to
Objectives and Controls
PART 14F.1
Urban Precincts

Controls

Planned Future Character



Figure 14F.8-1: Precinct R1

Hill Street is a small retail area on the eastern side of Roseville. The shops have a strong traditional main street character with consistent scale and rhythm of buildings. The shops have largely retained their role as a local service centre providing for the day to day needs of residents as well as some leisure related shops such as cafes.

1 Development is to be designed to support and enhance the planned future character for the precinct as follows:

i) The character of this precinct will be preserved and enhanced. Small scale infill development or sympathetic adaptive re-use of existing character buildings will be encouraged.

ii) New low scale residential or commercial development may be located at the rear of the sites facing Roseville and Bancroft Lanes. It is also proposed to realign and extend the existing rear lanes to improve permeability, visibility, and safety of the area.

iii) A new village green is proposed on the existing Lord Street car park at the rear of the Hill Street shops.

14F.8 PRECINCT R1: HILL STREET SHOPS (continued)

Objectives

Refer to
Objectives and Controls
PART 14F.2
Public Domain and Pedestrian Access

Controls

Public Domain and Pesestrian Access



Legend
- Pedestrian through site link
- Awnings
- Awnings where possible
- Precinct R1

Figure 14F.8-2:
Public domain and pedestrian access plan.

2 Provide new pedestrian arcades connecting the Hill Street with the rear lanes.

3 Provide continuous awnings to Hill Street, Roseville Avenue, Lord Street and Bancroft Avenue.

4 Provide awnings to and Bancroft Lane and Roseville Lanes where possible.

5 Provide new footpaths to Bancroft Lane and Roseville Lane.

14F.8 PRECINCT R1: HILL STREET SHOPS (continued)

Objectives

Refer to
Objectives and Controls
PART 14F.3
Proposed Community Infrastructure

Controls

Proposed Community Infrastructure

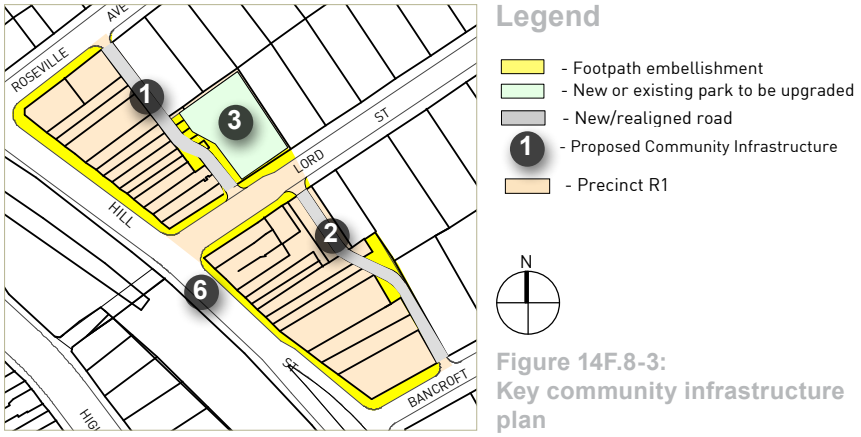


Figure 14F.8-3:
Key community infrastructure plan

6 The following development as indicated in *Figure 14F.8-3*, is to be included to support and compliment the provision of Key Community Infrastructure through the *Ku-ring-gai Contributions Plan 2010,* Voluntary Planning Agreement (VPA), or other delivery mechanism:

1. Reconstruction of Roseville Lane from Roseville Avenue through to Lord Street (6 metre wide carriage way with 2 metre wide footpaths on both sides). Land to be dedicated to Council as part of site redevelopment.
2. Extension and widening of Bancroft Lane from Bancroft Avenue to Lord Street (6 metre wide carriage way with 2 metre wide footpaths on both sides). Land to be dedicated to Council as part of site redevelopment.
3. New village green with playground facilities on the Lord Street Council car park site (car parking to be relocated to basement parking on-site).
6. Embellishment of the public domain areas and footpaths on the Pacific Highway and Hill Street including underground power lines, new lighting, high quality paving and furniture.

14F.8 PRECINCT R1: HILL STREET SHOPS (continued)

Objectives

Refer to
Objectives and Controls
PART 14F.4
Setbacks

Controls

Setbacks



Legend
- 4m setback
- 10m setback
- variable setback
- Land dedication
- Precinct R1

Figure 14F.8-4
Building alignment and setbacks plan.

7 Building setbacks are to be in accordance with *Figure 14F.8-4*, and all buildings in the B2 zone are required to be built to the street alignment and with a zero setback with the following exceptions:

i) 4 metre rear setback applying to the properties Nos.37-63 Hill Street and No.1 Roseville Avenue to create a continuous 10 metre right-of-way between Roseville Avenue and Lord Street. Land is to be dedicated to Council at no cost.

ii) Variable rear setback applying to the properties Nos.5-35 Hill Street and 1-7 Lord Street to create a continuous 10m right-of-way. Land is to be dedicated to Council at no cost.

14F.8 PRECINCT R1: HILL STREET SHOPS (continued)

Objectives

Refer to
Objectives and Controls
PART 14F.5
Built Form

Controls

Built Form

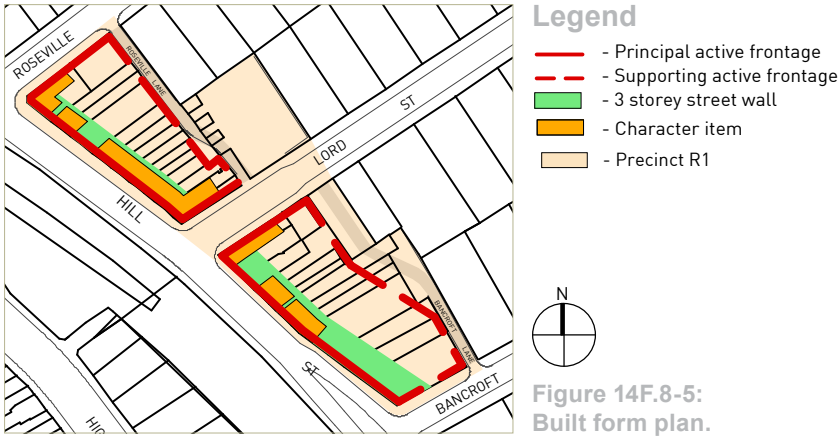


Figure 14F.8-5:
Built form plan.

8 Buildings are to be designed in accordance with this Development Control Plan, *Figure 14F.8-5*, and as follows:

i) Create a consistent 3 storey (11.5 metres) street wall that is built parallel to the street alignment of Hill Street and Lord Street.

ii) Provide active street frontages to Hill Street and Lord Street.

iii) Provide active street frontages along Roseville Lane, Roseville Avenue, Bancroft Lane and Bancroft Avenue.

iv) Retain the façades of the following character buildings fronting Hill Street - Nos.17, 19-23, 25, 27-29, 31-35 Hill Street; and Nos.37-41, 43, 45-47, 49-53, 55, 61, 63, 63A Hill Street.

v) Design infill buildings along Hill Street to be sympathetic in materials, form, scale, massing, articulation, alignments, and proportions to the existing buildings (but do not replicate character).

vi) Locate residential components of the buildings at the rear of the shops addressing the lanes.

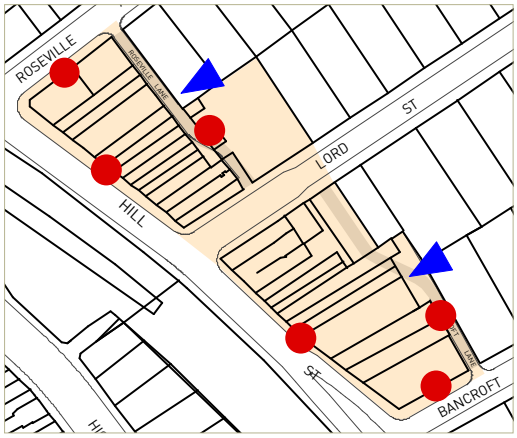
14F.8 PRECINCT R1: HILL STREET SHOPS (continued)

Objectives

Refer to
Objectives and Controls
PART 14F.6
Building Entries, Car Parking and Service Access

Controls

Building Entries, Car Parking and Service Access



Legend
- Vehicular access to site
- Pedestrian access to site
- Precinct R1

Figure 14F.8-6: Building entries, car parking and service access plan.

9 Vehicle and service access is to be provided via Roseville Lane or Bancroft Lane.

10 Residential and commercial lobbies and foyers are to be located off Roseville or Bancroft Lanes or Roseville Avenue and Bancroft Avenue or Hill Street.

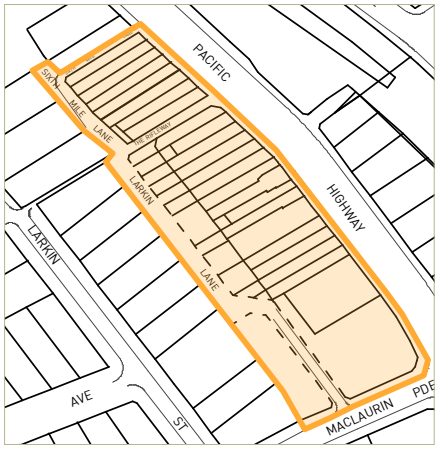
14F.9 PRECINCT R2: PACIFIC HIGHWAY SHOPS

Objectives

Refer to
Objectives and Controls
PART 14F.1
Urban Precincts

Controls

Planned Future Character



R2

Legend

- Precinct R2

N

Figure 14F.9-1: Precinct R2

This precinct incorporates the traditional strip retail fronting the Pacific Highway and a Council car park on Larkin Lane. The shops have largely lost their role as local shops and the area has become established as an entertainment precinct with cafes, restaurants, and antique shops. Roseville cinema and the RSL club provide an anchor role for this precinct attracting people from across northern Sydney and beyond.

1 Development is to be designed to support and enhance the planned future character for the precinct, as following:

i) This precinct has potential to continue to grow and develop as a boutique entertainment precinct which offers an alternative to what is currently available in larger centres such as Chatswood.

ii) The character of this precinct will be preserved and enhanced. Small scale infill development or sympathetic adaptive re-use of existing character buildings will be encouraged.

iii) New low scale residential or commercial development may be located at the rear of the sites facing Larkin Lane.

14F.9 PRECINCT R2: PACIFIC HIGHWAY SHOPS (continued)

Objectives

Refer to
Objectives and Controls
PART 14F.2
Public Domain and Pedestrian Access

Controls

Public Domain and Pedestrian Access

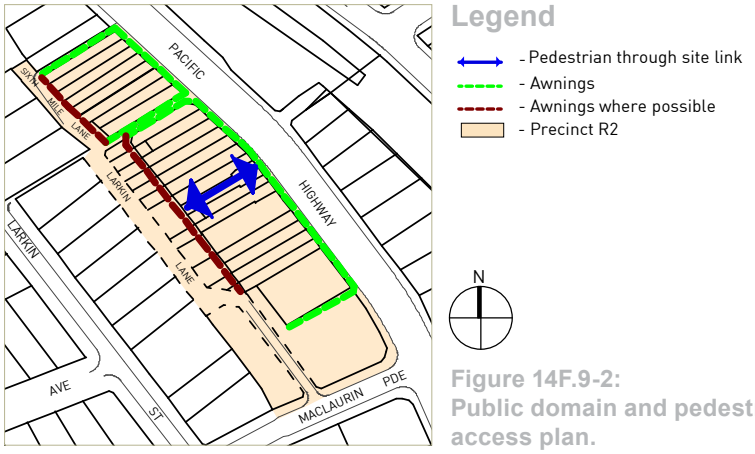


Figure 14F.9-2:
Public domain and pedestrian access plan.

2 Provide a new pedestrian arcade connecting the Pacific Highway with Larkin Lane.

3 Provide continuous awnings to Pacific Highway, Sixth Mile Lane, the Rifleway and the Memorial Park frontage.

4 Provide awnings to Larkin Lane where possible.

14F.9 PRECINCT R2: PACIFIC HIGHWAY SHOPS (continued)

Objectives

Refer to
Objectives and Controls
PART 14F.3
Proposed Community Infrastructure

Controls

Proposed Community Infrastructure

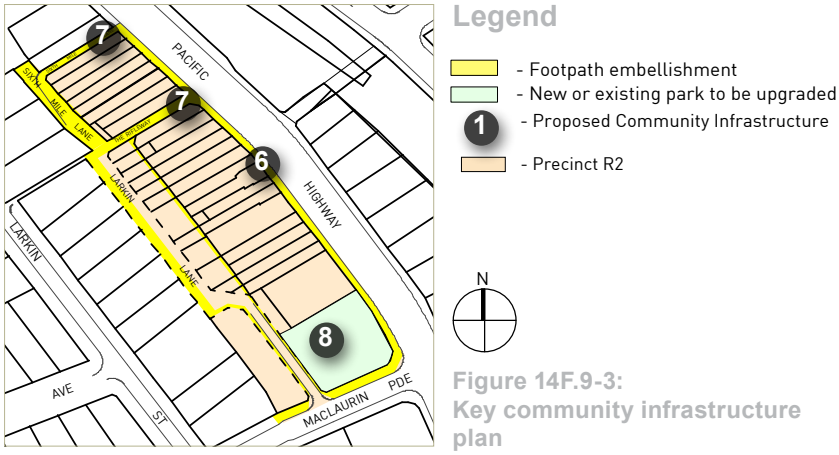


Figure 14F.9-3:
Key community infrastructure plan

5 The following development as indicated in *Figure 14F.9-3*, is to be included to support and compliment the provision of Key Community Infrastructure through the *Ku-ring-gai Contributions Plan 2010,* Voluntary Planning Agreement (VPA), or other delivery mechanism:

6 Embellishment of the public domain areas and footpaths on the Pacific Highway and Hill Street including underground power lines, new lighting, high quality paving and furniture.

7 Upgrade of existing pedestrian lane ways including Sixth Mile Lane and the Rifleway.

8 Embellishment of Roseville Memorial Park to urban park standard.

Refer to
Objectives and Controls
PART 14F.4
Setbacks

Setbacks

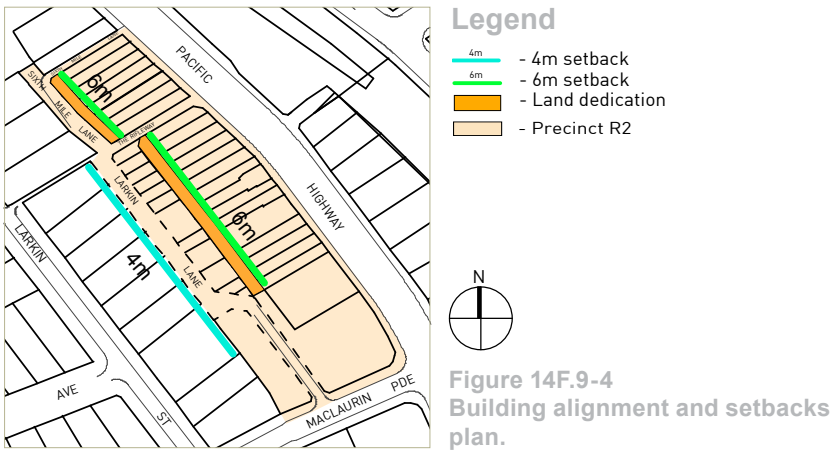


Figure 14F.9-4
Building alignment and setbacks plan.

6 Building setbacks are to be in accordance with *Figure 14F.9-4*, and all buildings in the B2 zone are required to be built to the street alignment and with a zero setback with the following exceptions:

i) 6 metre rear setback to Larkin Lane applying to properties nos.66-108 Pacific Highway for additional public parking. Land is to be dedicated to Council at no cost.

14F.9 PRECINCT R2: PACIFIC HIGHWAY SHOPS (continued)

Objectives

Refer to
Objectives and Controls
PART 14F.5
Built Form

Controls

Built Form

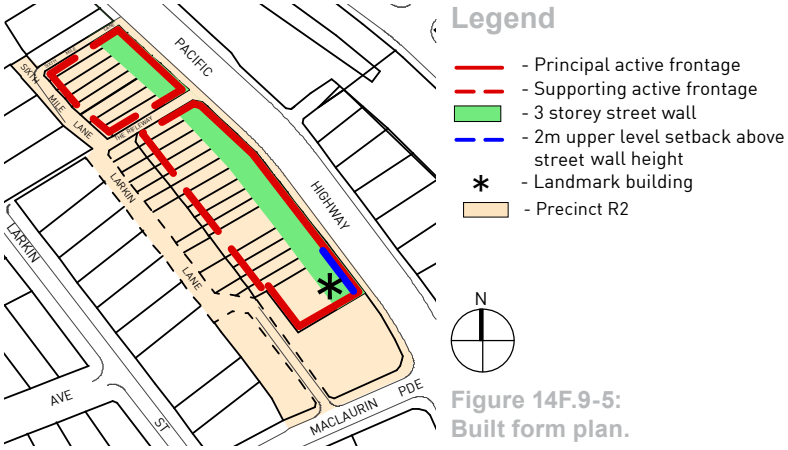


Figure 14F.9-5:
Built form plan.

7 Buildings are to be designed in accordance with the Development Control Plan, *Figure 14F.9-1,* and as follows:

i) Create a consistent 3 storey (11.5 metres) street wall that is built parallel to the street alignment of the Pacific Highway.

ii) 2 metre upper level setback to all levels above the street wall height along the frontages of properties 64-70 Pacific Highway.

iii) Provide active street frontages along the Pacific Highway and the frontage to Memorial Park.

iv) Provide active frontages addressing Larkin Lane (car park), the Rifleway and Sixth Mile Lane wherever possible.

v) Provide a highly activated interface between Memorial Park that encourages use of the park.

vi) Design a landmark corner building for the site adjoining Memorial Park.

14F.9 PRECINCT R2: PACIFIC HIGHWAY SHOPS (continued)

Objectives

Refer to
Objectives and Controls
PART 14F.6
Building Entries, Car Parking and Service Access

Controls

Building Entries, Car Parking and Service Access

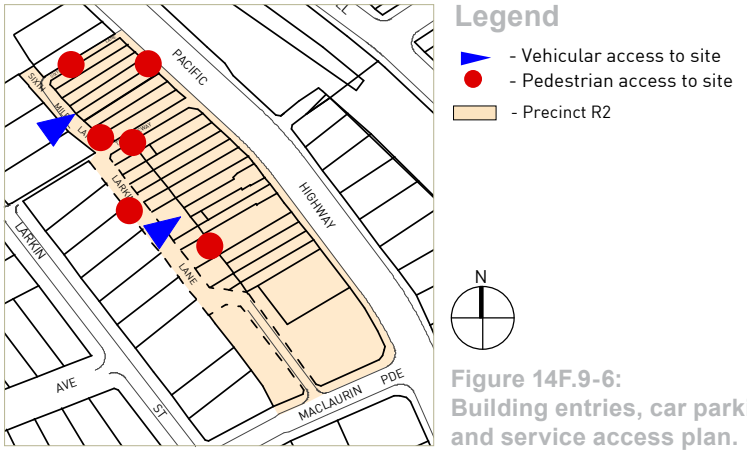


Figure 14F.9-6: Building entries, car parking and service access plan.

8 For the properties Nos.64-116 Pacific Highway vehicle and service access is to be provided via Larkin Lane or Sixth Mile Lane.

9 For the properties Nos.64-116 Pacific Highway residential and commercial lobbies and foyers are to be located off Larkin Lane, The Rifleway or Sixth Mile Lane.

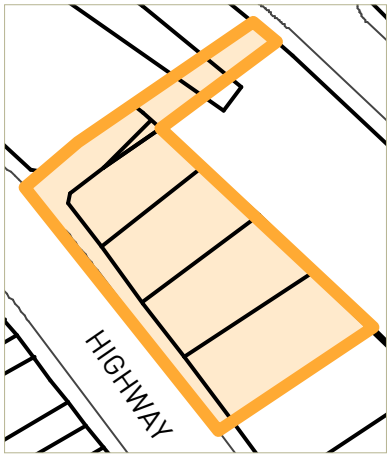
14F.10 PRECINCT R3: PACIFIC HIGHWAY TO ROSEVILLE STATION

Objectives

Refer to
Objectives and Controls
PART 14F.1
Urban Precincts

Controls

Planned Future Character



R3

Legend

- Precinct R3

N

Figure 14F.10-1:
Precinct R3

This precinct includes a pedestrian walkway from the Pacific Highway to the Roseville rail station. This area contains the former Commonwealth Bank building at No.83 Pacific Highway which is a listed heritage item and is significant because it represents a good example of the Art Deco style. The precinct also features the railway gardens and the listed former station master's residence at 89 Pacific Highway.

1 Development is to be designed to support and enhance the planned future character for the precinct and as follows:

i) This area will become a small mixed use precinct incorporating a new urban square at the western rail station entry. This precinct will provide a "bridge" between the two main commercial precincts.

14F.10 PRECINCT R3: PACIFIC HIGHWAY TO ROSEVILLE STATION (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14F.2
Public Domain and Pedestrian Access

Public Domain and Pedestrian Access

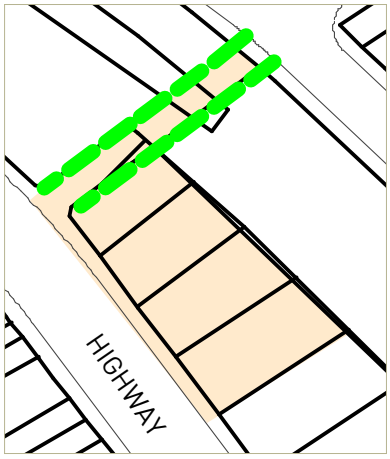


Figure 14F.10-2:
Public domain and pedestrian access plan.

2 Provide continuous awnings to the Pacific Highway and rail station accessway.

Refer to
Objectives and Controls
PART 14F.3
Proposed Community Infrastructure

Proposed Community Infrastructure

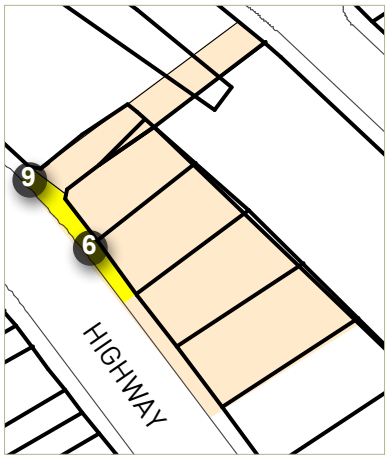


Figure 14F.10-3:
Key community infrastructure plan

3 The following development as indicated in *Figure 14F.10-3*, is to be included to support and compliment the provision of Key Community Infrastructure through the *Ku-ring-gai Contributions Plan 2010,* Voluntary Planning Agreement (VPA), or other delivery mechanism:

6 Embellishment of the public domain areas and footpaths on the Pacific Highway and Hill Street including underground power lines, new lighting, high quality paving and furniture.

9 Improvements to western rail station entry off Pacific Highway to create new urban square including new paving, street trees and street furniture.

14F.10 PRECINCT R3: PACIFIC HIGHWAY TO ROSEVILLE STATION (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14F.4
Setbacks

Setbacks

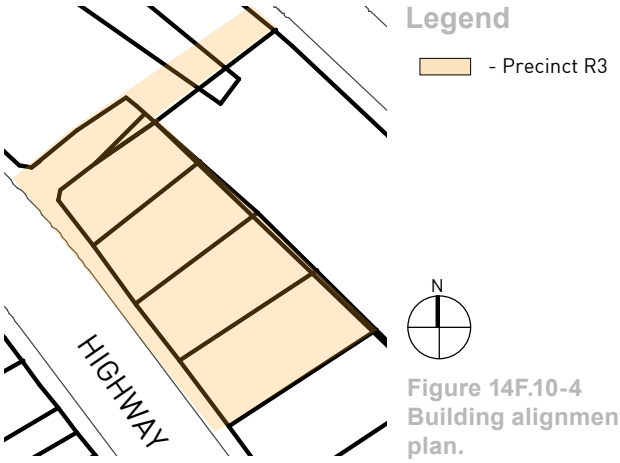


Figure 14F.10-4
Building alignment and setbacks plan.

4 All buildings are required to be built to the street alignment and with a zero setback.

Refer to
Objectives and Controls
PART 14F.5
Built Form

Built Form

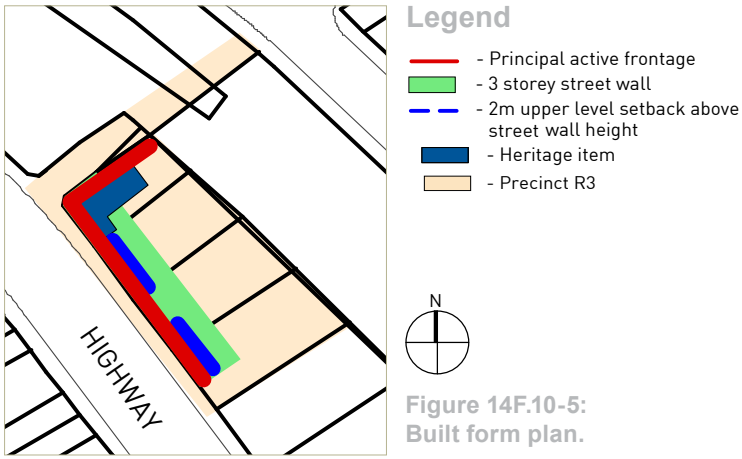


Figure 14F.10-5:
Built form plan.

5 Buildings are to be designed in accordance with this Development Control Plan, *Figure 14F.10-5,* and as follows:

i) Create a consistent 3 storey (11.5 metres) street wall that is built parallel to the street alignment of the Pacific Highway.

ii) In relation to properties Nos.69-71 and 79-81 Pacific Highway new building elements are to be setback from the highway frontage to a minimum depth of 10 metres.

iii) Conserve and adapt the former Commonwealth Bank building No.83 Pacific Highway) and the former station master's cottage (No.89 Pacific Highway).

iv) Provide active street frontages along the Pacific Highway and the public access way to the rail station.

14F.10 PRECINCT R3: PACIFIC HIGHWAY TO ROSEVILLE STATION (continued)

Objectives

Refer to
Objectives and Controls
PART 14F.6
Building Entries, Car Parking and Service Access

Controls

Building Entries, Car Parking and Service Access

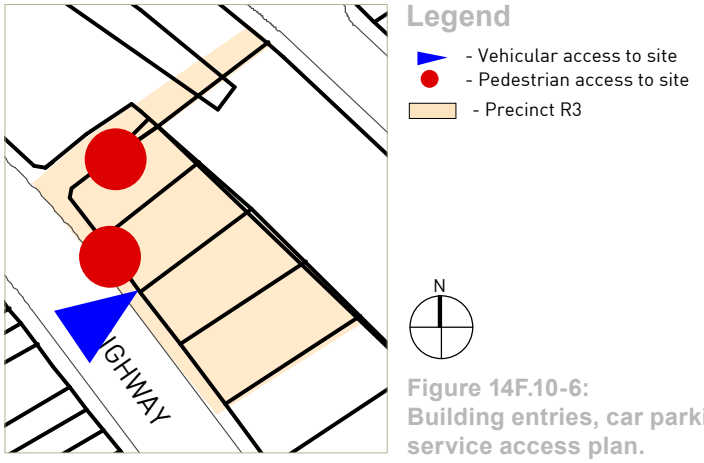


Figure 14F.10-6:
Building entries, car parking and service access plan.

6 Vehicle and service access is to be provided via Pacific Highway at the southern corner of the site.

7 Residential and commercial lobbies and foyers are to be located off the Pacific Highway or the pedestrian access way to the rail station.

14F.10 PRECINCT R3: PACIFIC HIGHWAY TO ROSEVILLE STATION (continued)

Objectives

Controls

Refer to
Objectives and Controls
PART 14F.7
Heritage

Heritage

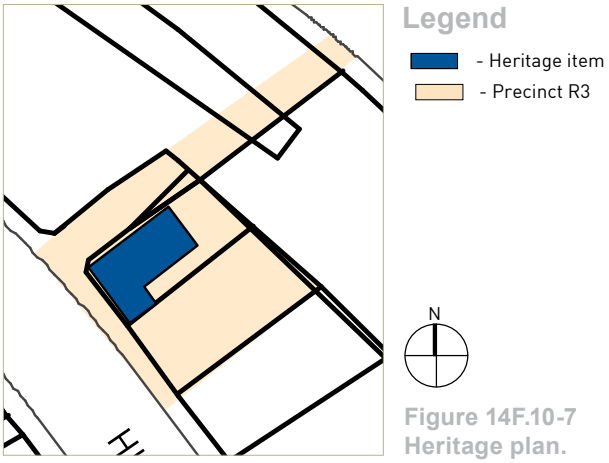


Figure 14F.10-7
Heritage plan.

In relation to No.83 Pacific Highway, Roseville - (the former Commonwealth Bank Building):

8 Conserve all details and the form of external elevations including: the banking chamber that is adjoined by curved corners; the western elevation; the awning and pressed metal soffit; the intact shop fronts; and detailing to building foyers.

9 Prior to removal or alteration assess the significance of remnant internal fabric relating to banking operations such as the banking counter, furniture, the safe, and internal detailing.

10 Restoration works to be considered and undertaken to the northern and western elevations.

11 Major additions must include conservation works.

12 No additions to occur over the northern banking portion.

13 Additions may occur to the southern portion providing upper level additions are set back 5 metres from the parapet and must not detract from the prominence of the building in the streetscape.

14 Alterations and additions may occur behind the facade of the southern retail portion of the building.

15 Heritage items are not required to include awnings where it is detrimental to their heritage significance.

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PART 14R

14R References

14R.1 Lindfield Village Green Masterplan
14R.2 Lindfield Hub Masterplan
14R.3 Lindfield Library Site Masterplan
14R.4 Turramurra Community Hub Masterplan

REFERENCES

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PART 14R

14R References

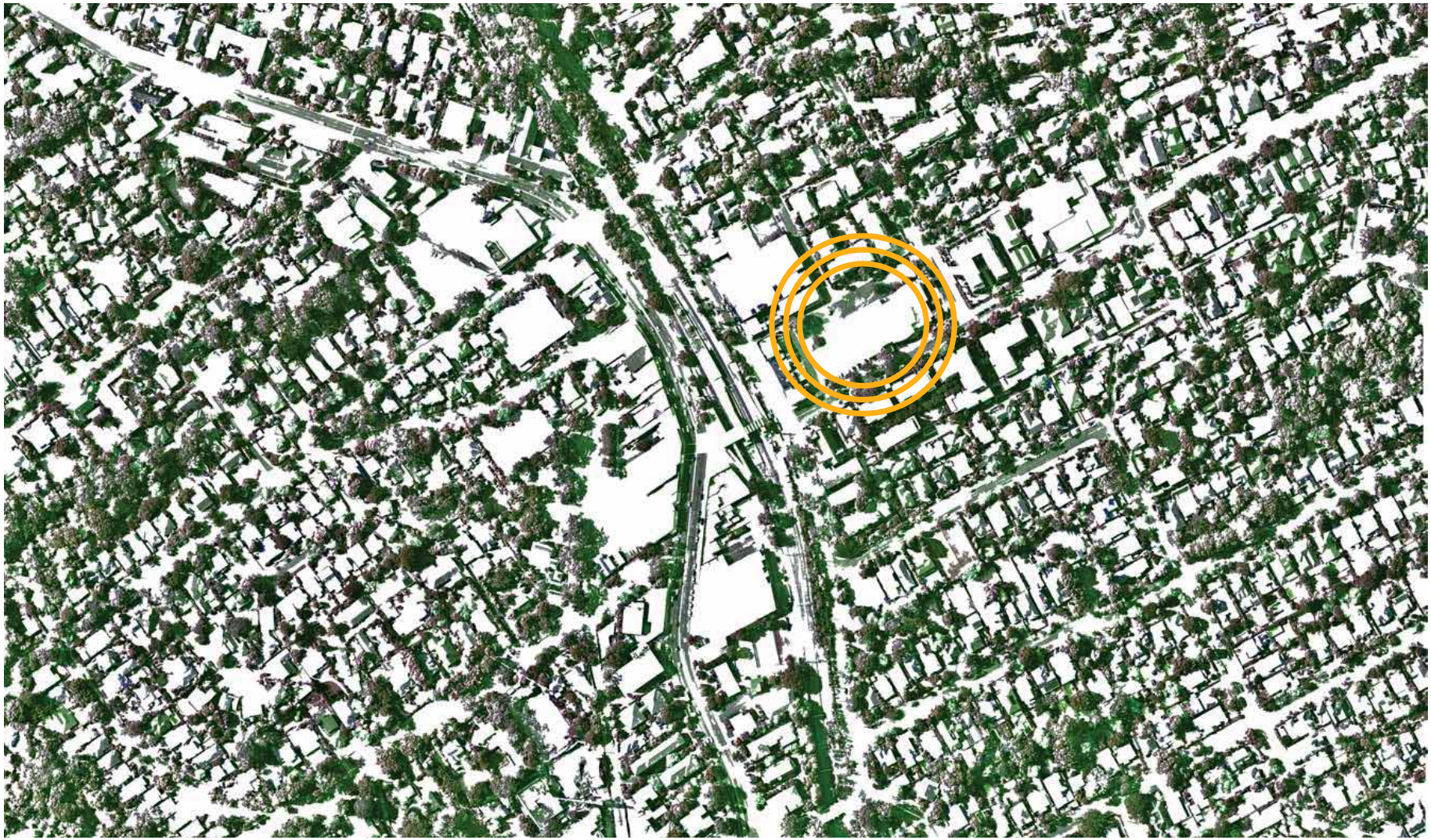
14R.1 Lindfield Village Green Masterplan

REFERENCES

Lindfield Village Green

Competition Presentation

March 2015



Ku-ring-gai Council

JMD design

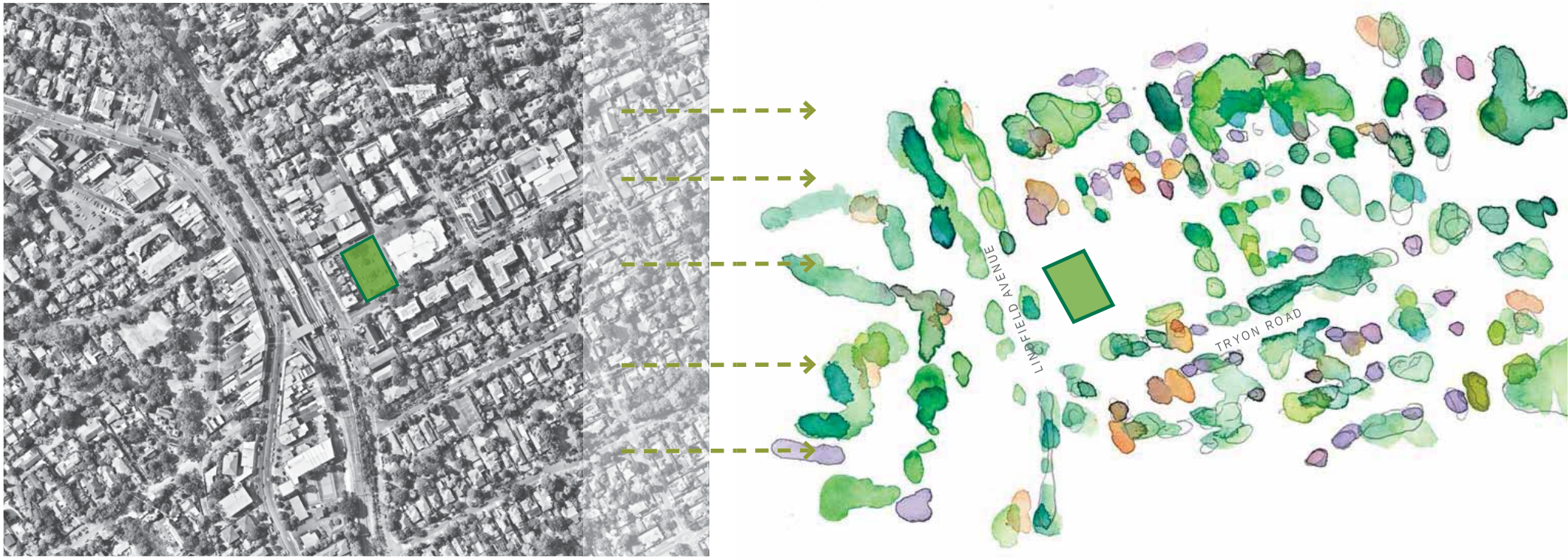
tonkin zulaikha greer ARCHITECTS

NORTHROP

PARKING & TRAFFIC CONSULTANTS

principles

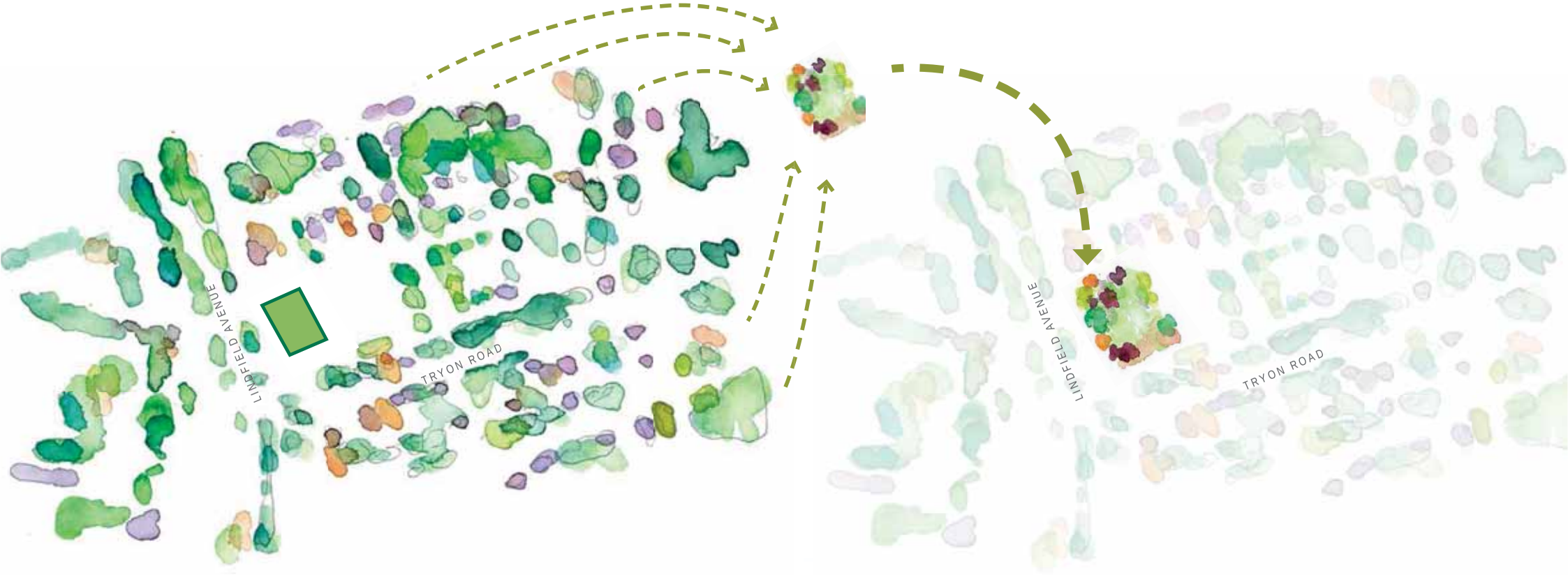
the garden & the ornament



garden the green

distill the character of Lindfield's gardens

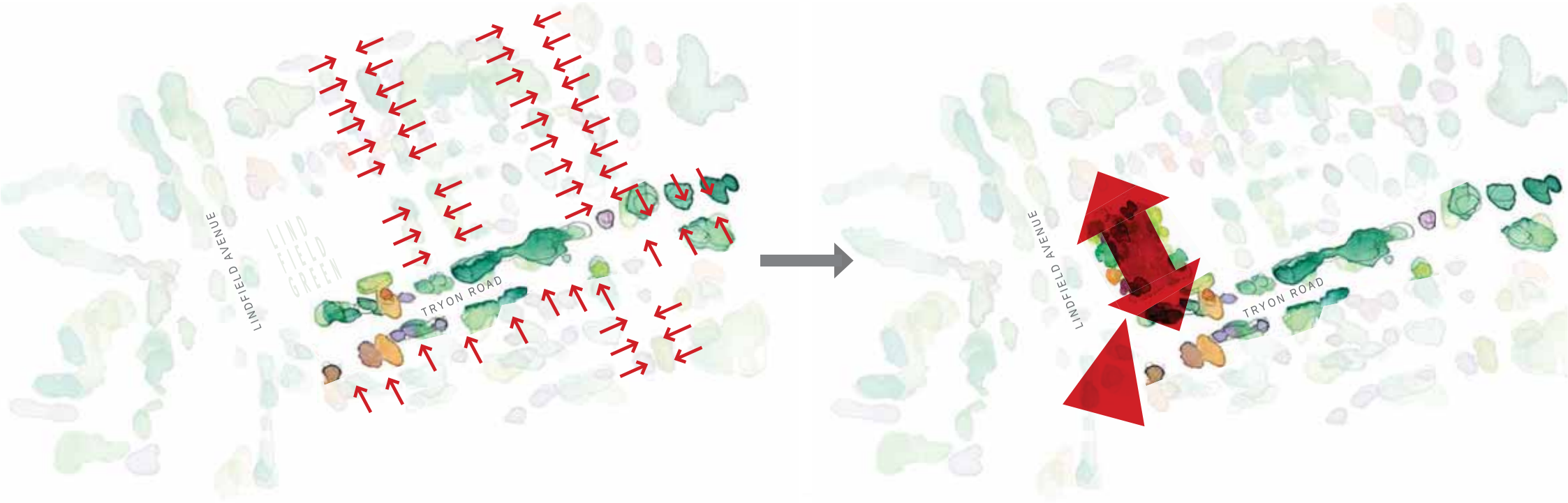
make the Green Garden



the communities front garden

address the street

a place to share in the comings and goings of the suburb



a place to meet neighbours

a place for casual encounters

a place to bump into the community

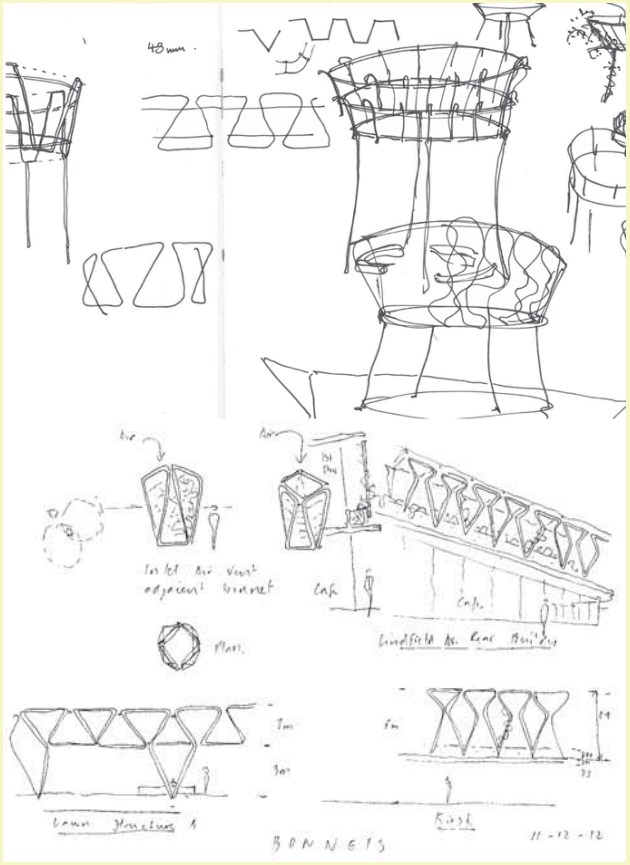
open toward the church

Lindfield federation heritage

reinterpret the heritage ornamental patterns found in cornices, tiles, fabric and ceilings and decoration



Federation cornice



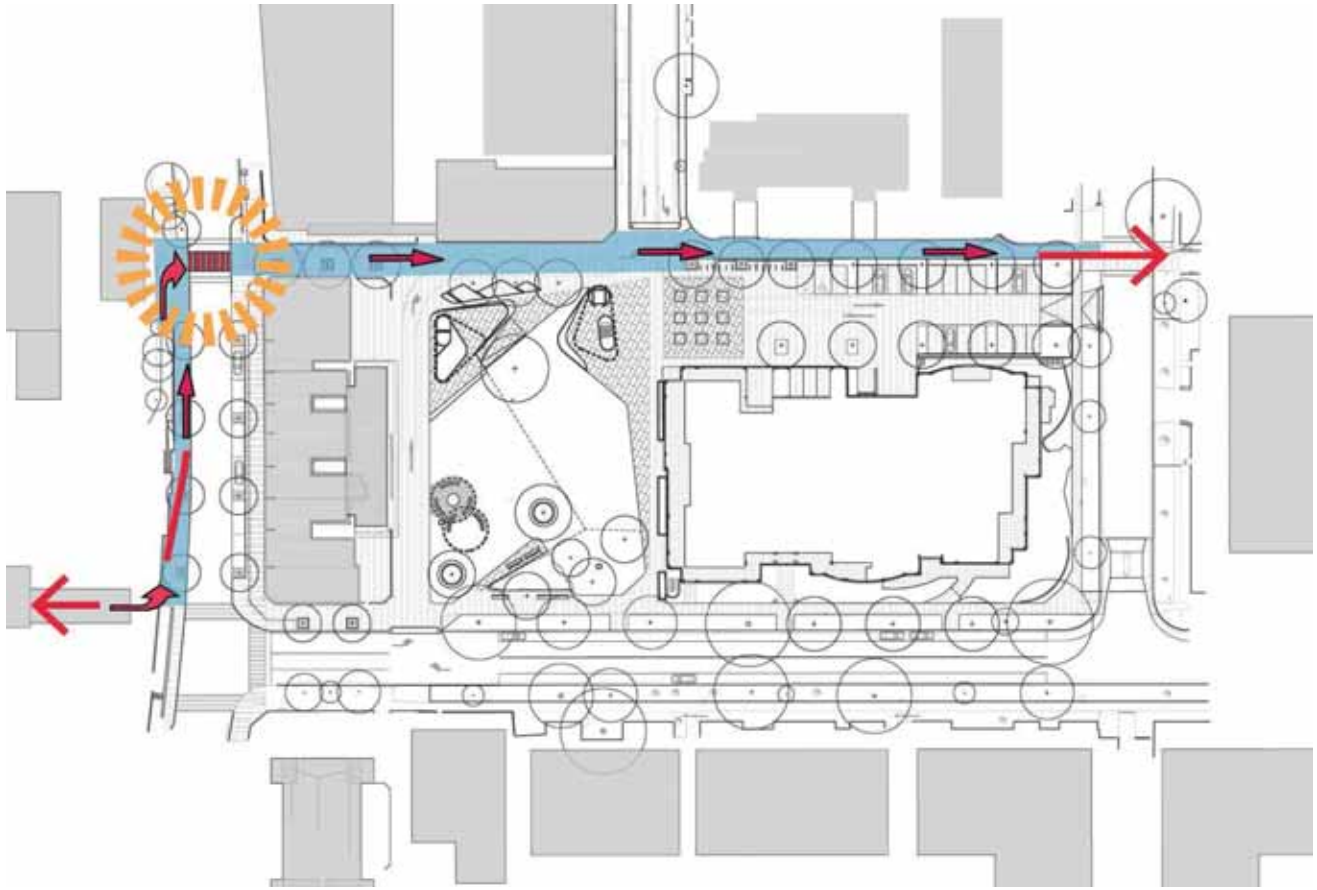
Shade structures

structural elements

Pedestrian desire lines

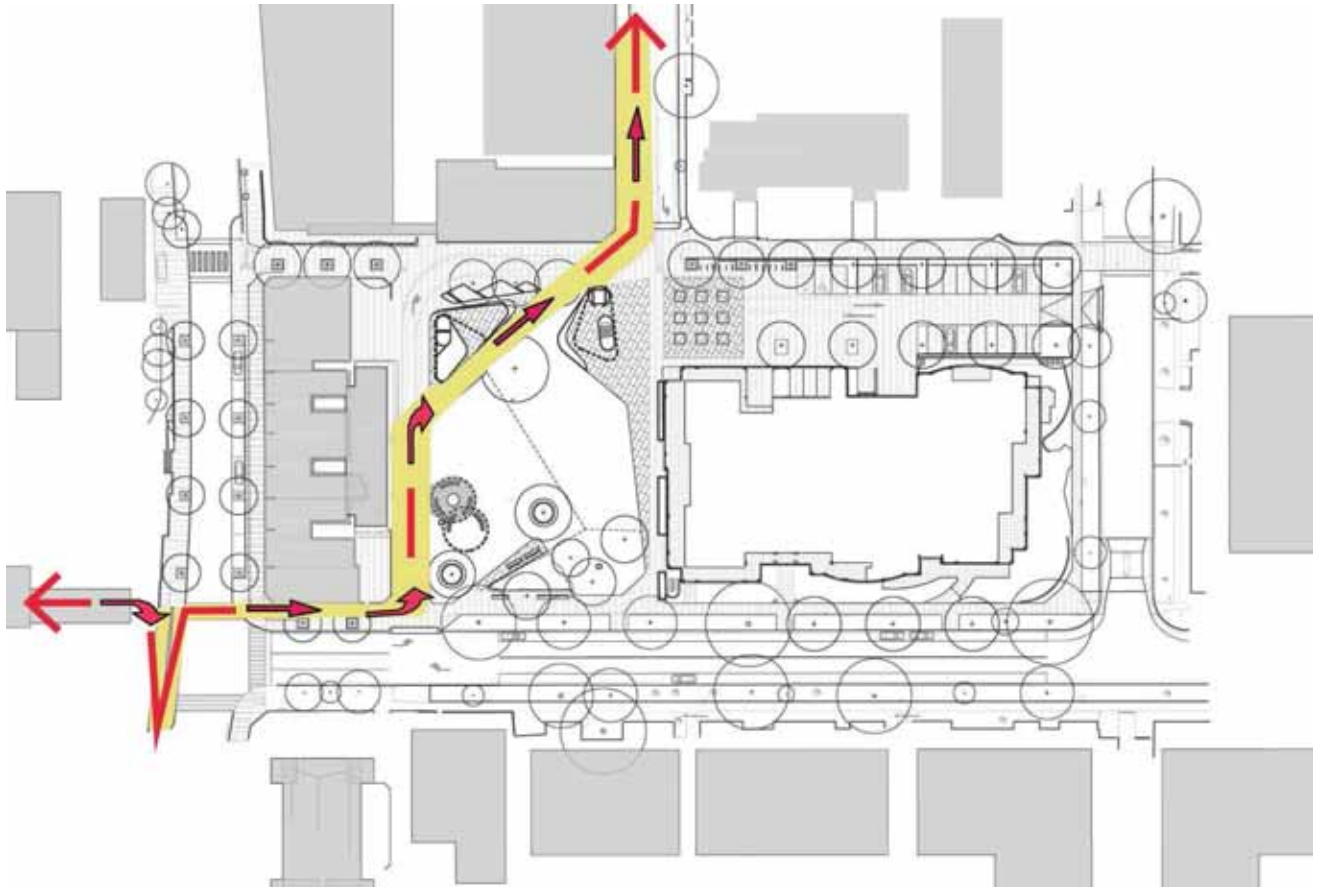
station to Kochia Ln

new pedestrian crossing



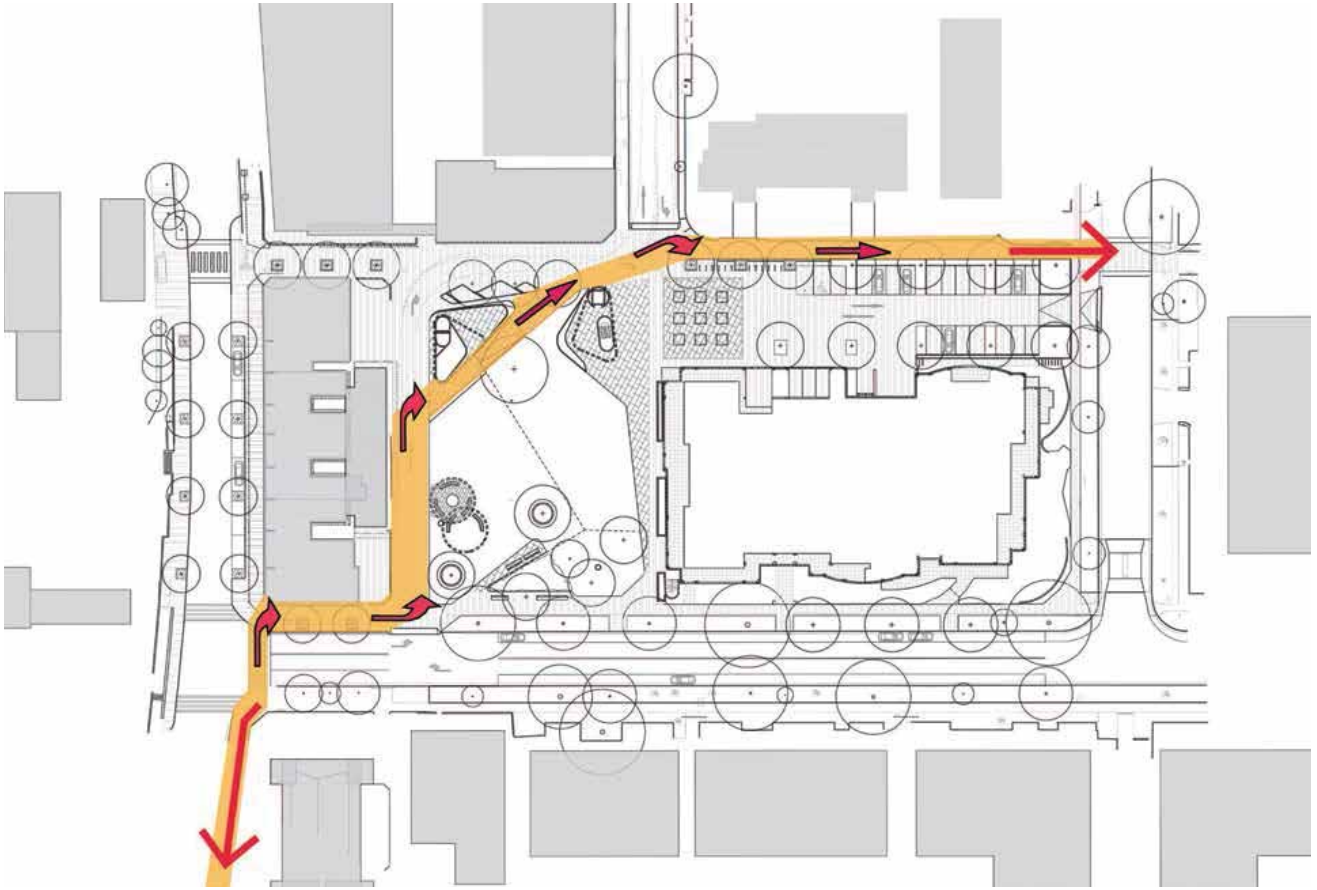
Pedestrian desire lines

station to Havilah Ln



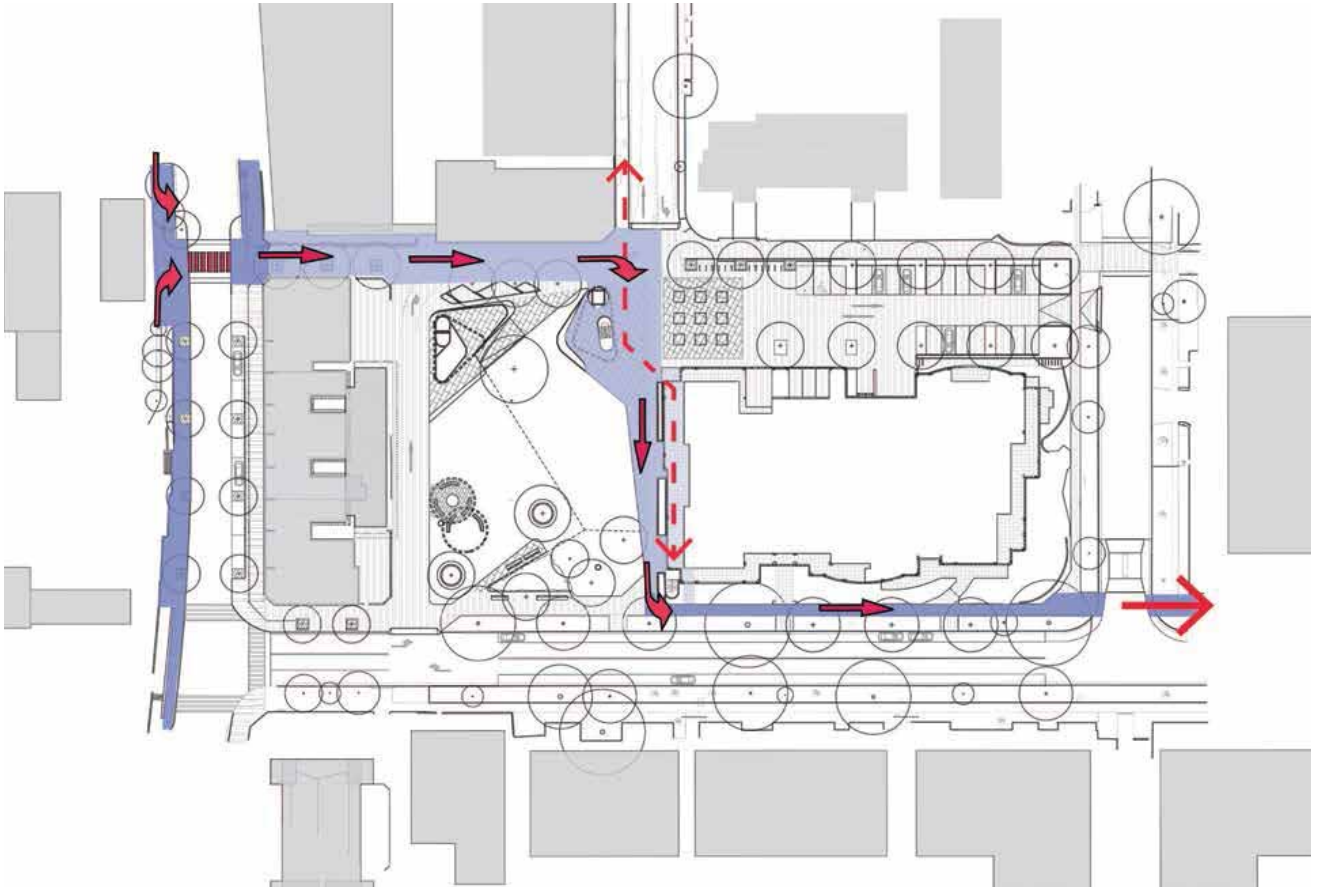
Pedestrian desire lines

Lindfield Ave - Kochia Ln

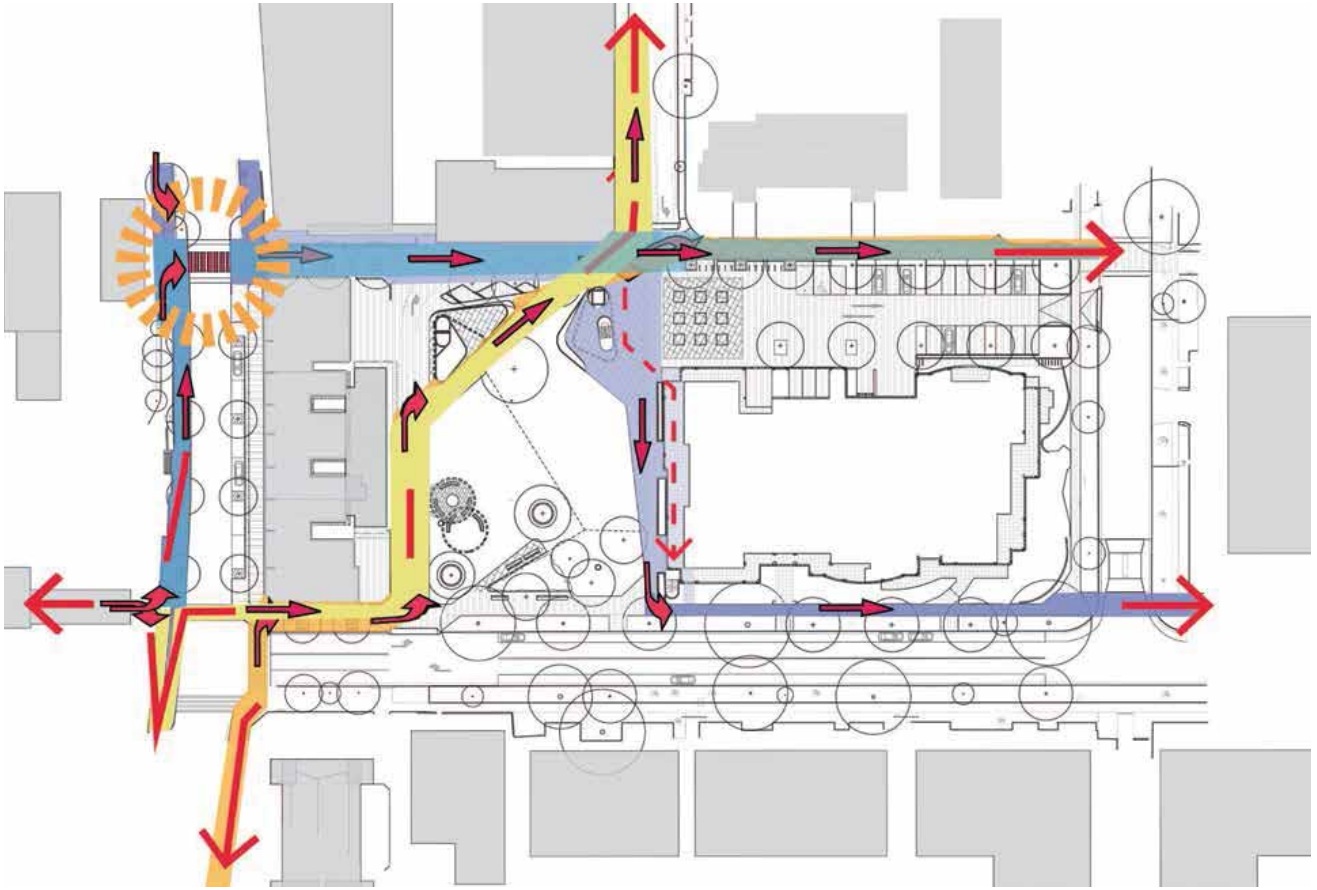


Pedestrian desire lines

Lindfield Ave - Tryon Rd



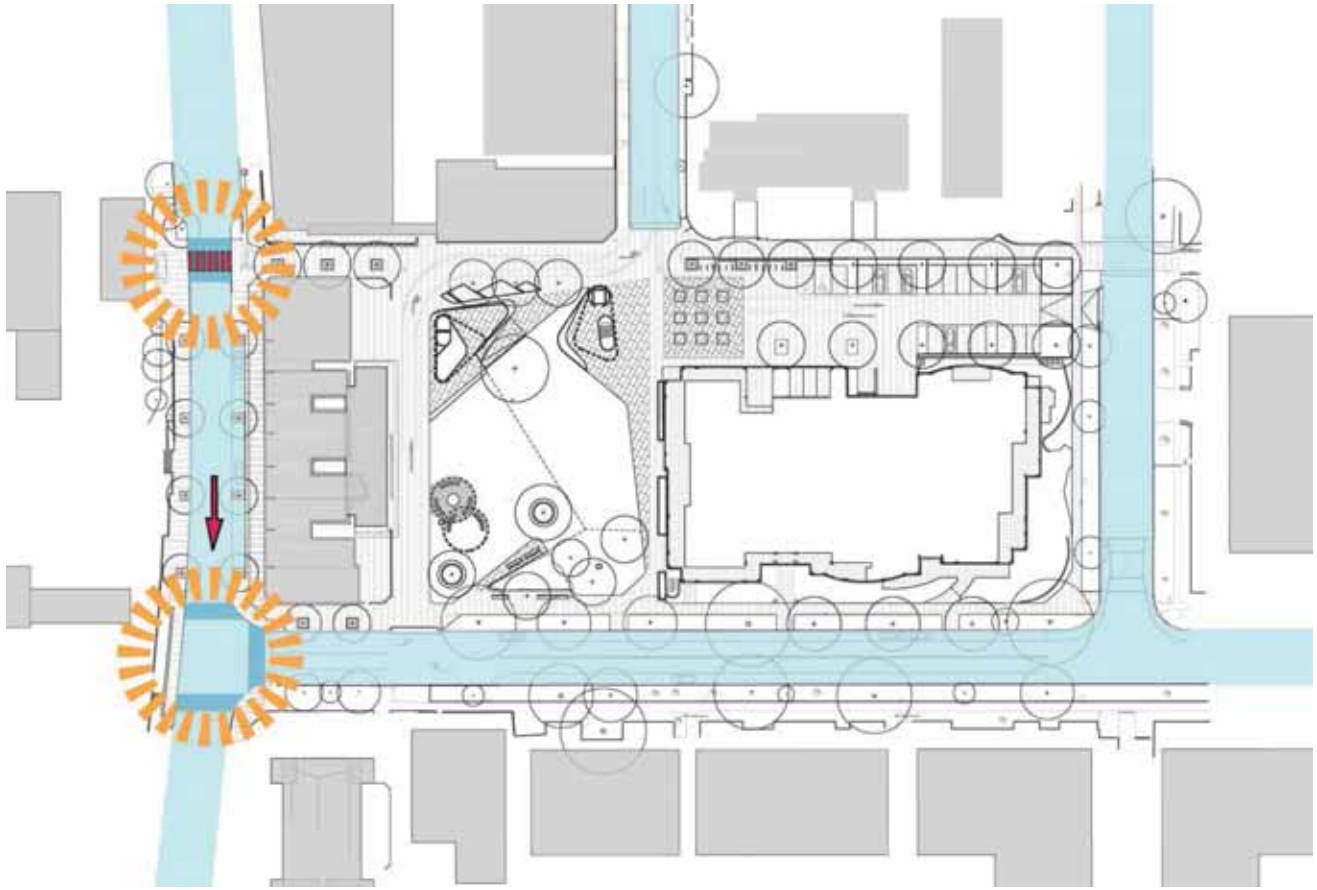
Pedestrian desire lines



new traffic conditions

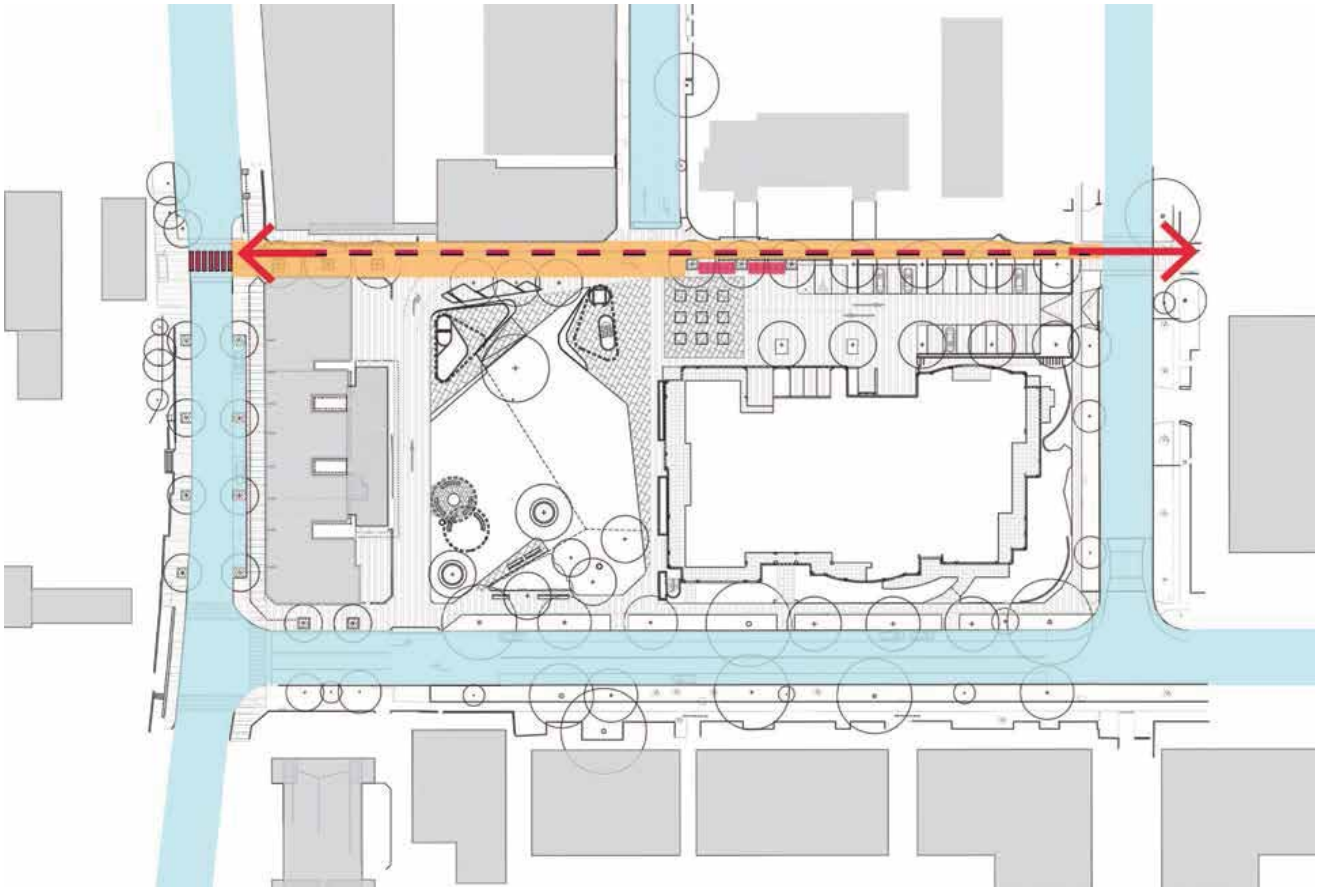
Kochia Ln closed

signalised intersection moved to Tryon rd



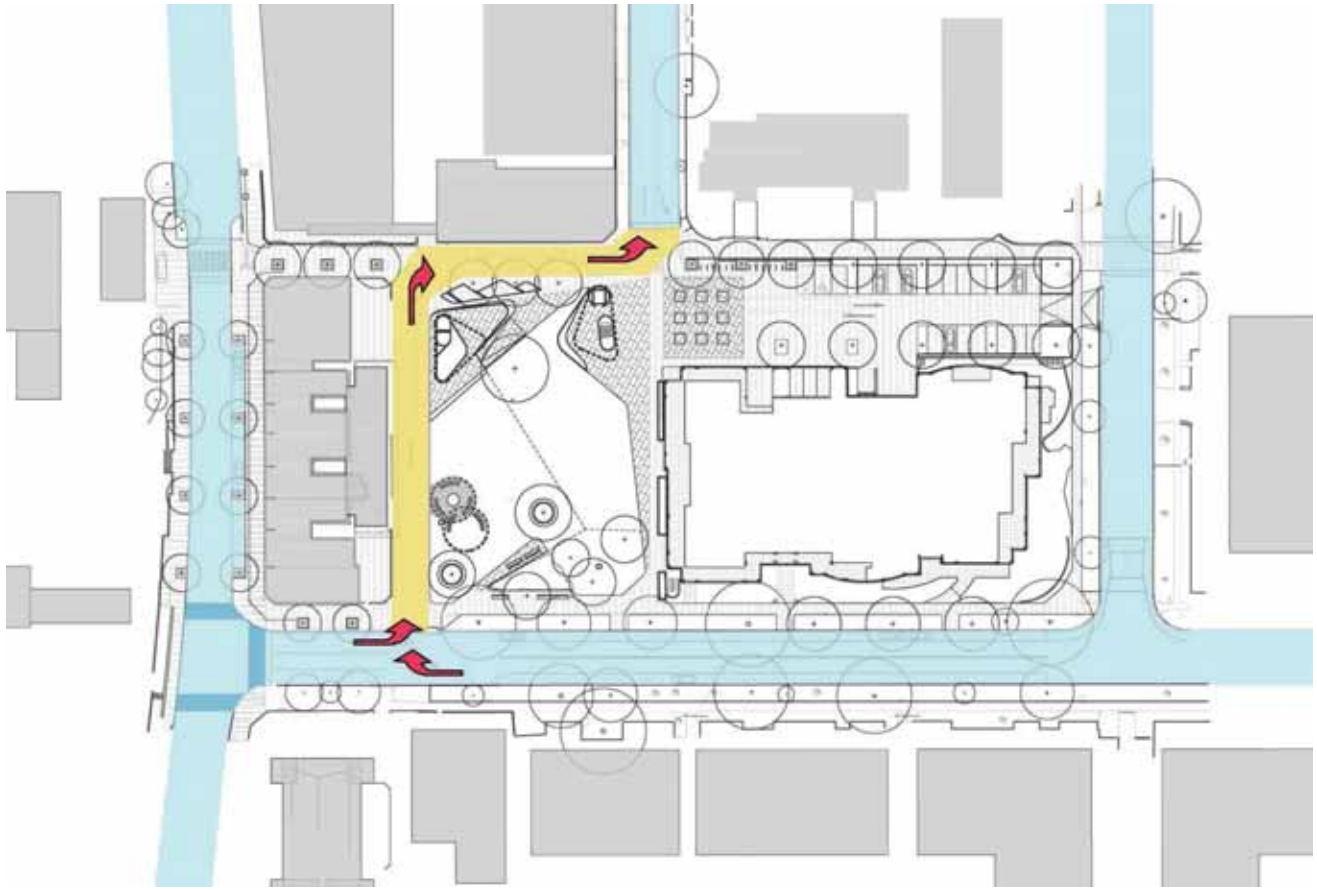
shared path

shared pedestrian cycle way: Kochia Ln



shared zone

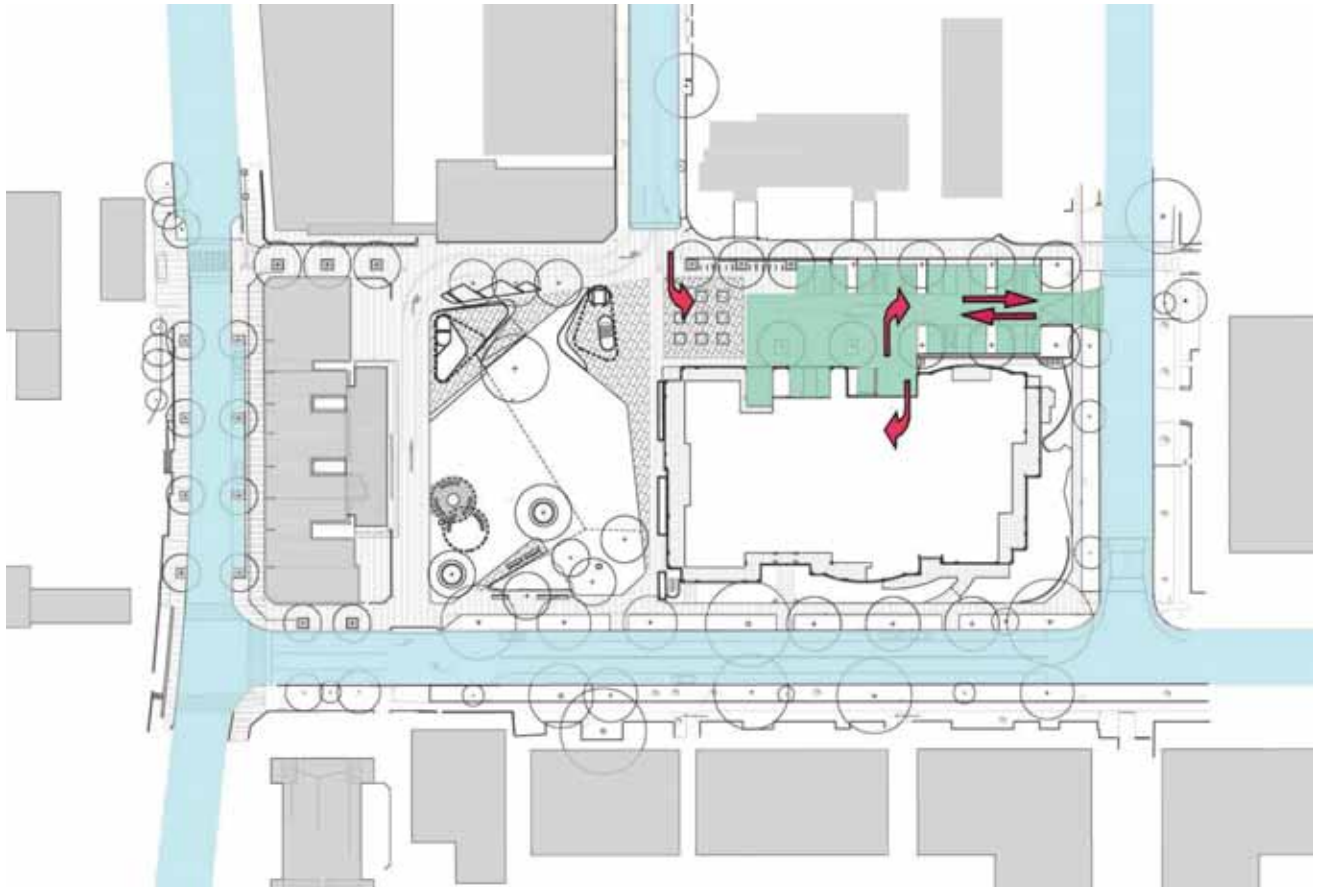
one way: Chapman Ln to Havilah Ln



on-grade parking

entry & exit: off Milray St

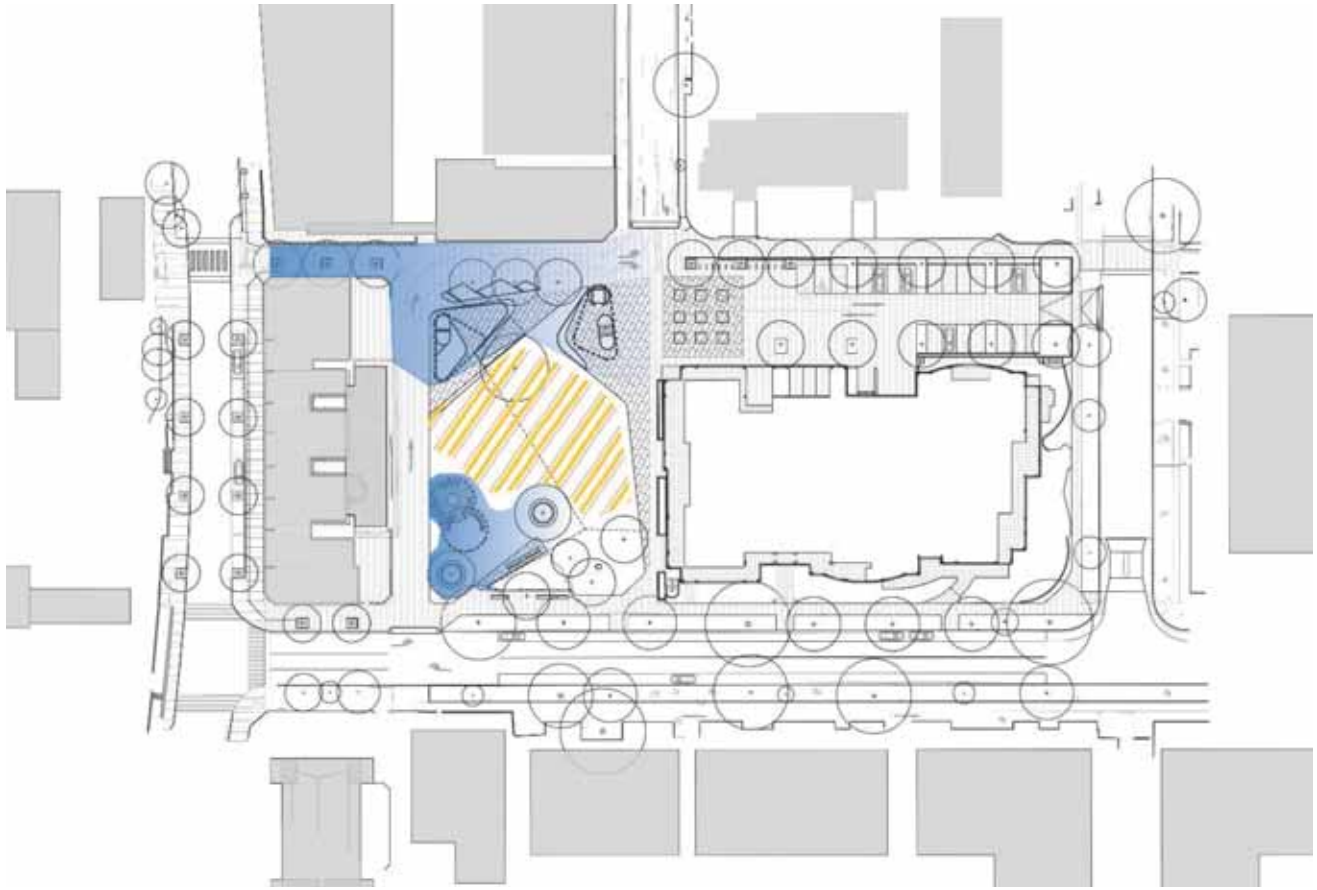
one way through link: Havilah Ln to Milray St



summer solar exposure

cool

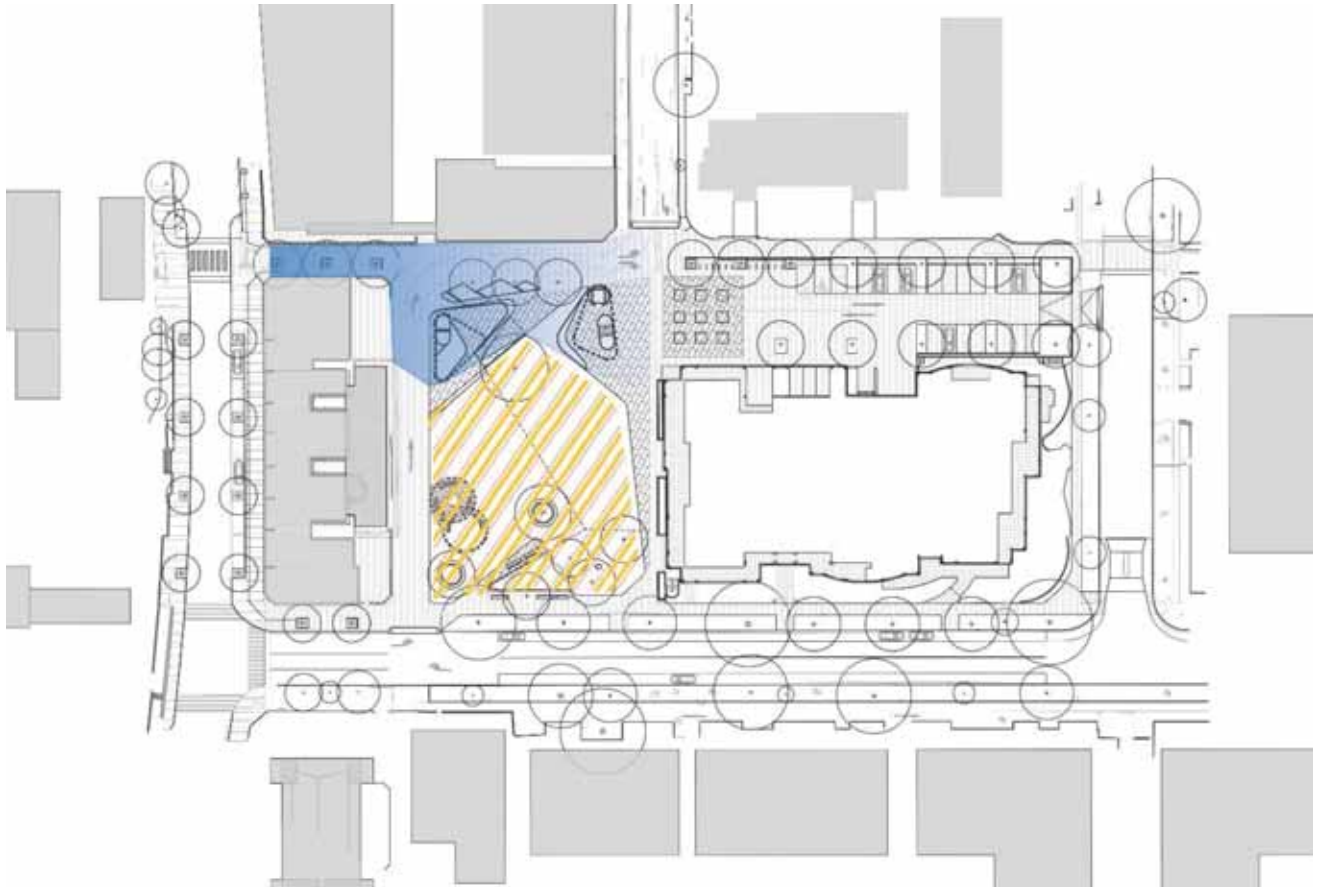
warm



winter solar exposure

cool

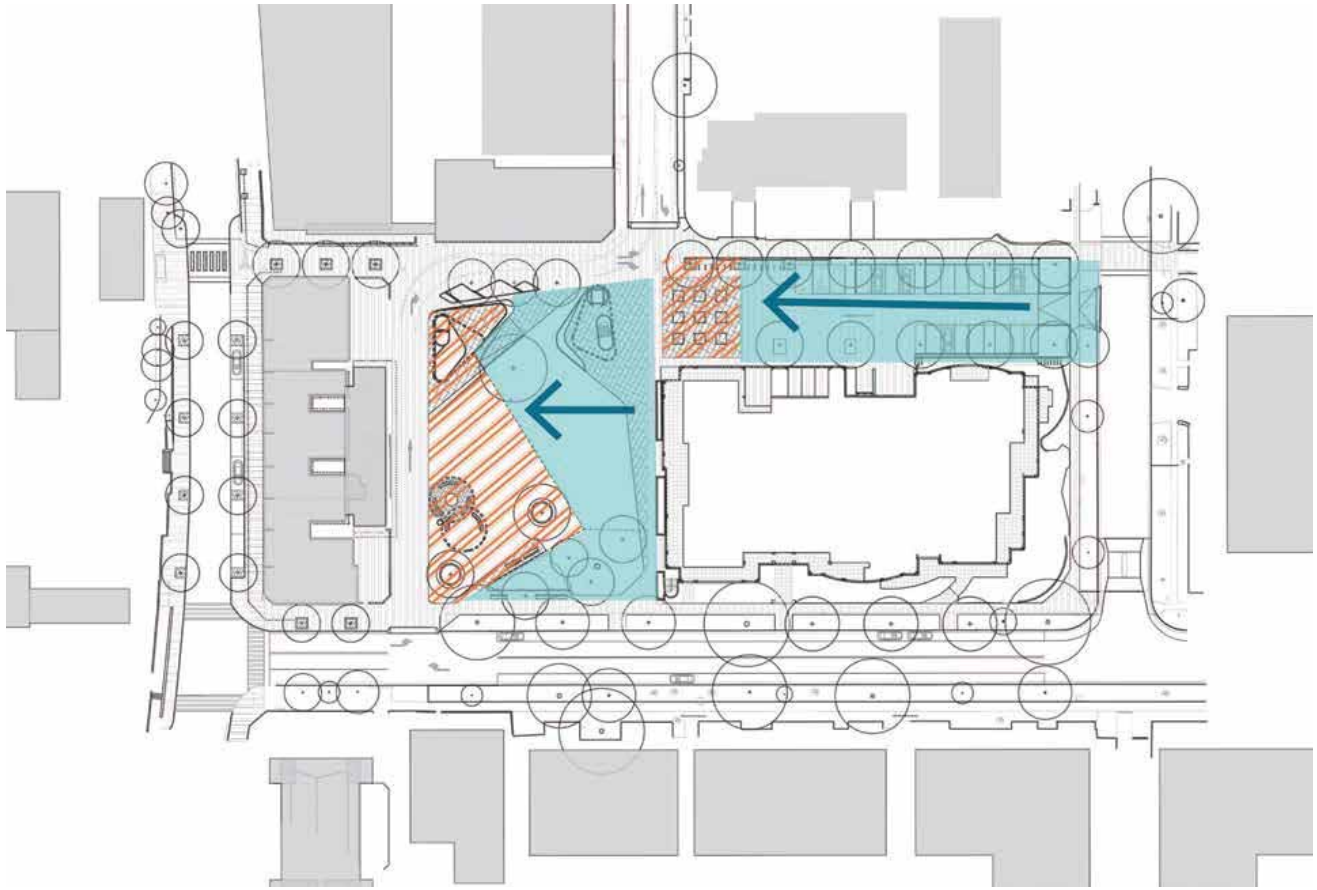
warm



slope

gentle slope

incline



master plan


KOCHIA LANE
HAVILAH LA
LINDFIELD AVENUE
CHAPMAN LANE
TRYON ROAD
MILRAY STREET
CARPARK - CLASS 3
25 SPACES
CAFE
DOCK
3 X CAR SPACES
EXISTING DRIVEWAY
ACCESS TO EXISTING LOADING DOCKS
COMMUNITY GARDENS
POSS USE OF EXISTING STAIRS

Lindfield Avenue



the green


KOCHIA LANE
HAVILAH LA
LINDFIELD AVENUE
CHAPMAN LANE
TRYON ROAD
MILRAY STREET
CARPARK - CLASS 3
CAFE
DOCK
3 X CAR SPACES
EXISTING DRIVEWAY
COMMUNITY GREEN

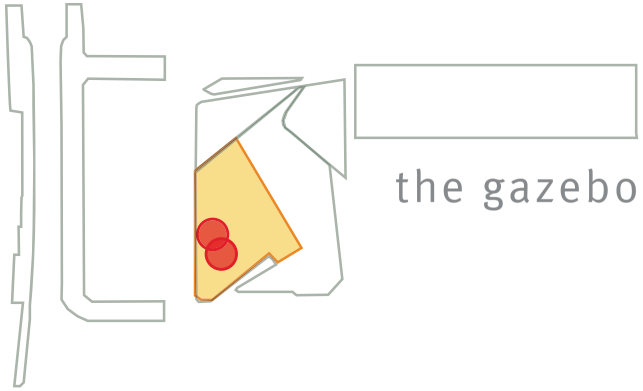
the plaza


KOCHIA LANE
HAVILAH LA
LINDFIELD AVENUE
CHAPMAN LANE
TRYON ROAD
MILRAY STREET
CARPARK - CLASS 3
21 SPACES
ACCESS TO EXISTING LOADING DOCKS
DOCK
3 X CAR SPACES
EXISTING DRIVEWAY
CAFE

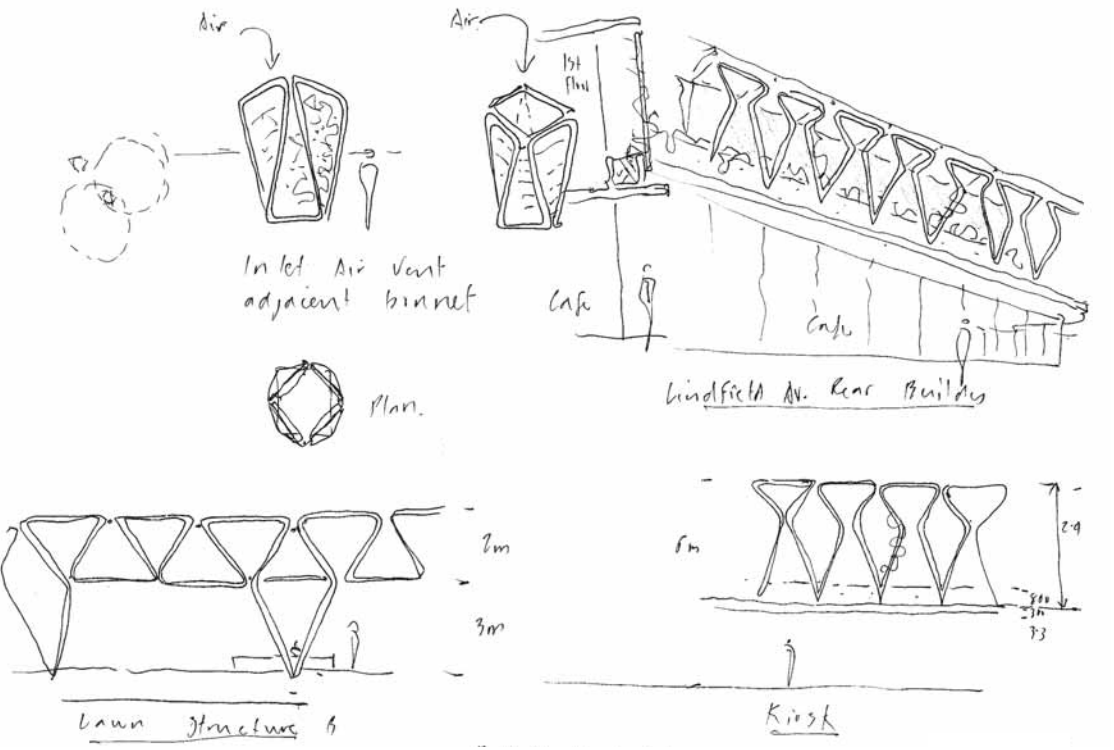
master plan

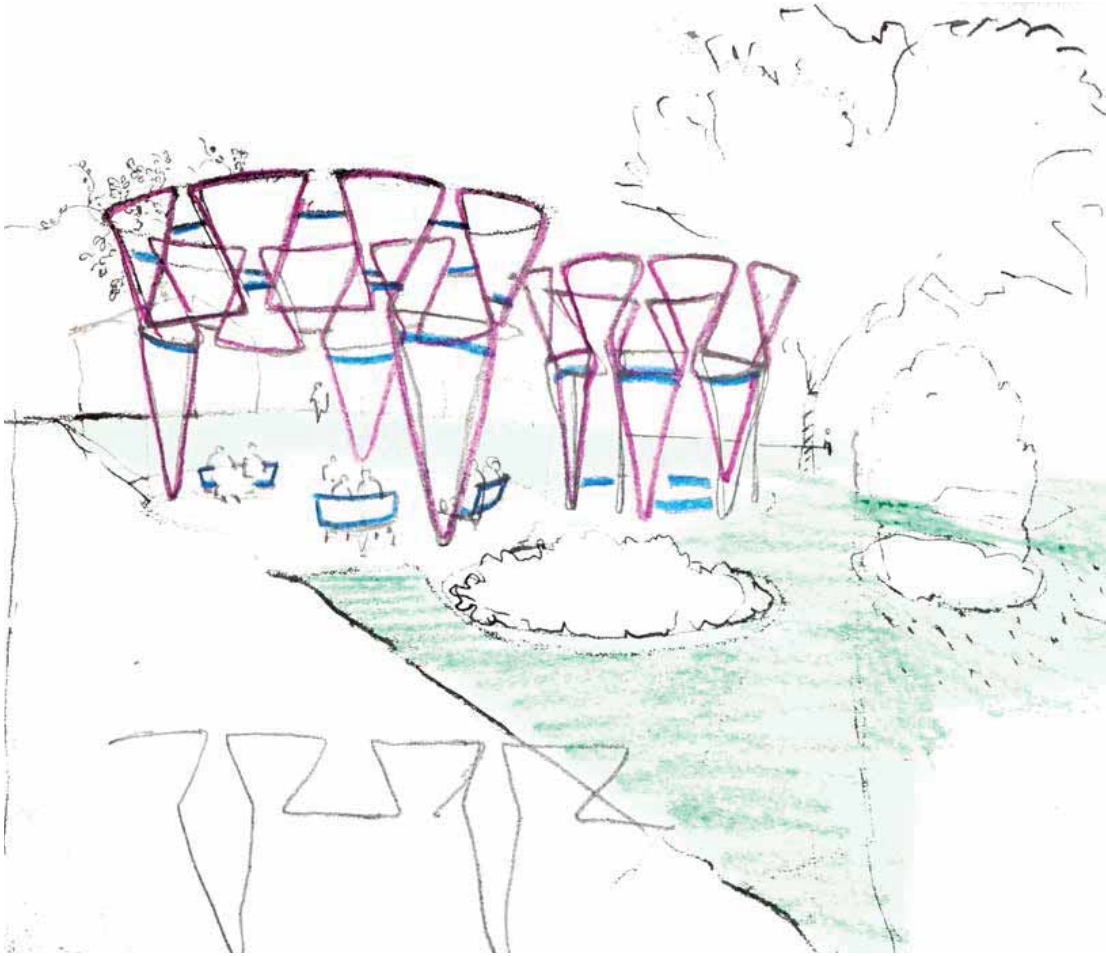

KOCHIA LANE
HAVILAH LA
LINDFIELD AVENUE
CHAPMAN LANE
TRYON ROAD
MILRAY STREET
CARPARK - CLASS 3
25 SPACES
CAFE
DOCK
3 X CAR SPACES
EXISTING DRIVEWAY
ACCESS TO EXISTING LOADING DOCKS
COMMUNITY GARDENS
POSS USE OF EXISTING STAIRS

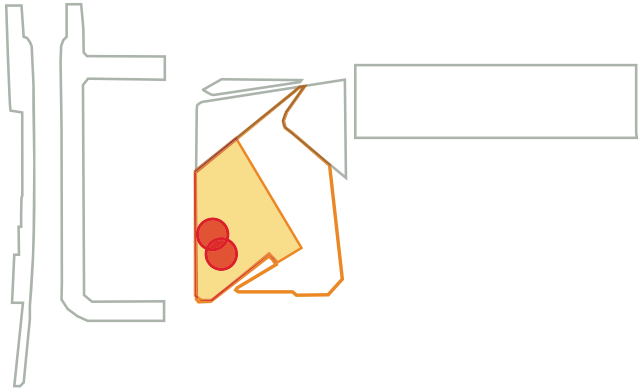




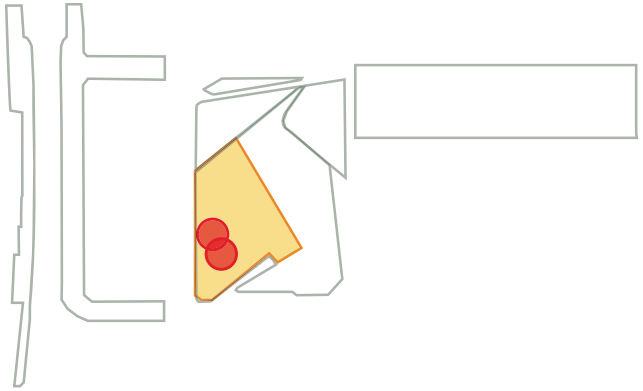
the gazebos


Air
Air
1st Floor
Inlet Air Vent adjacent bimret
Cafe
Cafe
Lindfield Av. Rear Building
Plan.
2m
3m
Lawn Structure
5m
2.4
Kiosk



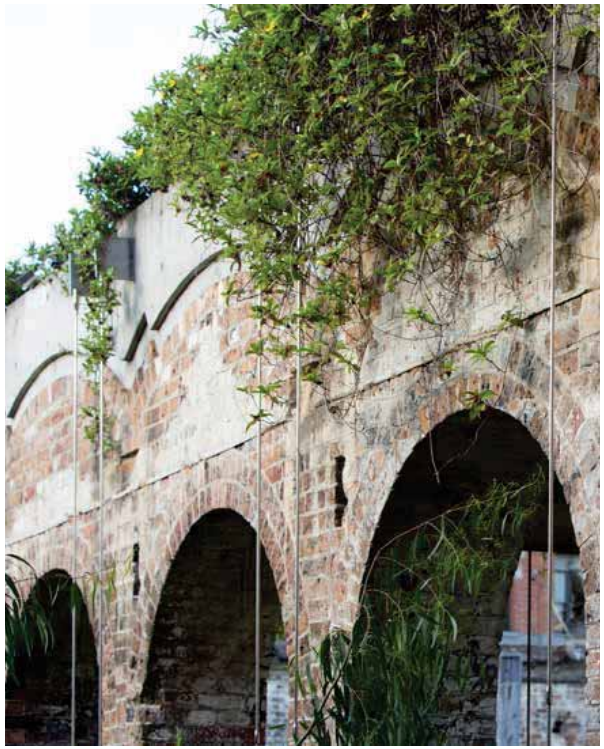














the north plaza



Lindfield Village Green

the north plaza



the water feature







the pavilions

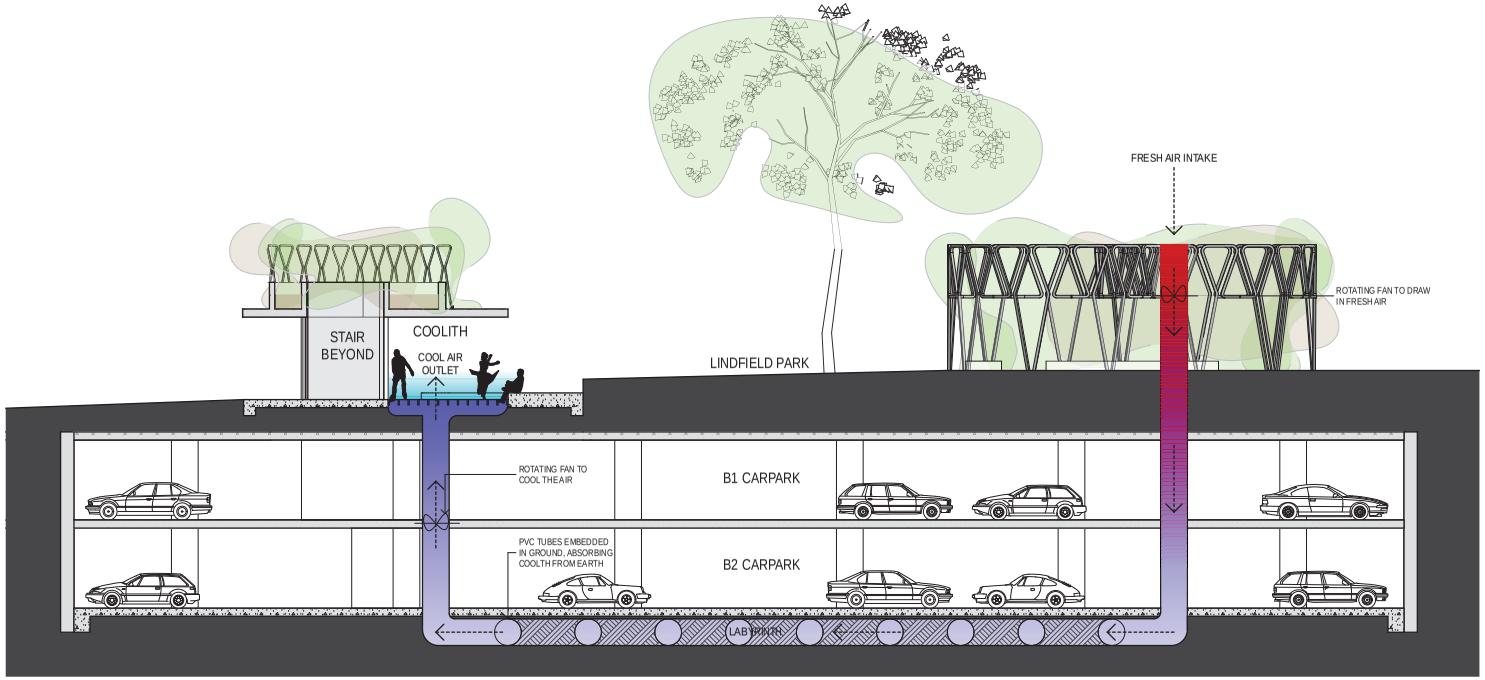


Hiroshi Senju Museum Karuizawa, Japan - Ryue Nishizawa





coolth plaza



park usage

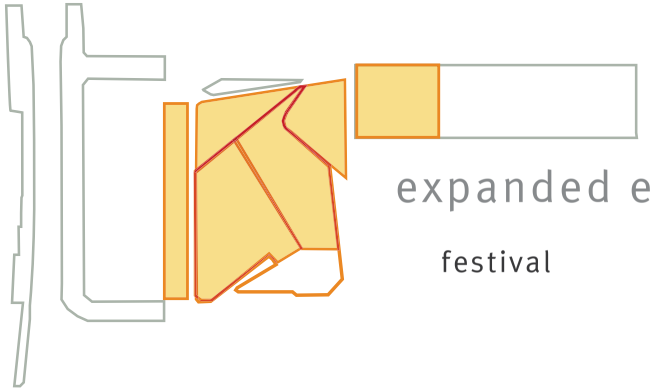
small event



plaza usage

market day

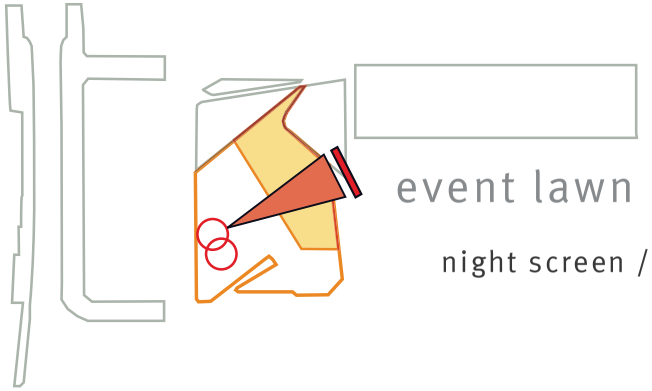




expanded event lawn

festival



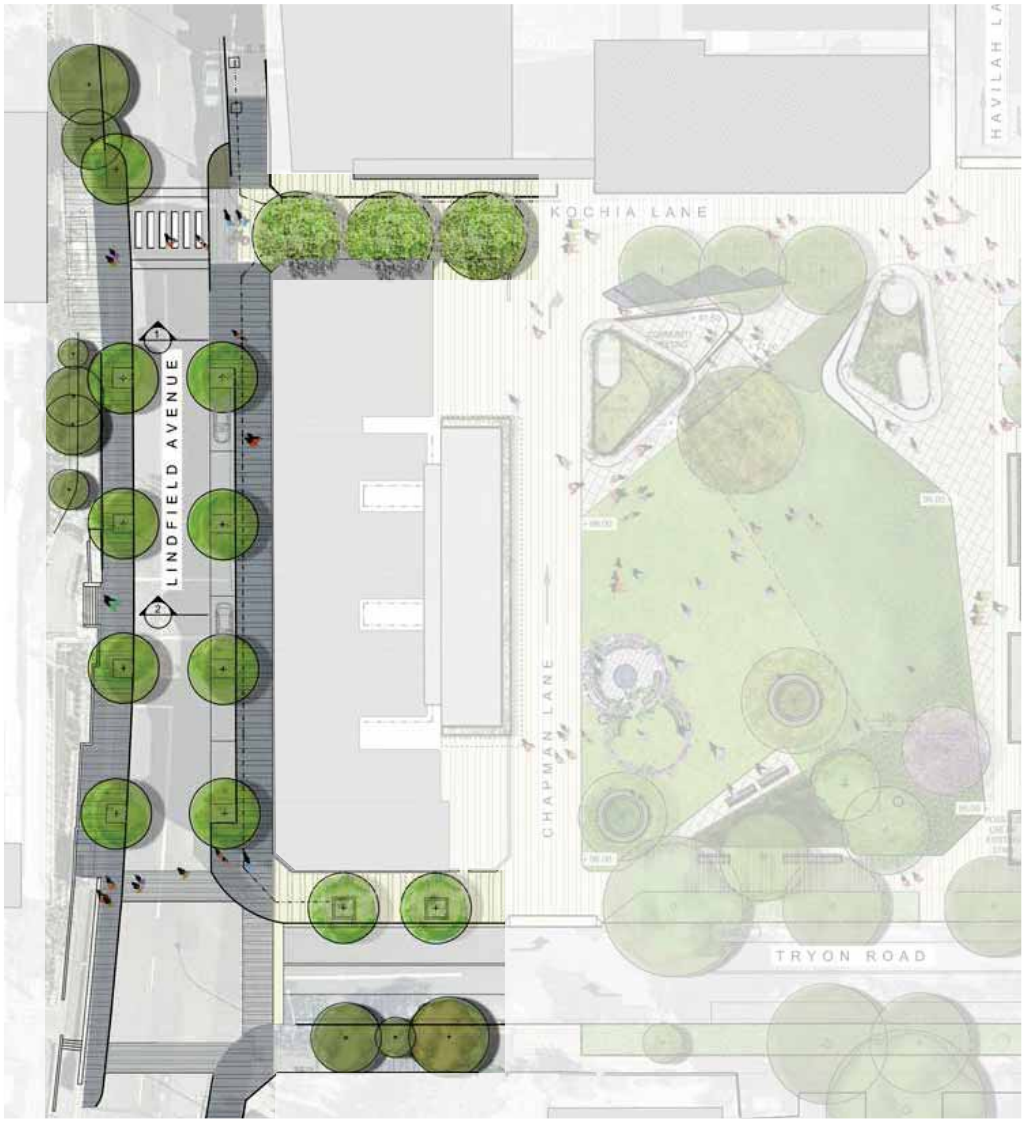


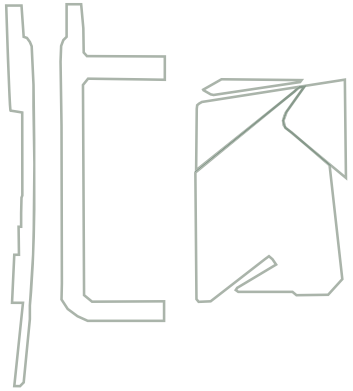
event lawn

night screen / stage



Lindfield Avenue

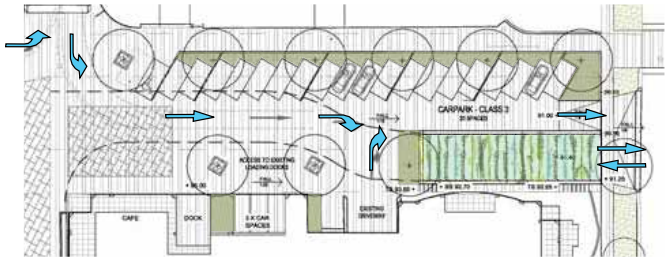




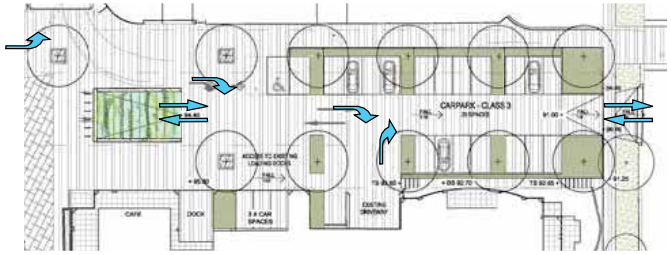
on-grade parking

entry off Milray St

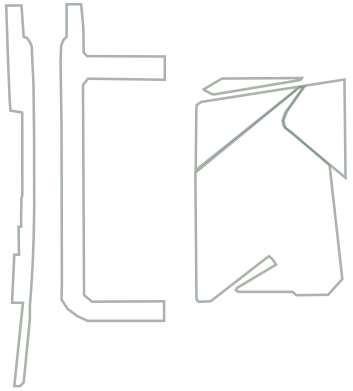




parking entry option b



parking entry option c





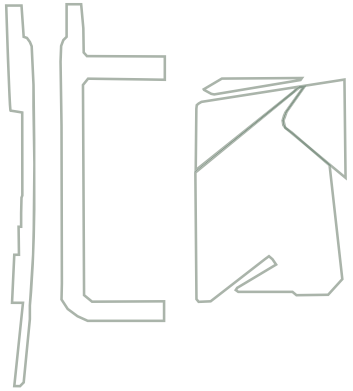
WSUD gardens





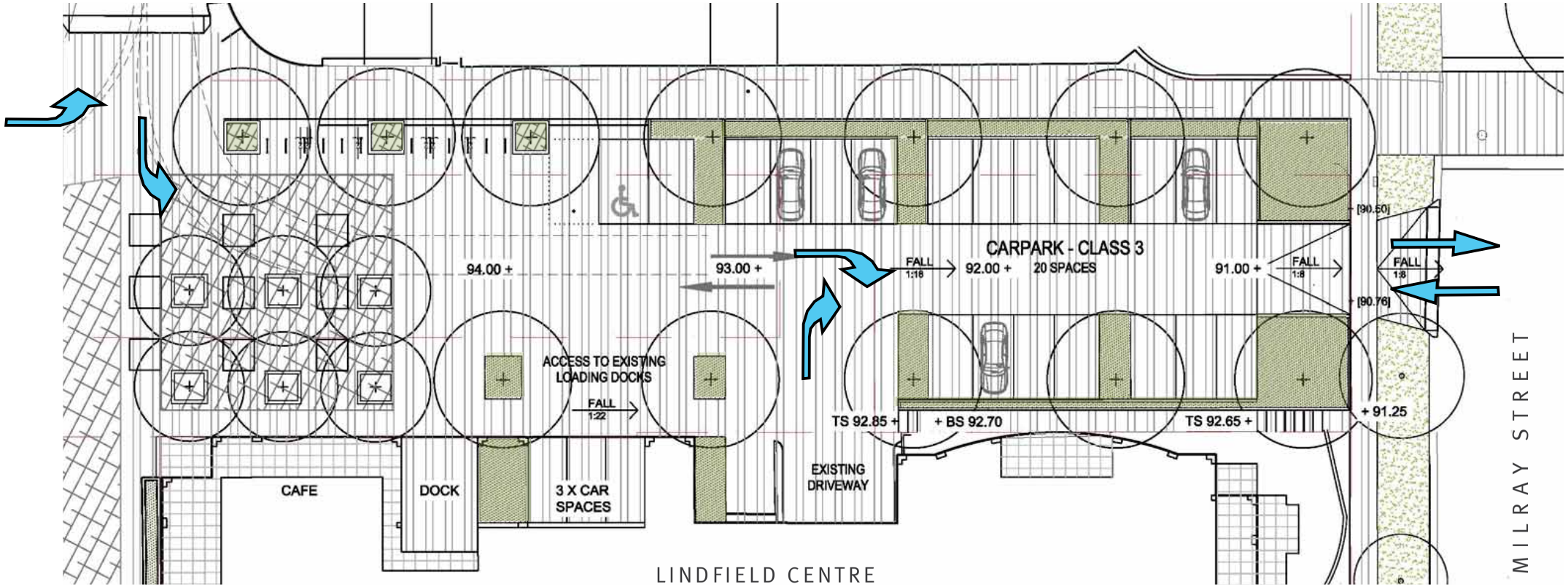
market mode

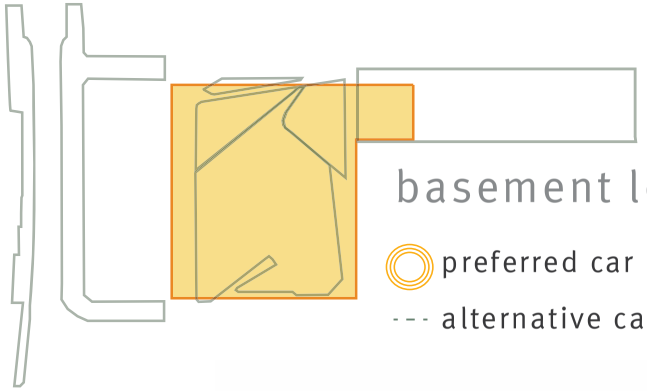




on-grade car park

preferred car park entry

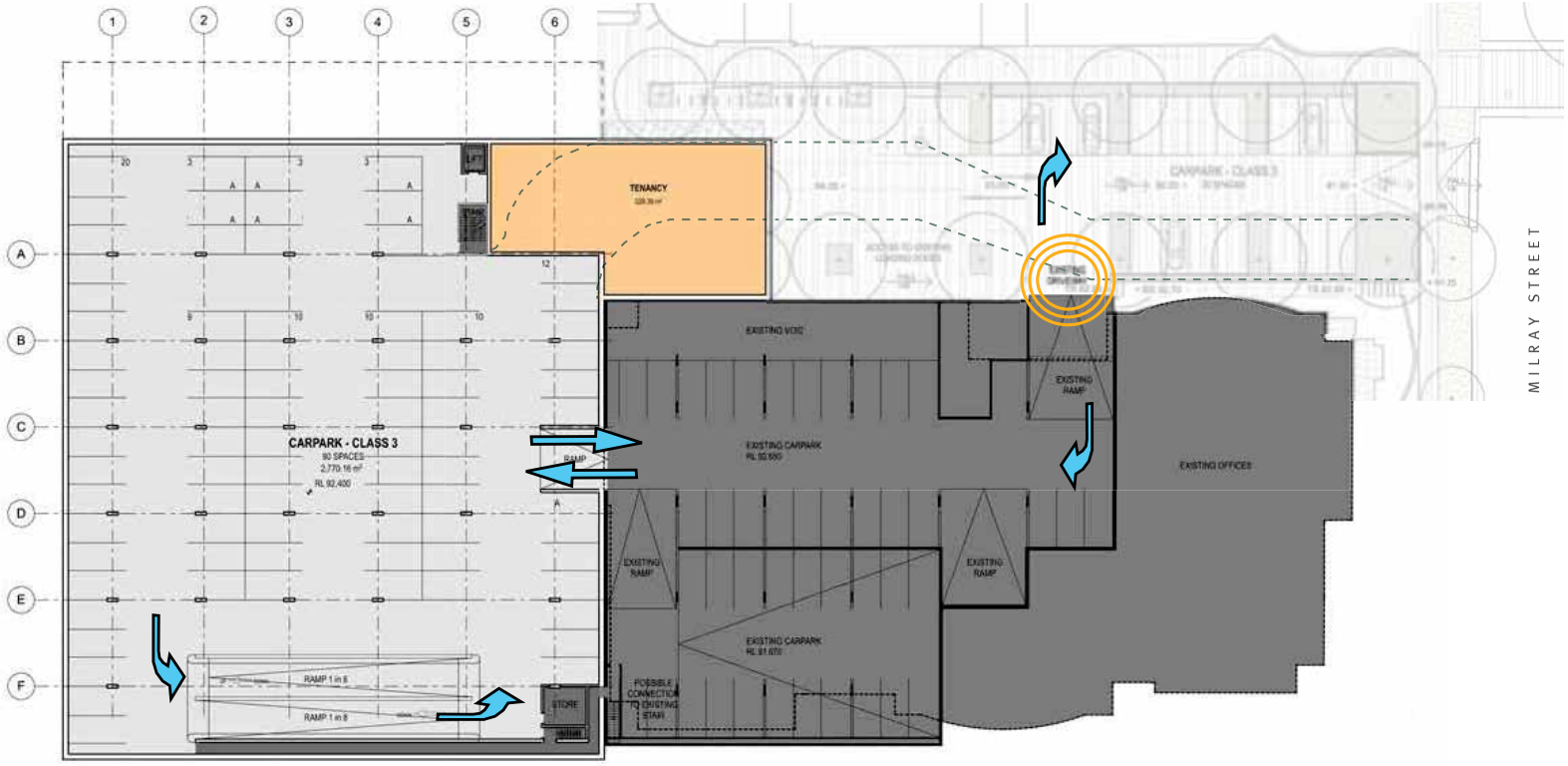




basement level 1

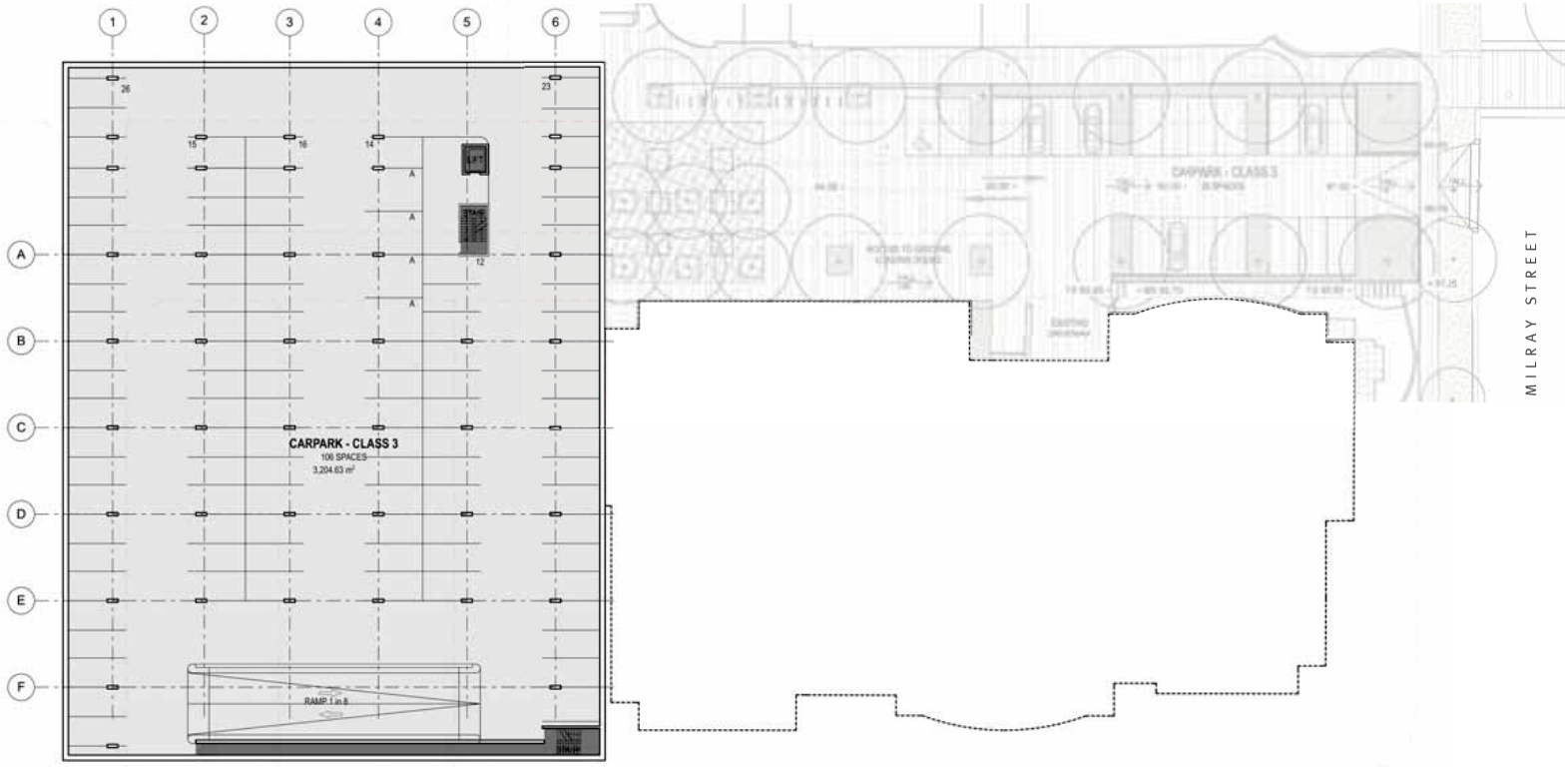
preferred car park entry

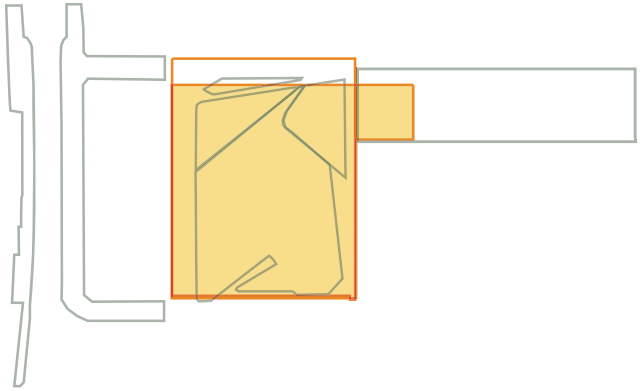
alternative car park entry



basement level 2

subject to funding







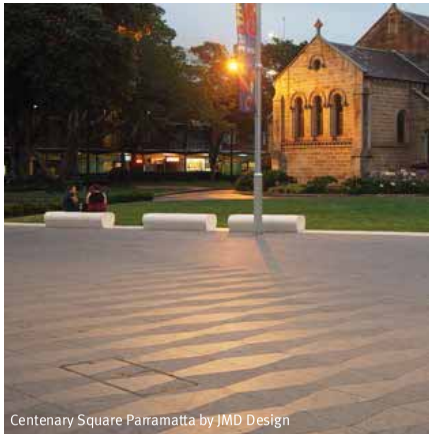


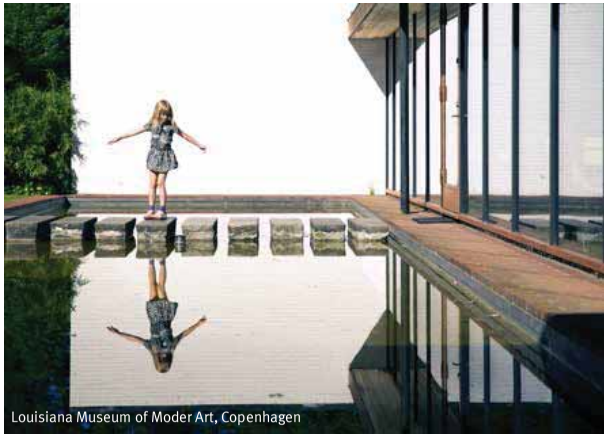
materials


Paddington Reservoir, Sydney, JMD design


Karl Johans Gate, Oslo


Patio de los Navanjos, Sevilla


Centenary Square Parramatta by JMD Design


Louisiana Museum of Moder Art, Copenhagen


Centenary Square Parramatta by JMD Design



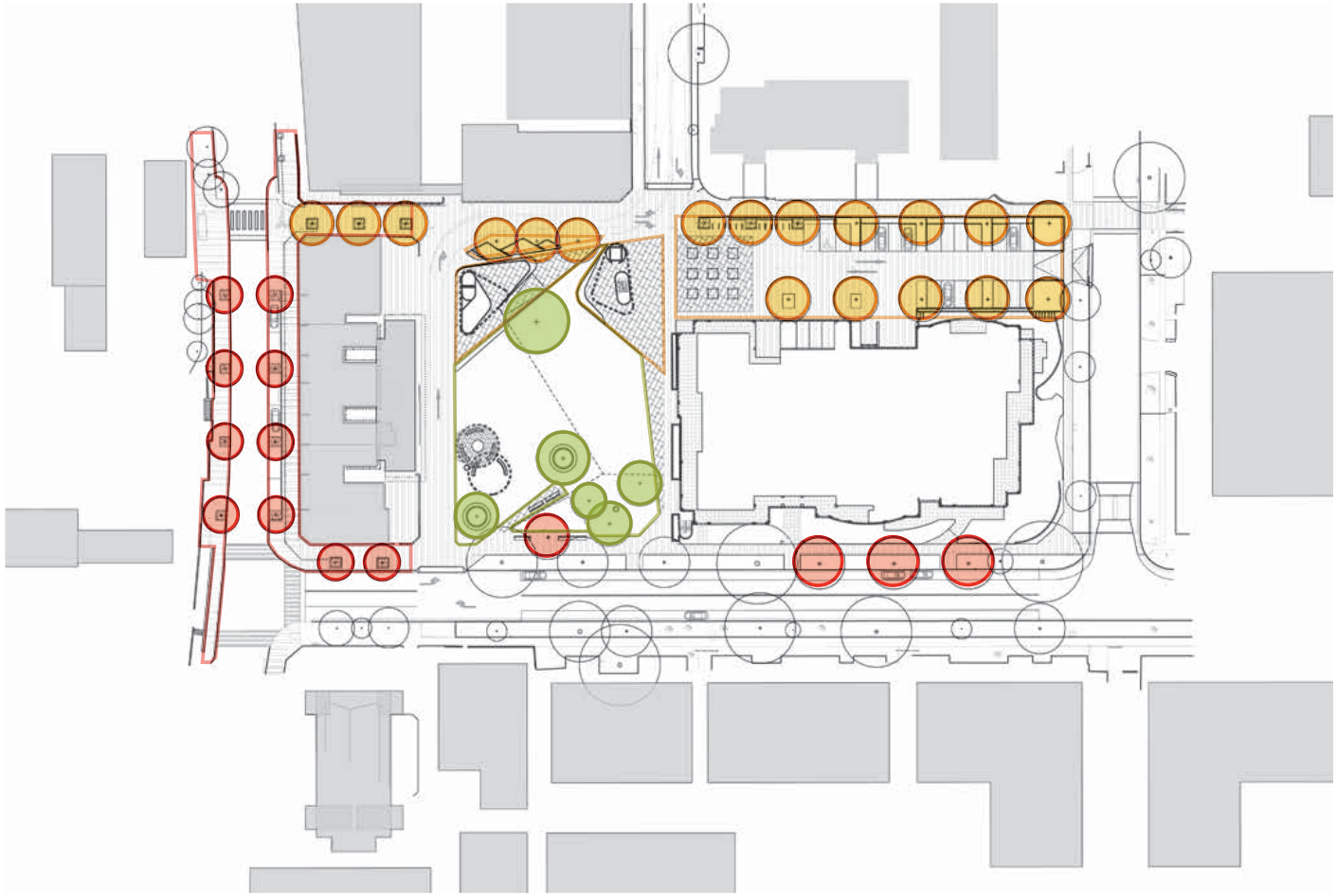

Hyde Park London


Sommerville cinema Perth


Landhausplatz


Santa Cole Neoliviano

tree planting



tree planting

plaza


Corymbia maculata

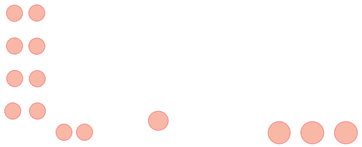
Tristaniopsis laurina


Tristaniopsis laurina


Melaleuca quinquenervia


Melaleuca quinquenervia

street




existing Angophora costata




Stenocarpus sinuatus


Stenocarpus sinuatus


Angophora costata

green




Jacaranda mimosifolia


Liriodendron tulipifera


Liriodendron tulipifera


Wisteria floribunda


Brachychiton acerifolius

project costing

Option 1 - Level 1 basement

Budget Project Cost	$19,700,000
Estimated development cost	$17,600,000 - 17,800,000
Capacity for scope creep	$ 1,900,000

Option 2 - Level 2 basement

subject to funding

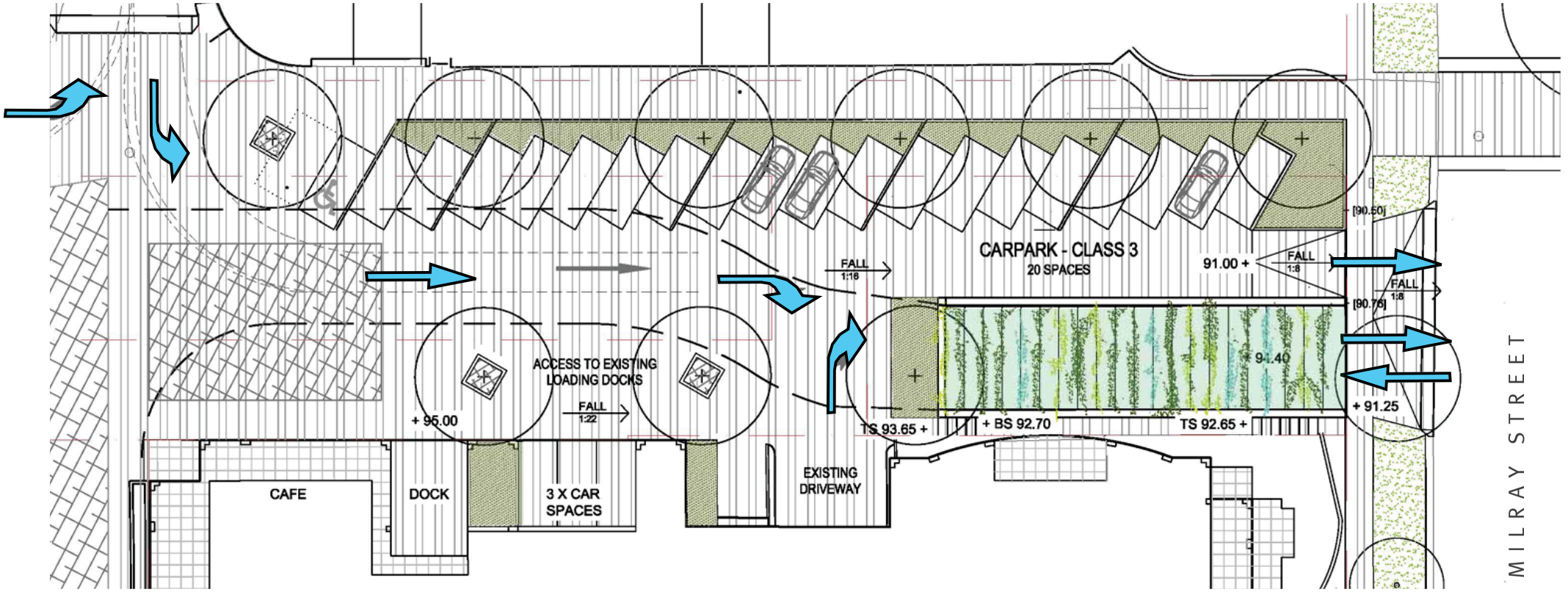
Budget Project Cost	$26,700,000
Estimated development cost	$23,000,000 - 23,850,000
Capacity for scope creep	$ 2,850,000

sketches



alternative car park entry

option b



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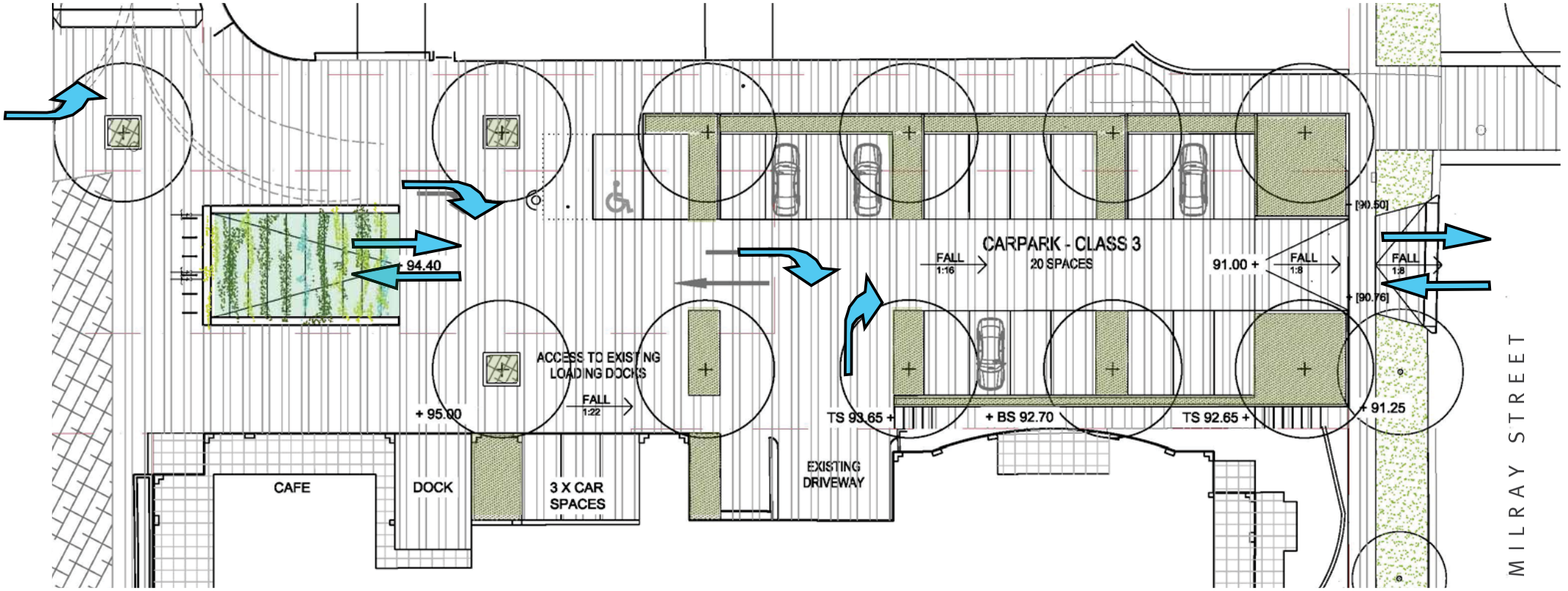

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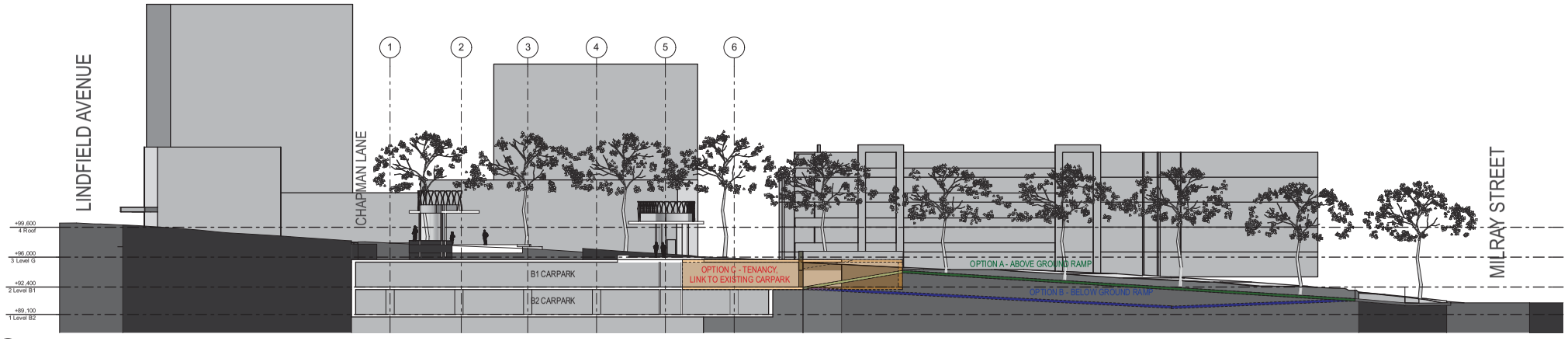

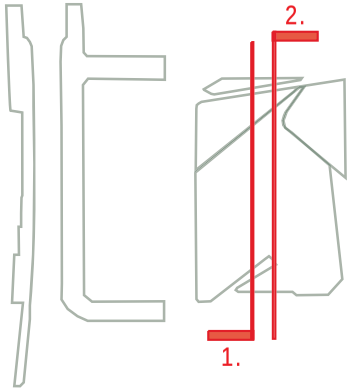

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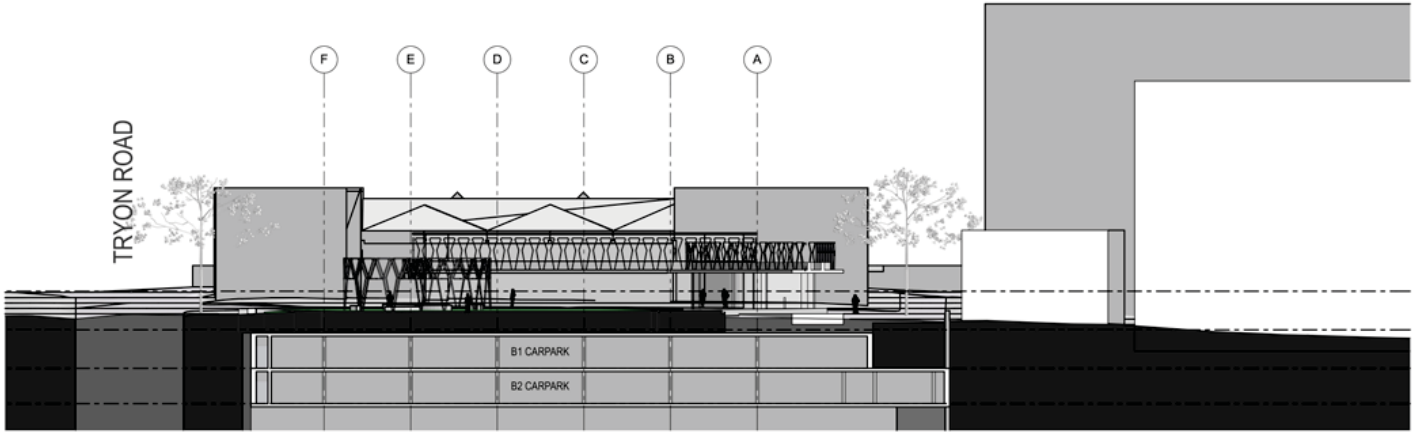
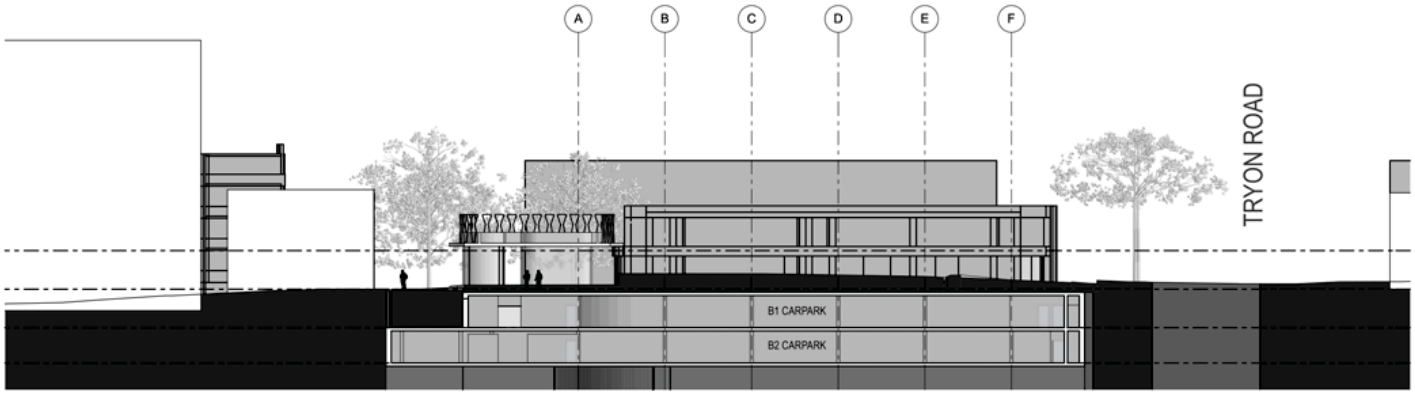


1 SECTION 03: TERRACES



2 SECTION 04: COOLITH

PART 14R

14R References

14R.2 Lindfield Hub Masterplan

REFERENCES

SJB Architects

ASPECT Studios™

Lindfield Hub Masterplan

Lindfield, NSW, 2070

Ku-ring-gai Council
Masterplan Report

08 March 2016 | Version 03

SJB Architects

ASPECT Studios™

Project

Lindfield Community Hub Site Masterplan
Lindfield, NSW, 2070

Ref #5161
Date Issued: 08 March 2016
Version: 03
Prepared by: SS, RC, FL
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Executive Summary

1. SJB Engagement

SJB were appointed by Ku-ring-gai Municipal Council (KMC) in December 2014 to prepare the Lindfield Community Hub Master Plan, a project that '*will have a pivotal role in the revitalisation of Lindfield local centre . . . comprise a new branch library alongside a community centre with hireable spaces, as well as a local park and town square. Supporting these uses will be a mix of retail and residential uses, creating a focal point for the western side of Lindfield'* (Project Brief, page 2).

Working in collaboration with Aspect Studios (Landscape Architects), CRED Planning (social and community engagement) and MBM (Quantity Surveyors), the multi-disciplinary team led by SJB has engaged with Council, their consultant team, residents and the community group Support Lindfield to gather all available baseline information. Outlined in this report are the findings of our review of the baseline, site analysis, design principles, concept options, community workshop findings and final masterplan.

2. Subject Site

The subject site is located in Lindfield on the current Woodford Lane Car Park. Lindfield Station is in walking distance to the site, as well as the Pacific Highway. Surrounding the site is a strip of retail along Woodford Lane and a mix of 2-3 storey residential dwellings. There are also several significant trees within the site which should be considered in developing options for the masterplan.

3. Project Objectives

The objective of the project is to provide a new community hub for Lindfield, which will become an exciting destination and an active facility morning, noon an night. The masterplan will incorporate a new library, community centre, open space, plaza, retail and residential units, all of which were outlined in the project brief.

An extensive site analysis into both the regional and local contexts was undertaken, focusing on the existing site conditions and help the team gain a better understanding of the area. From this, a series of opportunities and constraints were identified for the study site.

To help inform the preparation of the concept design options, an analysis of relevant building typologies, public spaces, street sections and relevant mixed-use projects in Sydney was undertaken. These precedents provided valuable information on the quantitative and qualitative outcomes that the various options could deliver, whilst also serving as a reference during the preparation of the costs plans.

The brief specified the scale and mix of land uses proposed for each of the four options. One of the first exercises undertaken by the team was to represent the stated areas as building footprints, which were then laid across the site. This allowed the team to appreciate the potential site coverage, opportunities to overlay and integrate development, and scope to provide large open spaces. Preliminary concept designs were then prepared that include site layout plans, massing diagrams, perspective sketches and a preliminary analysis (pros and cons). This information was then reviewed with the client and amended to be presented to the Ku-ring-gai Councillors and public.

Two community workshops were undertaken in order to gather feedback from the public as to what they would like the future of Lindfield to be. Together with the client, it was decided that Option 2 was the preferred option and further studies were conducted into its feasibility. Studies were translated into a master plan for the site, which was tested against a number of iterations; with and without the acquisition of Scouts and Ausgrid land, various building heights, dwelling numbers and residential building footprints.

In conjuncton with KMC, it was decided that a mixed use option limited to a 7-storey building height, excluding Scouts and Ausgrid owned land, was to be adopted as the preferred masterplan option for the Lindfield Community Hub site.

4. Structure of this Document

This report documents all of the studies and findings, which have been undertaken during the design process through site analysis, community engagement and design testing. A brief summary of the structure is described:

1. Site Context
An overview of the regional, urban and local context of the site to gain an understanding of the Ku-ring-gai LGA.

2. Design Principles and Vision:
Following a review of the baseline documents provided by KMC, the Design Principles and Vision describes the future vision of the study site. A series of principles have been developed which support this vision and assist in the formulation of options.

3. Site Concept Options
Considering the key relationships that need to be made in order to create a successful masterplan. The Site Concepts reflect the four options that were initially proposed, with some variation to land use quantum and mix.

4. Community Workshops
Summarises the comments received by the community in relation to the four options which were exhibited to the community. Several workshops were run to gather feedback to help inform the development of the preferred option.

5. Preferred Option
The Preferred Option describes the preferred design for the site and provides detail on how the masterplan will work in assisting KMC and the engaged architect(s) to carry out the design of buildings.

6. Detailed Design Studies
The Detailed Design Studies provide a more detailed understanding of relationships between land uses, as well as a spatial arrangement study that considers the needs and placement of the various stakeholders within the community hub. Detailed plans have been provided by Aspect into what they envision each of the open spaces to be.

7. Appendix 1A: Precedent Studies
The Precedent Studies provides examples of projects with similar land uses and scale which are considered successful and have characteristics relevant to this project.

8. Appendix 1B: Building Typology Studies
The Building Typology Studies provides examples of what the residential component of the site could potentially be.

9. Appendix 1C: Open Space Studies
The Open Space Studies provides examples of open spaces which are appropriate to the study site and considered successful.

10. Appendix: 1D Background Documents Review
The Baseline Review provides a key summary of all the documents provided by KMC relating to the project which assisted SJB in the formulation of options. This includes recent reports prepared for Council by Elton on Community Facilities (2014) and a Preliminary Feasibility Study by JLL (2013).

In Summary; What is required?


Branch library


District community facility


Local park


Leisure retail


Commercial


Residential


Commuter parking


Road improvements and transport


Supermarket and supporting retail

Site Context

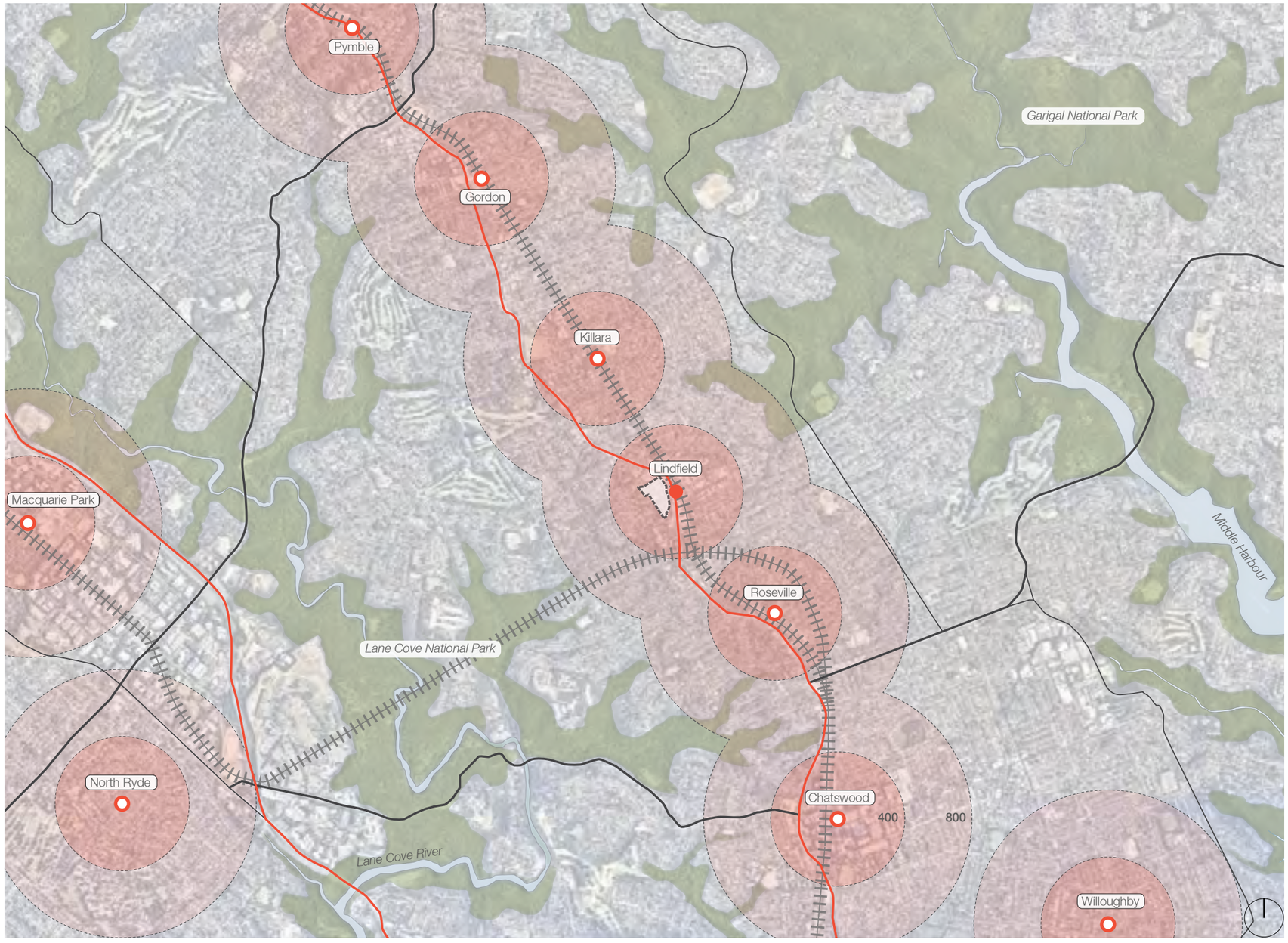
Overview of the regional, urban and local context to provide an initial understanding of the site.

1.1 Urban Context

Lindfield is located along the Pacific Highway corridor and is in close proximity to Killara, Roseville and Chatswood town centres, which are all clustered within an 800m catchment from one another. Macquarie Shopping Centre and Chatswood are the closest major retail and service centres. Gordon and Lindfield are the primary local retail centres with Killara and Roseville lower in the local retail hierarchy. Macquarie University, a major educational institution is located 15 minutes from the site.

Lindfield and the other local centres are positioned along a ridge line, with the local topography falling to the west and east towards Lane Cove National Park and Garigal National Park respectively.

Local development is contained mainly within the confines of these national parks with increased densities towards the ridge/Pacific Highway.



Legend

- Site
- Town centres
- 400m catchment
- 800m catchment

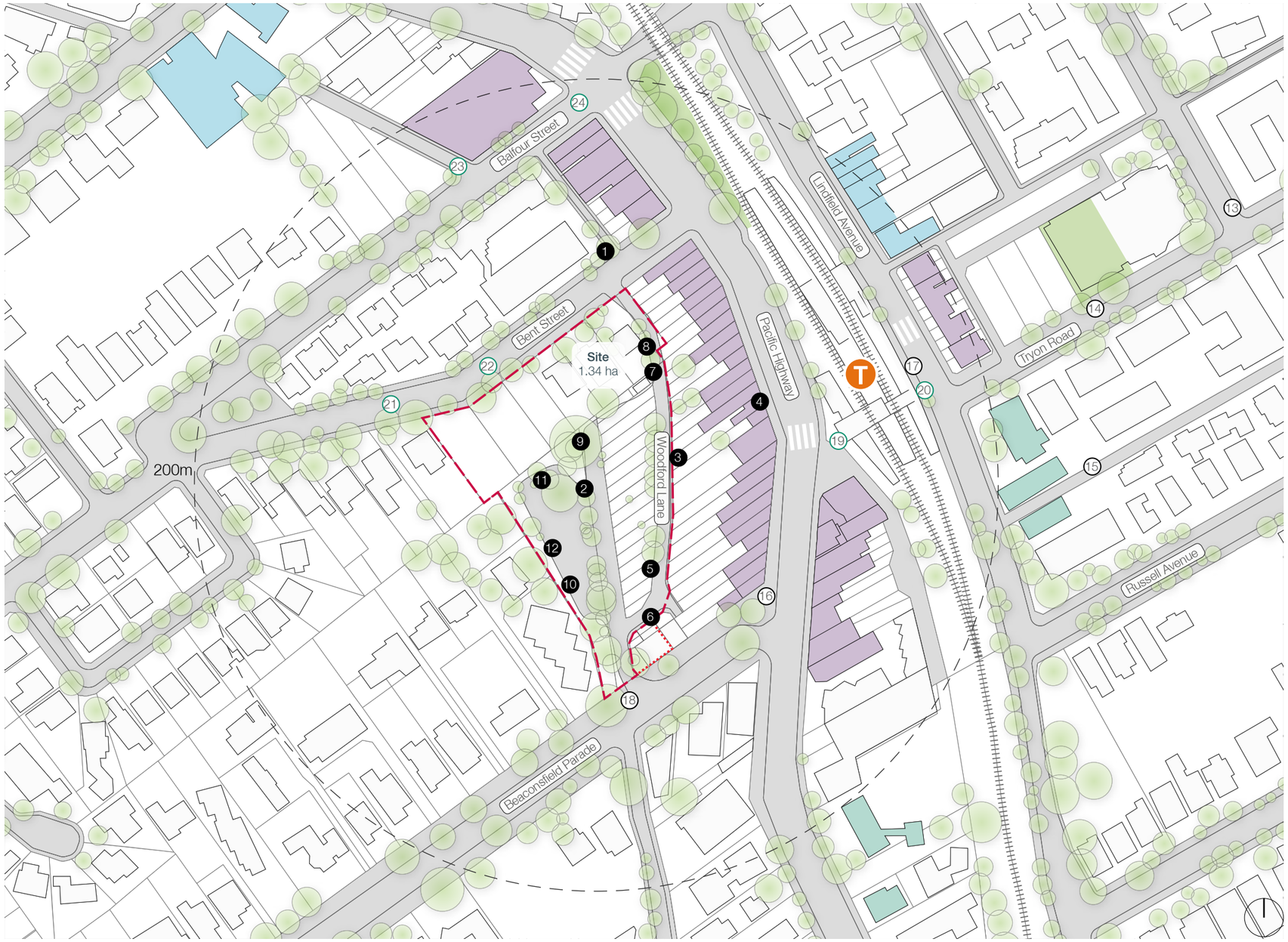
1.2 Local Context

The 1.1ha site is located within an area mainly consisting of low to medium density residential dwellings and small-scale specialty retail to the east of the site along the Pacific Highway corridor. The site connects to lower order roads such as Beaconsfield Parade and Bent Street that access the site directly. Retail development is focused around both the Pacific Highway and Lindfield Avenue due to higher levels of pedestrian and vehicular traffic.

The existing residential development of Lindfield mainly consists of 1-2 storey detached houses, 'walk-ups' and small scale apartment buildings. Quality of existing road and footpath infrastructure differs vastly; with high-quality landscaped conditions present in residential areas with low pedestrian / vehicular thoroughfare, as opposed to the extremely low quality condition of streets with high vehicular / pedestrian public thoroughfare.

There is a significant amount of large-scale, existing native tree species positioned within the sloped site, with such landscaping creating visual links between the subject site and it's surrounds. Level changes in topography are evident, with the slope occurring in an east-west direction.

Site photos are provided on the following page which corresponds to the numbers on the diagram to the right.



Legend

- Site Boundary
- Retail Centre
- Schools and Education
- Community Facility
- Existing Trees
- (1) Existing Site Conditions Images (see following page)
- (16) Built Form Images (see following pages)
- (19) Street and Open Space Character Images (see following pages)

1.3 Existing Site Conditions


01 Woodford Lane entry access


02 Landscaped car park


03 Pedestrian access corridor linking Woodford Lane to Pacific Highway


04 Pedestrian access corridor linking Pacific Highway to Woodford Lane


05 Sloped topography of car park


06 Uneven car park surface


07 Rear of bordering properties adjacent to the site


08 Woodford Lane street condition


09 Landscaped car park edge


10 Expansive car parking area


11 Car parking conditions


12 Existing trees integrated into car park design

1.4 Built Form


13 5 storey height Tyron Road residential development


14 5 storey height Tyron Road residential development


15 Differing built form typologies bordering Tyron Lane


16 Pacific Highway retail development


17 Lindfield Avenue retail development adjacent to train station


18 Existing scout hall positioned adjacent to Beaconsfield Parade entry access point

1.5 Streets and Open Space Character


19 Retail development adjacent to Pacific Highway movement corridor


20 Street condition of Lindfield Avenue and Tyron Road


21 Corner of site boundary along Bent Street


22 Sloped, landscaped street condition of Bent Street


23 Balfour Street entry to car park of existing retail development


24 Street condition of Balfour Street

1.6 Baseline Summary

Several baseline documents were issued by KMC relevant to the design of the Lindfield Community Hub master plan. A full summary of these key reports can be found in Appendix D of this report. The key findings relevant to this project include the following topics:

- Transport
- Community facilities
- Local Environmental Plan frameworks
- Economic feasibility
- Gaps in the baseline documents

Transport

Lindfield Local Centre: Transport Network Model Study, People-trans, 2013/14

Right turn into Beaconsfield Parade from Pacific Highway confirmed by PeopleTrans as not feasible

Closure of Bent Street at the junction with Pacific Highway will improve pedestrian accessibility into the site

Frameworks

Local Environmental Plan, 2012

Site is zoned B2 Local Centre. part R4 Residential High Density, part RE1 Public Recreation and part SP2 Local Road

FSR The site has a Floor Space Ratio of 1:1

The site has a maximum height of 11.5m

Areas of biodiversity significance are identified on site including the Angophora and Ironbarks which should be investigated for retention

Feasibility

Preliminary Economic Feasibility Assessment, JLL, 2013

Five options were assessed by JLL of their financial feasibility and three preferred options were recommended

4 Option 3 with a mix of community facilities and residential showed a profit while the other options showed a deficit or broke even

All options assume 240 commuter parking spaces and 79 council parking spaces in addition to parking required by Council's DCP to support residential, retail and community facilities on site

Ku-ring-gai

community facilties

Ku-ring-gai Community Facilities Strategy, Elton Consulting, 2014

A population increase of **27,754** people by 2031 from 2011 census data. New facilities will be needed.

1 sub-regional cultural and community facility and central library in Gordon

3 district community facilities and branch libraries in Turramurra, St Ives and Lindfield

Lindfield

community facilties

Lindfield Community Facilities Strategy, Elton Consulting, 2014

2 options were proposed, co-location of community facility and library on Woodford Lane site is recommended as the preferred

New Lindfield branch library with a floor area of **1,265m²** with a 39m² rate of provision per 1,000 people*

New community facility with a floor area of **1,190m²** with a provision rate of 60m² per 1,000 people*

Gaps

in Baseline Documents

Arborist report on Ironbark, Angophora and significant trees on site indicating their value to the community

Detailed plans by PeopleTrans of the Bent Lane to Woodford Lane re-alignment, and any additional information on the right turn lane into Beaconsfield Parade off Pacific Highway

1.7 Local Demographics

- The majority of the Lindfield population are aged 40-49, however there is a relatively even spread between differing age brackets.
- 27.8% of the dwelling structures within Lindfield are either flats, units or apartments.
- 23.1% of Lindfield's population hails from an ancestry deriving from England
- 48% of Lindfield rely on private forms of transport to work either by car or motorcycle.
- Lindfield is largely an English speaking suburb with 69.8% of its population speaking the language
- 59% of Lindfield residents work on a full time basis

Studies into the local demographics show a high percentage of children and teenagers from 0-19 and a relatively even spread of adults from 20-59. This shows a strong pattern of families with children which the facilities within the master plan should accommodate for.

A large percentage of the population work full time and convenient one stop destination where retail and facilities can be accessed is desired.

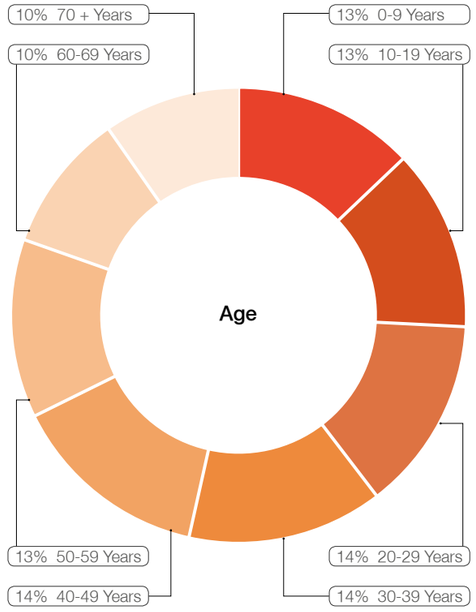
Studies into the languages spoken in the area shows a degree of multiculturalism which can be fostered and encouraged through facilities and spaces provided in the master plan.

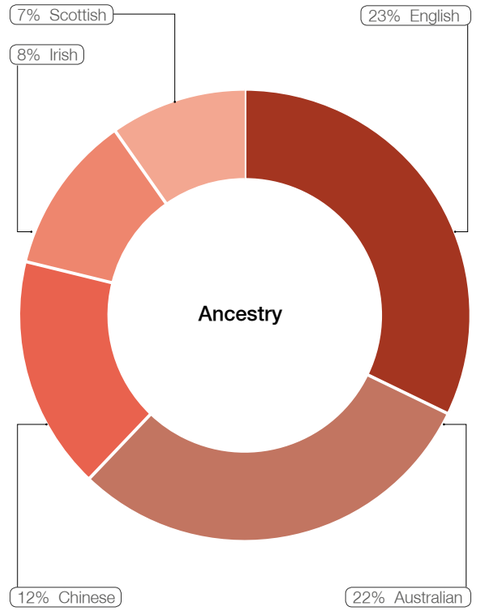
The primary method of travelling to work is by private vehicle and there is an opportunity for commuter parking on the study site to reduce this figure.

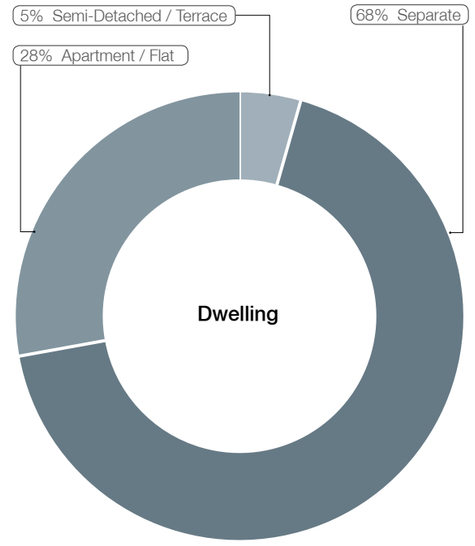
8,657
people

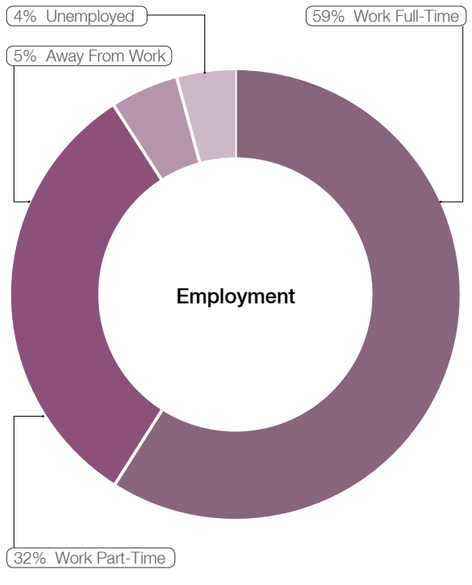
40
median age

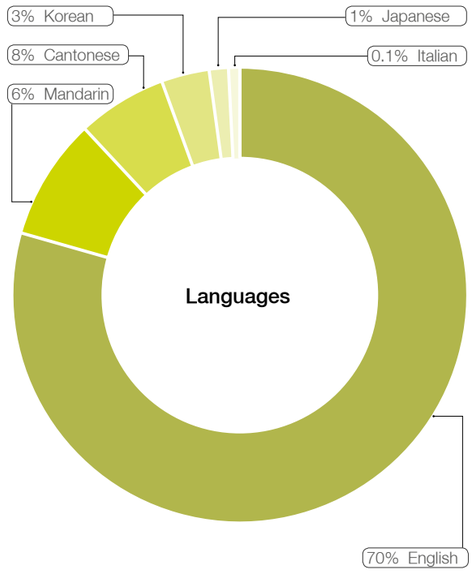
3,261
dwellings

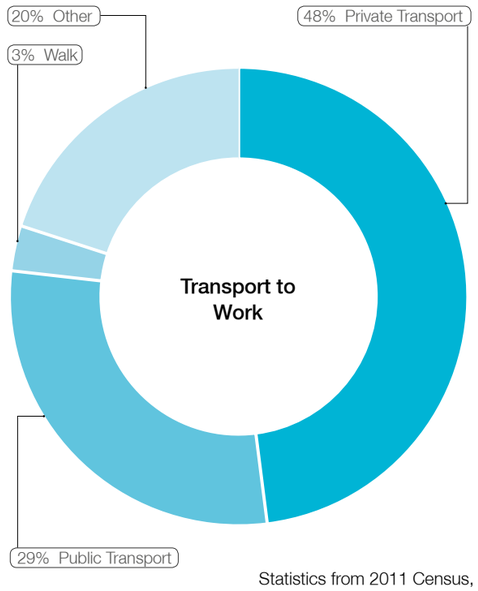






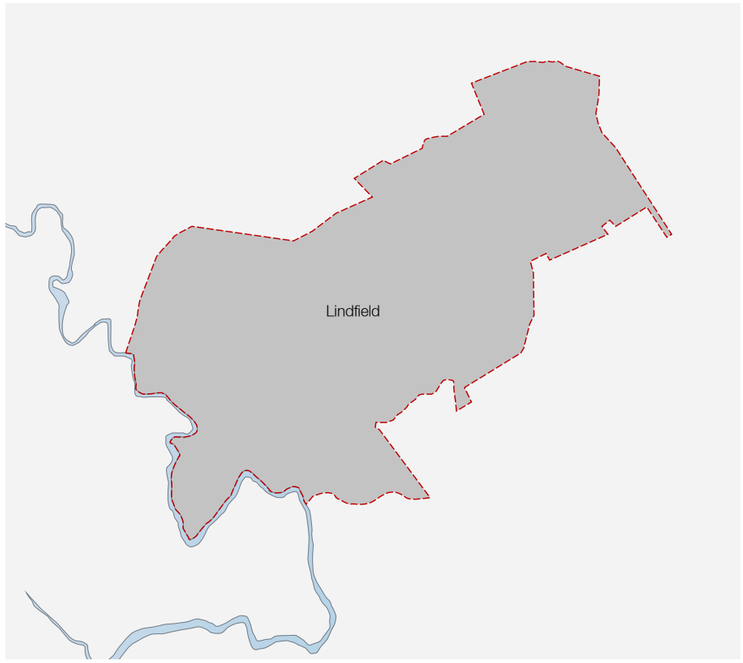






Statistics from 2011 Census, ABS

1.8 District Demographics







Lindfield (Suburb)

Private Dwellings	**3,261**	
Occupied Dwellings	2,895	91.6%
Separate House	1,956	67.6%
Semi-detached	127	4.4%
Flat, unit or apartment	806	27.8%
Other dwelling	0	0.0%
Population	**8,657**	
Median Age	40	
Families	2,306	

Ku-ring-gai (LGA)

Private Dwellings	**39,655**	
Occupied Dwellings	35,777	92.9%
Separate House	28,355	79.3%
Semi-detached	1,522	4.3%
Flat, unit or apartment	5,832	16.3%
Other dwelling	20	0.1%
Population	**109,297**	
Median Age	41	
Families	30,039	

Greater Sydney

Private Dwellings	**1,720,333**	
Occupied Dwellings	1,521,398	92.8%
Separate House	926,062	60.9%
Semi-detached	194,171	12.8%
Flat, unit or apartment	391,887	25.8%
Other dwelling	7,004	0.5%
Population	**4,391,674**	
Median Age	36	
Families	1,152,548	

Studies into the typology of housing shows a high percentage of single detached housing and a low percentage of apartments. With the population density around stations predicted to rise, there is a need for more apartment dwellings.

There is also a large number of families within the area which the master plan should provide facilities to accommodate the different age groups.

Statistics from 2011 Census, ABS

1.9 District Movement



The context features major arterial corridors that provide key regional transport connections throughout the area. These include the Pacific Highway and M2 Motorway, which provide an important thoroughfare to North Sydney, Sydney CBD and the Hills District.

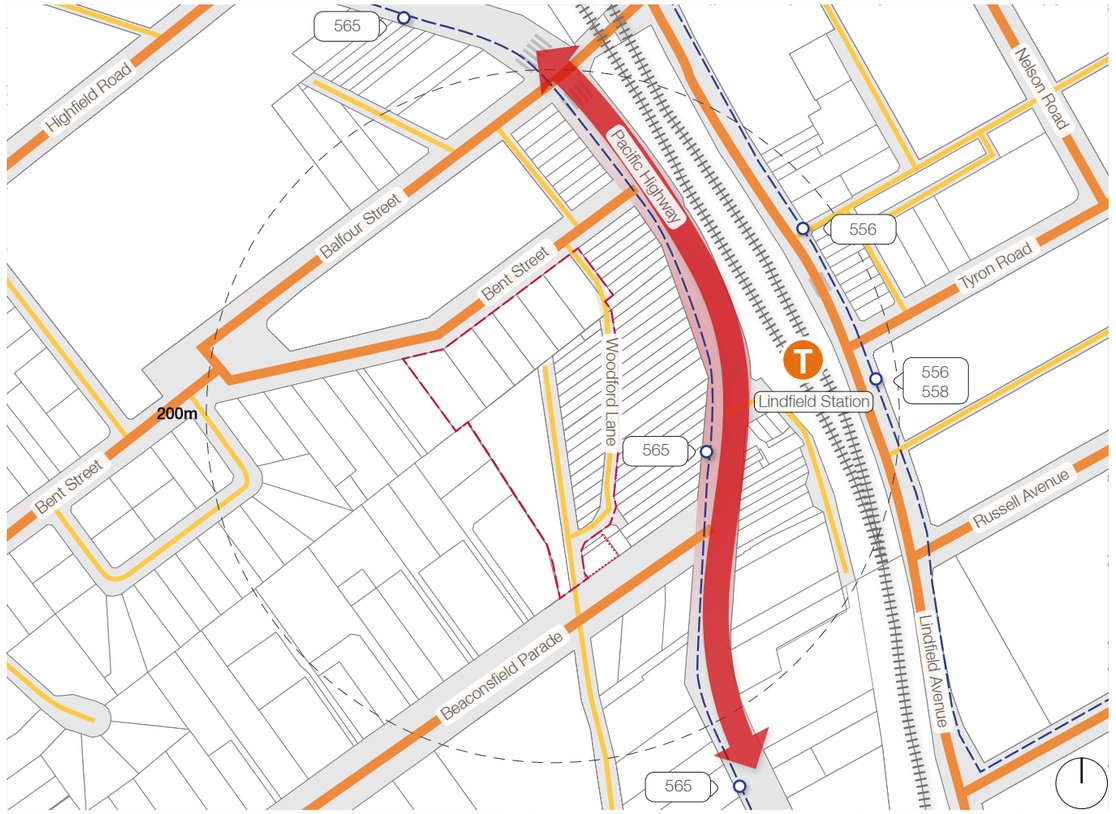
The T1 North Shore, Northern and Western Lines run through the precinct, with services terminating at both Central and Hornsby Stations, and regional connections to the Central Coast.

The area is well serviced in terms of buses, with services along the Pacific Highway corridor and to local residential neighbourhoods, including East Lindfield, UTS campus and Chatswood.

Legend

- Site Boundary
- Arterial Road
- Primary Road
- Bus Route
- Train Station
- Train Line
- 558 Chatswood to Lindfield
- 556 Lindfield to East Killara
- 565 Chatswood to Macquarie University

1.10 Local Movement



Pacific Highway is the primary movement corridor, directing traffic flows into, through, and out of the Lindfield Town Centre. It serves as the connecting spine that links Gore Hill Freeway in the south and F2 in the north to other local major roads such as Epping Road, Mowbray Road, Lady Game Road and Fullers Road.

Vehicular access to the site is gained via Balfour Street, Bent Lane and Woodford Lane from the north. Access from Bent Lane is difficult due to the narrow street width and staggered entry into Woodford Lane. Beaconsfield Parade provides vehicular access from the south, whilst Woodford Lane provides service access to the surface car park and the rear of properties fronting the Pacific Highway.

Local bus services operate along the eastern and western sides of the railway line, with spots along Lindfield Avenue and Pacific Highway respectively.

Legend

- Site Boundary
- Arterial Road
- Primary Road
- Secondary Road
- Bus Route
- Bus Stop
- Train Station
- Train Line

1.11 District Open Space and Recreation



The broader district features a variety of open space and recreational areas, however there is a general lack of local parks. These spaces consists of:

Regional Parks:

Sir Phillip Game Reserve, Fullers Park, Blue Gum Park, Lane Cove National Park, Blackbutt Reserve, Garigal National Park and Lane Cove National Park

District Parks:

Seven Little Australians Park, Roseville Park, Bancroft Park, Beauchamp Park, Loyal Henry Park, Princes Park Primula Oval, Wombin Reserve, Killara Park, and Regimental Park

Local Parks:

Ibbitson Park and Two Turners Reserve

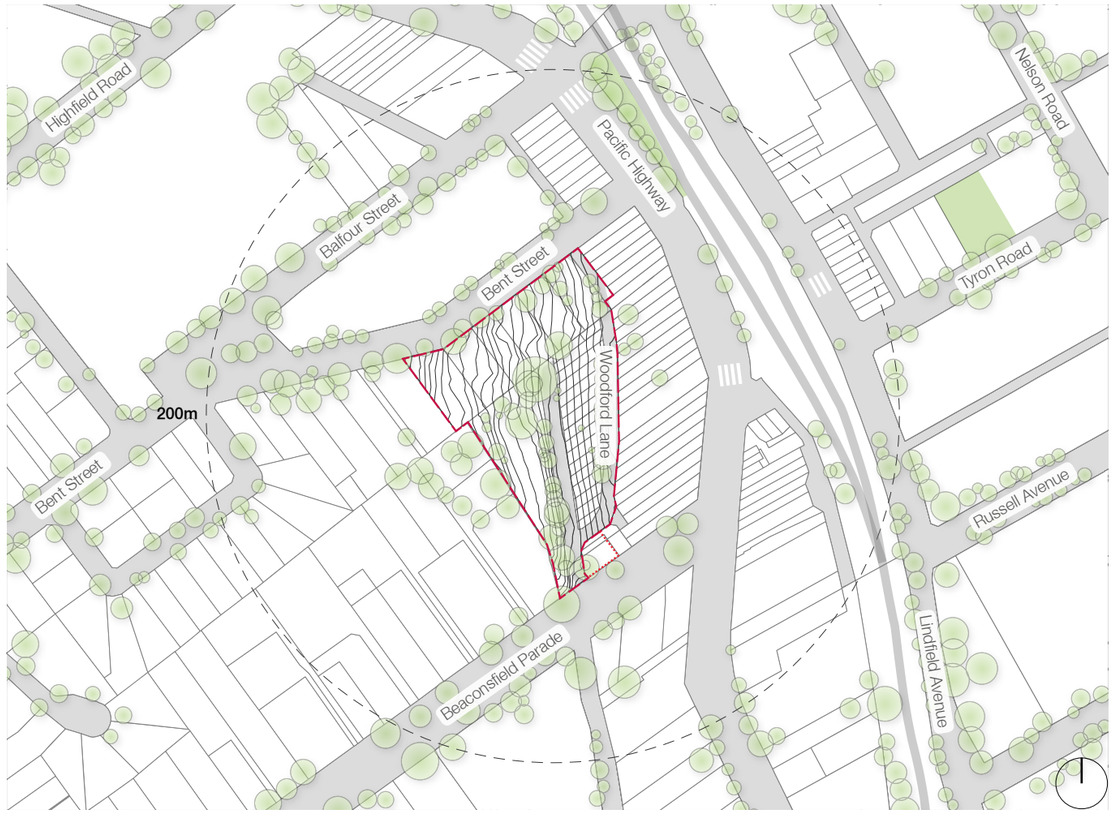
Private Recreation:

Roseville Golf Club, Killara Golf Club, Gordon Golf Club, Killara Bowling Blub and Gordon Bowling Club

Legend

- Site Boundary
- Arterial Road
- Regional
- District
- Local
- Private Recreation

1.12 Local Open Space and Recreation



There is a limited number of local open spaces and recreation areas within close proximity to the site that provide opportunities for passive and active recreation. The town centre consists mainly of medium density residential and retail development with few available spaces suitable for passive recreation and landscaping. Therefore, there is a big opportunity for the provision of a public open space on the site.

The topography of the site falls approximately 10m from east to west. The site also features a number of large mature native trees, typically located around the edges of the site and running north-south from Beaconsfield Parade where the vegetation serves as ‘buffer zones’ dividing the current car parking areas and residential.

Legend

- Site Boundary
- Site Contours
- Existing Trees
- Catchment Zone

1.13 Existing Open Space Typologies

3.4.4 Regional Parks



Sir Phillip Game Reserve

Regional Parks are public reserves that attract visitors from outside the area as they are usually associated with unique attractions or facilities.

Sir Phillip Game Reserve

Located towards the end of Grosvenor Road and Lady Game Drive, it has the provision of board walks along the Little Blue Gum Creek Track through reclaimed bush land with an abundance of gum trees. It is also home to a species of Microbats.

- Public Toilets
- Car Park
- Informal Activation I.e. Walking/Running
- Seating

3.4.2 District Park



Roseville Park

District Parks have features that attract people from outside the immediate neighbourhood which include unique landscape character or large areas of open space for recreation.

Roseville Park

Located on Chelmsford Avenue in Roseville, it has a cricket pitch, seating and several tennis courts.

- Public Toilets
- Car Park
- Dog Off Leash
- Playground
- Informal Activity (Walking/Running)
- Seating
- Tennis
- Cricket Pitch
- Active Recreation

3.4.3 District Park



Seven Little Australians Park

District Parks have features that attract people from outside the immediate neighbourhood which include unique landscape character or large areas of open space for recreation.

Seven Little Australians Park

Nestled in bushland, this park is a popular destination for rock climbing, bouldering and abseiling.

- Public Toilets
- Car Park
- Dog Off Leash
- Playground
- Seating
- Fitness Equipment
- Mountain Bike Park
- Picnic Area With BBQ
- Informal Activity (Walking/Running)

3.4.4 Local Park



Ibbitson Park

Local Parks are typically distributed throughout a community to provide flexible opportunities for interaction and informal recreation, with little or no facilities. They are usually small in size and within a walkable catchment (5-10 minute walk/400-800 metres). Parking is usually not provided.

Ibbitson Park

Located on Wolseley Road on a cul-de-sac, this park is within a residential area with tree planting and play equipment.

- Playground
- Seating

Two Turners Reserve

Located on Gladstone Parade nestled within a residential area with tree planting within the park and play equipment.

- Playground
- Seating

3.4.5 Private Recreation



Roseville Golf Club

Private Recreation spaces restricts public access and have a recreational focus and are not governed by public bodies. Typically, there is an associated restaurant or function centre opened to the public for events.

Roseville Golf Club

Located towards the north east of Roseville, the golf course is surrounded by residential areas and is dense in tree planting.

- Golf
- Restaurant

Killara Bowling Club

Located in close proximity to Killara Station, the bowling club is an open space with a function room.

- Bowling

1.14 Contextual Built Form

The site is surrounded by a mix of single detached dwellings, walk-up flats, and residential flat buildings, with the majority of development being privately owned. To the east of the site is the contiguous fine grain retail development that is typical of many town centres. The two storey built form steps down with the topography towards Woodford Lane.

Residential flat buildings are focused around the Town Centre with the more recent developments located east of the Pacific Highway along Tyron Road, and developments dating back to the 1960s-70s found to the west of the Pacific Highway.

The area to the west of the site features predominately lower-density detached dwellings of one to two storeys in height, which reflect the north shore housing typology.



Legend

- Site Boundary
- (D) Single Detached Dwelling
- (W) Walk-up Flat
- (R) Residential Flat Building
- (S) Shop Top Housing
- (T) Townhouses
- (RV) Retirement Village
- 9.5m Allowable Building Height
- 11.5m Allowable Building Height
- 17.5m Allowable Building Height
- 26.5m Allowable Building Height

1.15 Contextual Built Form



D Neighbouring detached dwelling



D Neighbouring detached dwelling



S Shoptop housing adjacent to site on top of retail development



W Neighbouring 'walk-up' development



W Neighbouring development



R Tyron Road Apartment Development



R Tyron Road Apartment Development



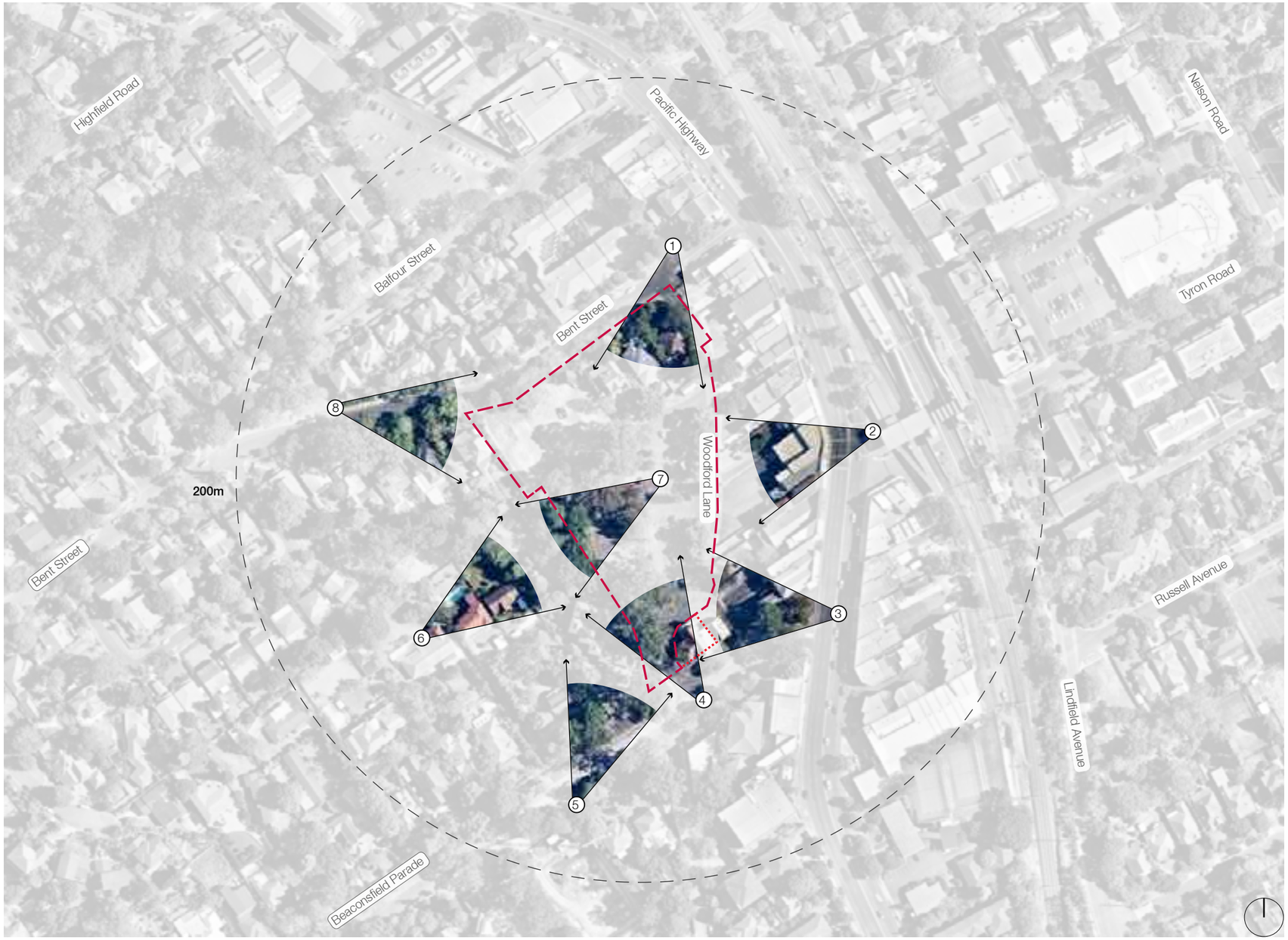
R Neighbouring apartment development

1.16 Views and Vistas

Following several site visits and careful analysis of the site's visibility from key vantage points in and around Lindfield, the following nine views have been identified as sensitive views and will form part of the view analysis of the preferred option.

The rationale for the selection of these views include:

- Existing prominence of the subject site as viewed from surrounding streets and spaces;
- Likely prominence of the built form of the Lindfield site following future redevelopment from surrounding streets and spaces;
- Visual impact of proposed development on its immediate surroundings in terms of visual prominence;
- Visual privacy arrangements within the subject site



Legend

Site Boundary
Key Views

1.17 Key Views


01 View from Bent Street towards Woodford Lane entry point


02 View from Lindfield Train Station adjacent to Pacific Highway



03 View from Pacific Highway towards Beaconsfield Parade junction


04 View from Drovers Way


05 View from Beaconsfield Parade


06 View from Frances Street


07 Through-site view to west from Woodford Lane


08 View from Bent Street

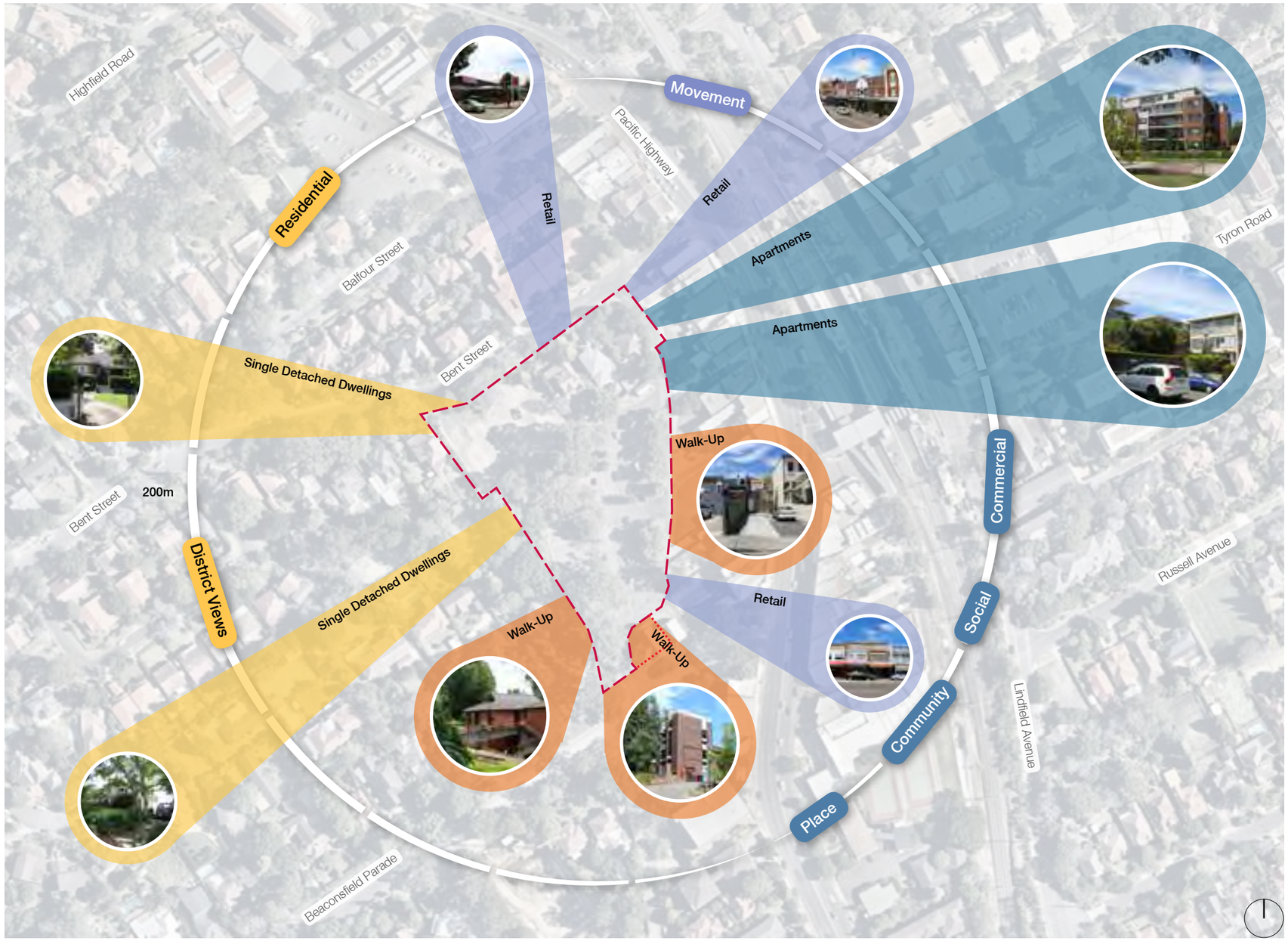
1.18 Visual Character

This diagram describes the character of the site and its immediate context within a 'visual catchment', which refers to the areas from where the existing development is visible and therefore influences the quality of the streetscape and environment. This is particularly important when considering the site's influence on the character of the surrounding streets and spaces, and whether the site is compatible or incongruous with its surroundings.

In relation to the site and its contribution to the character of Lindfield, there are few contributing features other than the existing landscape (mature trees), sense of openness offered by the existing surface car park, and the edge conditions to surrounding streets and properties. These features should be compared to the character of the surrounding streets, spaces and developments before determining how the site contributes to Lindfield's 'sense of place'.

To the east of the site the development pattern is tightly packed, poorly maintained and inactive. To the north the medium-density residential development features mature landscape and low-scaled built form. Along the west of the site the prominence of the landscape and the space between buildings defined the character. Whilst to the south the sloping topography and landscape screens the variation in built form, which includes single detached houses and walk-up residential flat buildings.

It is evident from the analysis of the site's edge conditions and the broader visual catchment that the character varies along each boundary, with the landscape, land form and built form contributing to the local character. This finding and help inform the approach to the site and how its redevelopment should address each frontage.



Legend

- Site Boundary
- Single Detached Dwelling
- Walk-up Flat
- Retail
- Residential Flat Building

1.19 Site Landscape Character

Landscape Heritage
'Ku-ring-gai Municipality straddles the broad ridge followed by the Pacific Highway, between upper Middle Harbour and the upper Lane Cove River. From Roseville to Wahroonga the central spine of the ridge is covered with fertile clay soils developed from the Wianamatta Shale. Here, with the highest rainfall in Sydney (Pymble receives 1,444mm per annum).'

Naturally the fertile landscapes of Ku-ring-gai attracted timbergetters, continuing into the 1870s timber was harvested for building Sydney towns.

'Eucalyptus pilularis was sought for general construction timber; eucalyptus saligna for beams, floorboards, wheel rims, and ship-building; Eucalyptus resinifera, Red Mahogany, for furniture and ship framing; the natural preservative oils in Turpentine, Syncarpia glomulifera, made it ideal for wharves and construction work; Gery Ironbark, Eucalyptus paniculata, and Red Bloodwood, Eucalyptus gummifera, were used for fencing; and forest Oak, Allocauarina torulosa, was used in cabinet-making, and split into shingles.'

'Steeper sandstone slopes are more likely to have remained wooded. Here Angophora costata commonly grows with Eucalyptus piperita, Sydney Peppermint, and Eucalyputs gummifera, together with small trees of Christmas Bush, Ceratopetalum gummiferum and Elaeocarpus reticulatus, the blueberry Ash. This community occurs quite extensively on hillsides along the Lane Cove River valley.'



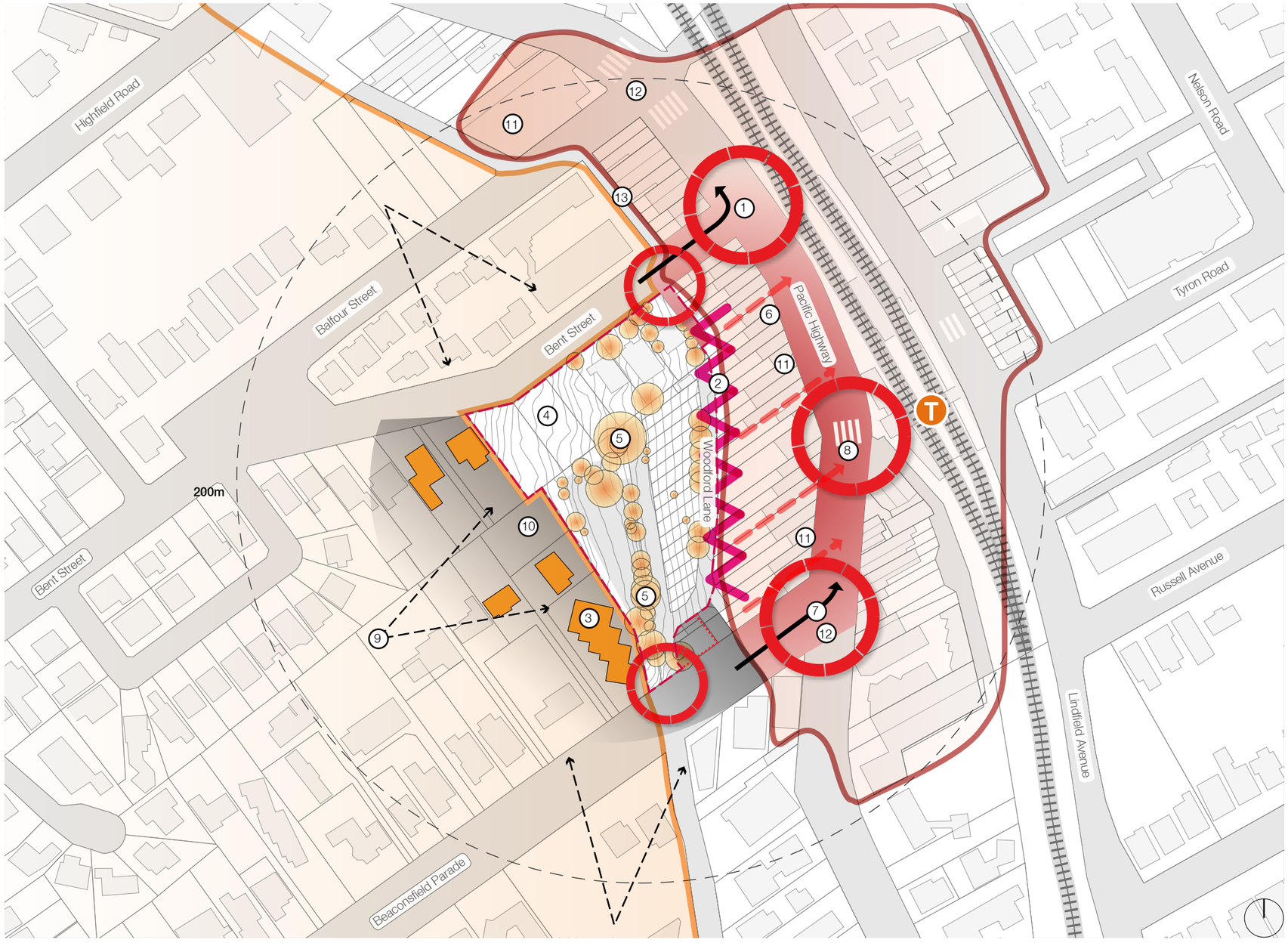
Legend

Significant Trees (refer to LEP map)

(1) Benson, D. & Howell, J. (1990b) Taken for Granted: The Bushland of Sydney and its Suburbs. (Kangaroo Press, Sydney, 160 pp. Paperback Edition 1995).

1.20 Constraints

1. Left turn only from Bent Street and Beaconsfield Parade to the Pacific Highway
2. Inactive eastern edge of site, addressing the rear service areas of properties fronting the Pacific Highway
3. Proximity and siting of neighbouring residential properties to west, including potential impact of amenity
4. Site topography, steeply sloping from east to west
5. Existing trees on site, including several significant trees in the centre
6. Limited visual presence from Pacific Highway
7. Congested site access to/from Pacific Highway, at both Bent Street and Beaconsfield Parade
8. Restricted, timely and potentially dangerous pedestrian access across Pacific Highway to / from station
9. Potential impact on local visual character
10. Overshadowing properties to the west
11. Potential for the site to be disassociated/isolated from the wider retail circuit and town centre experience
12. Limited opportunities for south-bound traffic to turn right off the Pacific Highway into the site
13. Difficult vehicle access via Balfour Street and Bent Lane. Bent Lane is a narrow street with two way access.

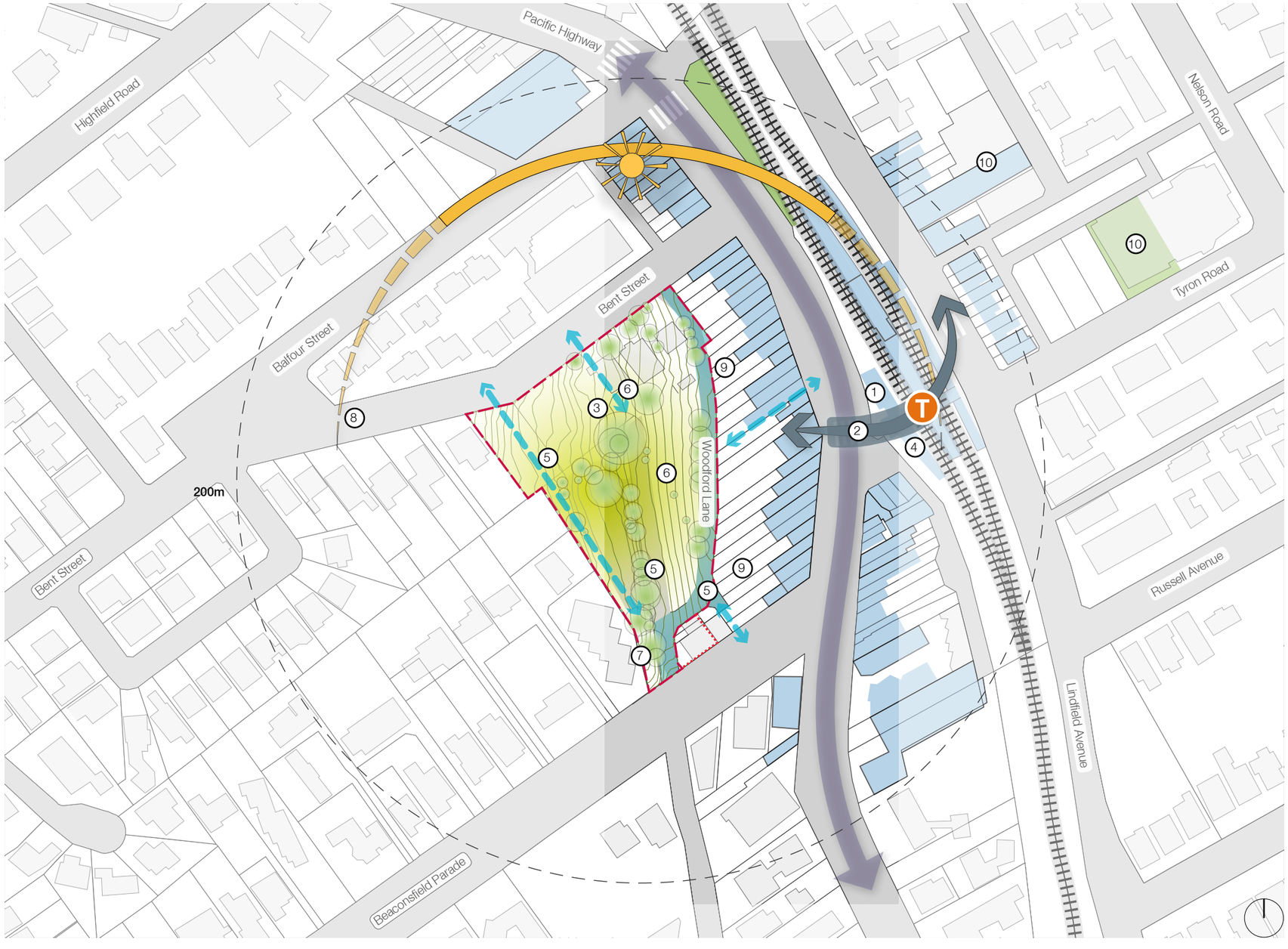


Legend

- Site Boundary
- Site Contours
- Civic Presence
- Site Entry Points
- Congestion
- Inactive Edge
- Movement / Retail Interface
- Low-Med Density Residential
- Sensitive views from the West
- Overshadowing Issue
- Natural Vegetation
- Train Station
- Train Line

1.21 Opportunities

1. Existing town centre services, patronage and excellent transport connections (bus, rail, Pacific Highway)
2. Potential pedestrian link over Pacific Highway
3. New public open space on the site to serve the Lindfield community
4. Proximity to the CBD, Chatswood and other centres along the North Shore line
5. Possibility to establish new connections through the site and strengthen existing routes, including Bent Street and Woodford Lane
6. Steepness of site allows servicing and parking to be hidden underground with minimal excavation
7. Existing treeline screen and obscures views to the site, reducing its visual presence when viewed along Bent Street, Beaconsfield Parade and from neighbouring properties
8. Openness of the site to the north, allows for good solar access to any proposed spaces, urban plazas and associated development
9. Potential for retail lots along Pacific Highway to re-orientate to face Woodford Lane creating an active lane
10. Redevelopment of key sites on the eastern side of the railway line support a comprehensive regeneration of the town centre



Legend

- Site Boundary
- Site Contours
- Solar Access
- Open Space on Site
- Movement Corridor
- Pedestrian Link
- Site Connections
- Existing Town Centre
- Public Open Space
- Natural Vegetation
- Train Station
- Train Line
- Proposed Pedestrian Link

2

Design Principles and Vision

Review of the existing planning controls and our principles and vision for the Lindfield Hub Masterplan.

2.1 Vision

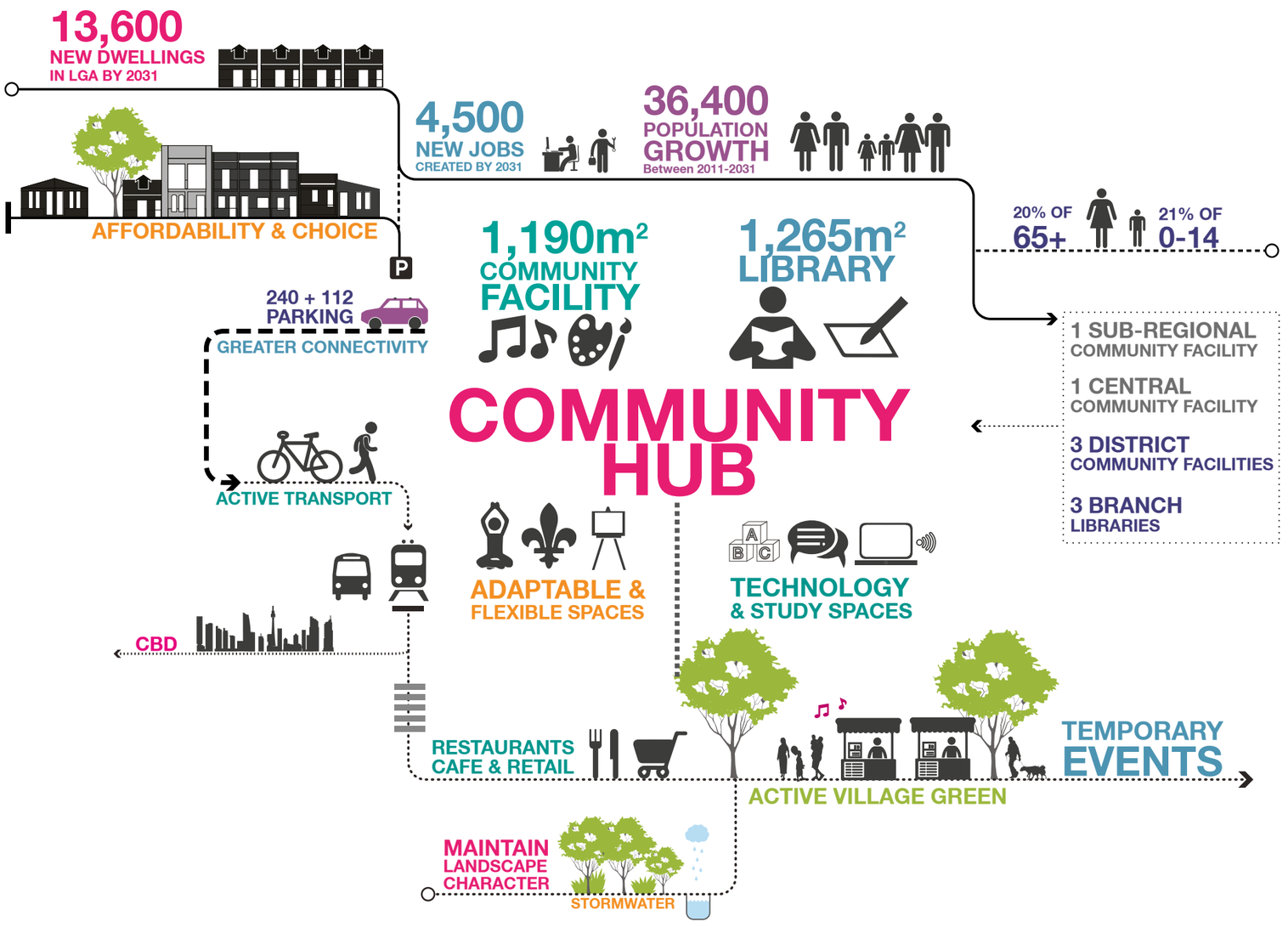
Based on the urban analysis conducted in Section 1, a vision for the site and design principles evolved which formed from which the concept options were developed.

KMC have proposed to re-develop six of its town centres within the LGA with Lindfield being classified as a district level community facility with a branch library and associated uses.

In summarising the various baseline documents provided, Lindfield will be a high-density mixed-use centre extending 400-500m along the Pacific Highway between Beaconsfield Parade and Balfour Street. In the heart of the site an active and vibrant village green with retail and eateries on Woodford Lane will allow the new community hub to be a meeting place and strengthen social interaction within the community. Flexible spaces will ensure that the hub continues to adapt to the changing community conditions throughout its lifetime. A greater variety of housing choice is also important to not only provide housing affordability but to cater to the different family structures within Lindfield. With the site being in close proximity to public transport, active modes of transport should be encouraged and facilities should allow the provision to do so.

The community group Support Lindfield also share a similar vision for the community hub with an emphasis on a shared 'hybrid' space serving the community with co-located programs. The space should be contemporary and inspiring and strengthen connections to public transport nodes.

On the following pages the Vision has been distilled into a series of Design Principles, which relate to specific topics, components or areas of project. These will underpin the evolution of the master plans design, and be used as reference throughout the project to continually test whether the design meets the Vision.



Source:
Ku-ring-gai Contributions Plan, 2010
Ku-ring-gai Council Submission for Draft Metropolitan Strategy for Sydney to 2031, 2013
Lindfield Community Facilities Strategy, Elton Consulting, 2014

2.2 Design Principles



Lindfield Community Hub

Following the review of the baseline documents and information collected by Support Lindfield from their community consultation sessions, eight (8) design principles were identified that reflect the visions and desires for the Lindfield Community Hub. These principles will be tested in the urban design review and further design development. The principles are as follows:

- **Connectivity**
- **Place making**
- **Character**
- **Experience**
- **Activity**
- **Services**
- **Sustainability**



Connectivity

"Community facilities should be central and accessible to the population. They are intending to serve. Accessibility through main street locations with a ground floor presence is important in maximising utilisation". Elton Consulting

With the redevelopment of the Lindfield Town Centre, the community hub has been envisioned to be the focal point for the community, which is central to the catchment with equitable access. The following are important factors to be considered:

Improve pedestrian accessibility:
- New link between East and West of Lindfield via a pedestrian bridge to improve access across Pacific Highway
- Closure of Bent Street to vehicles
- Widening of Bent Lane and re-alignment of Woodford Lane to avoid congestion/conflict of vehicles
- Through site links from Pacific Highway to the site

Accessibility:
- Proximity to railway station, bus stops, cycle routes, parking

Vehicular:
- New traffic signals at Tryon Lane, Beaconsfield Parade and Strickland Avenue
- New road to the west of the site to allow for greater permeability, accessibility and servicing



Place Making

"Vitality of centres is supported by their physical amenity and its success will contribute to the economic viability of the area".
Development Contribution Plan

The community hub and associated mixed-use redevelopment of the site represents the opportunity to significantly contribute to the vitality and identity of Lindfield. Priority will be placed on creating a 'sense of place', which promotes social interaction, new public spaces, quality built form and personal enjoyment to ensure the site occupied an important position in the communities psyche.

The heart of the project is the new village green which will encourage leisure and recreational activities, whilst being directly connected to the community facilities to become a destination for the broader community. This will be occur through the following:

- Activation of streets by pedestrians entering the site from a number of points
- New public open space on ground level with easy accessibility
- Visibility of the site from Bent Street, Beaconsfield Parade and Pacific Highway
- Points of attraction on site such as library, community facility, retail, village green, parking
- Spaces and activities that are equitable and cater to all age, genders, and community groups



Character

"A people place of hybrid spaces, a focus of Lindfield community life for all. A 'green, active and safe' village square that integrates an 'inspiring' building containing a 'new age' library, family cafés, activity, meeting, performance areas and much more".
Support Lindfield

With redevelopments proposed on the eastern side of Lindfield, there is an opportunity to create a common language in terms of the streetscape, architecture and spaces, that combine to create a more cohesive town centre. It's also important to establish Lindfield as a District Centre, strengthening its retail and facility component to serve a larger catchment. The design of the new Community Hub, and associated mixed-use development will need to identify and capture the unique character of Lindfield and pay close attention to:

- Retail provision and accessibility
- Restaurants and cafe
- Recreational and leisure activities
- Streetscape character
- Building character
- Vegetation and landscape character

2.3 Design Principles



Experience

"Community facilities should be distinctive, civic and welcoming places that present a reflection of local culture, which plays a role in helping bring together different groups in the community".
Elton Consulting

The co-location of land uses allows the site to become a point of attraction to a wider range of the community and it presents the opportunity to create a pleasant journey to facilities and services, which is both inclusive and welcoming. The community hub should encourage a fun, interactive and safe atmosphere. This is experience is compounded by the supporting retail uses and public open spaces, and the activity generated by the local residents living on the site and in adjoining neighbourhoods. The design should consider:

- Journey into the site and what land uses are mixed and seen
- Overall feel and atmosphere of the Community Hub and its authenticity to Lindfield
- Passive surveillance and safety



Activity

"Programs, activities and services offered should respond to the needs and interests of the people that live and work around it and foster long term social benefits for the community".
Elton Consulting

It is important for the spaces created to maintain a high degree of flexibility in their use, allowing adaptability. In particular, open spaces should be designed in a way that allows for recreational activity and temporary events. Spaces within the site should cater to the needs of the diverse population, namely an older population and primary school aged children. Activity within the site should operate coherently to create an 18-hour activity cycle responding to peak users by different age groups. Peak periods and levels of activity may include:

- 7.30am-8.30am: morning commuters
- 9am-11am: older people and young families
- 12pm-2pm: lunch time crowd from surrounding commercial land uses
- 3pm-5pm: after school activities for primary and high school children
- 5.30pm-6.30pm: evening commuters
- 6pm-9pm: evening activities for families and young adults



Services

"Clustering of other facilities helps promote convenient access and a focal point for community activity and assist in maximising their effective utilisation".
Elton Consulting

The co-location of several services will provide a point of convenience and allow the community to carry out a number of tasks in the one location with the provision of a car parking to assist. This will maximise the activation of the Community Hub and ensure a constant flow of activity to the retail in the site and in the surrounding areas of the town centre.

Retail, open spaces and service provision on the site should compliment and not compete with those on offer elsewhere in the town centre. Lindfield should be considered holistically when assigning land uses quantum and scales of those uses.



Sustainability

"Council needs to take steps to demonstrate that they have investigated the risks facing its community from climate change and put plans in place to ensure actions to reduce risk exposure are introduced".
Climate Change Adaptation Strategy

In line with the visions of the Council and community, green technologies should be explored to achieve energy targets. Sustainability is also achieved through eliminating the need for multiple trips as the hub becomes a 'one stop' destination. A modal shift to a more active form of transport in terms of pedestrian activity and cycling should be encouraged. Sustainability will be considered through the following:

- Orientation
- Opportunities for modal shift in terms of parking and bicycle parking
- Green technology in buildings
- Orientation of residential to maximise solar and cross ventilation
- Financial sustainability
- Stormwater treatment plant

3

Site Concept Options

Outline of the four options developed from the brief provided by Council.

3.1 Key Functional Relationships

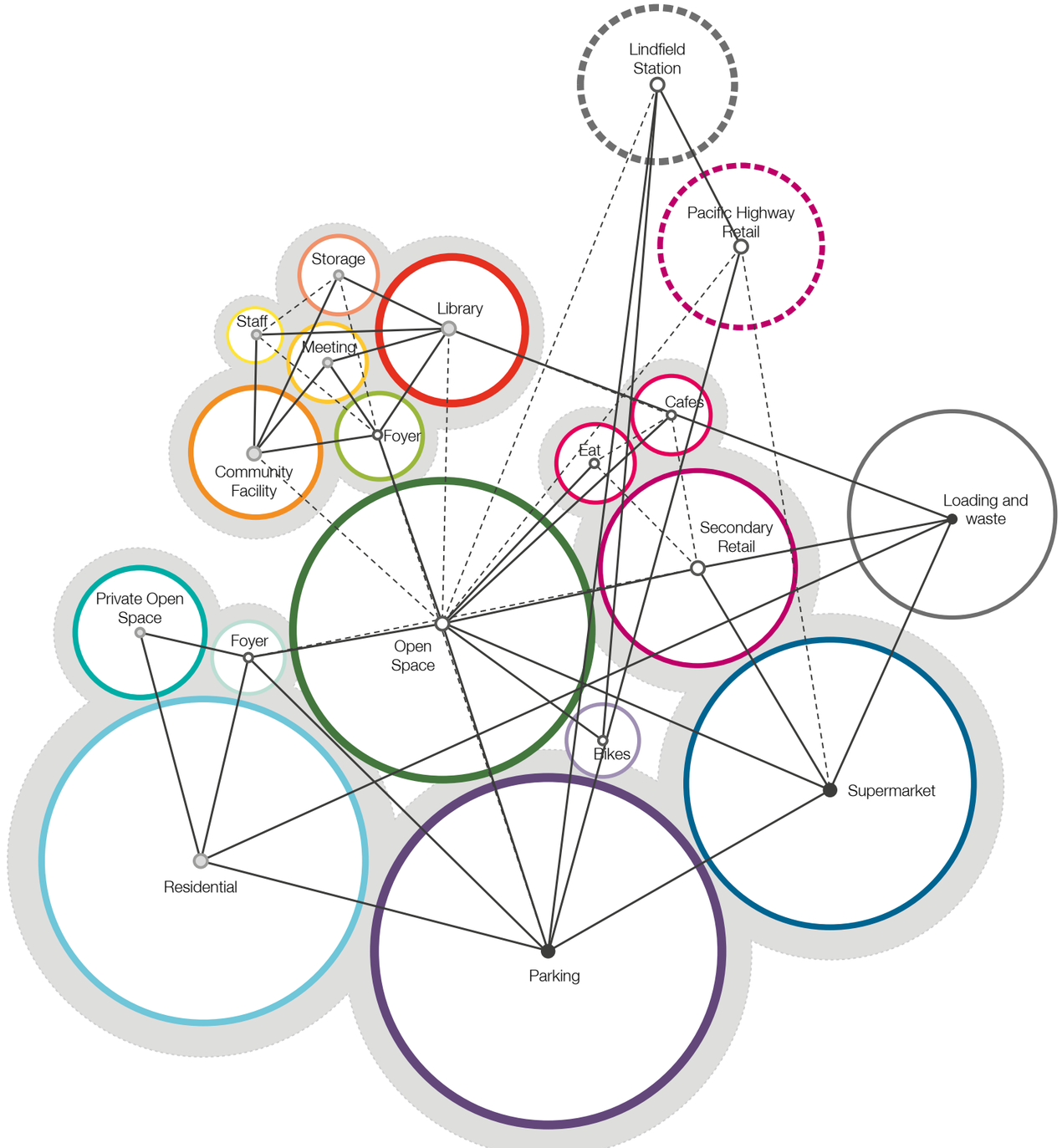
The project brief provided by KMC outlines the design testing of 4 possible options with varying land uses and floor area quantum. The Design Principles as identified in the previous section of this report will inform the location of land uses, spaces and connections in order to meet the established vision for the Community Hub Master Plan. The co-location and connectivity of services, facilities and activities is an important consideration when siting, orientating and layering development across the site.

The diagram to the right illustrates the possible connections and relationships between the various land uses which have been obtained from Council's brief. When considered holistically, their relationships begin to inform the spatial organisation within the site. It becomes apparent which are the critical and desired links needed to be made in order for the community hub, open space, retail and associated clusters of activity to be successful. These relationships should be considered and built upon either through direct or visual connections in the four options.

Each of the circles are proportionate to the areas as specified within the brief provided by Council. Furthermore, the centres of each of the circles provide an indication of its siting whether it be on ground, underground or the potential for both.

In summary, the key land uses are:

- Community Facility
- Library
- Childcare
- Open Space
- Private Open Space
- Secondary/specialty retail
- Eateries
- Supermarket
- Residential
- Parking
- Loading and Waste



Legend

- Critical connections
- Desired connections
- Underground
- Ground level
- Ground level or above

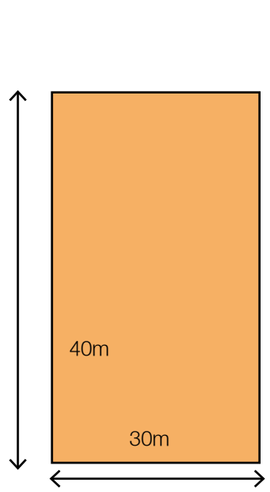
3.2 Key Land Use Components

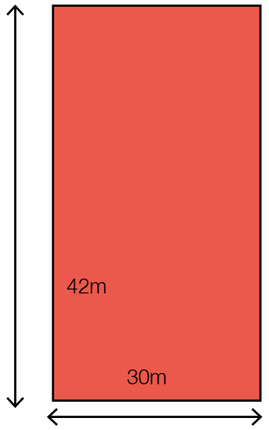
In considering the master plan for the Lindfield Community Hub the following spatial requirements for each of the land uses required have been established as guidelines.

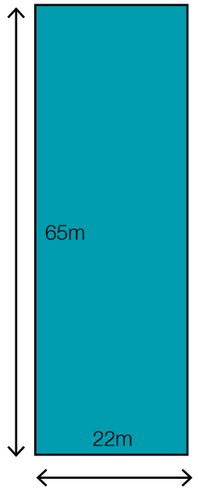
These ‘pieces of the master plan’ are useful in quickly identifying how the required land uses can be arranged on the site, and how development can be layered and integrated. During the initial design studies these pieces are physically arranged across the site to reflect each of the Options.

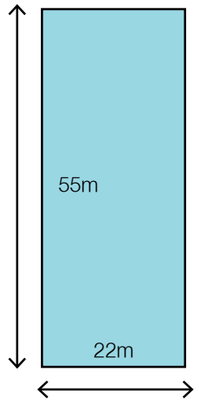
The following pieces of land use have been considered;

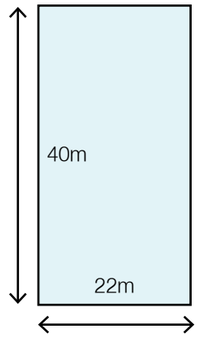
- Community Facility
- Library
- Childcare
- Open Space
- Secondary/specialty retail
- Major retail
- Full line supermarket
- Residential
- Commuter and Council parking
- Site parking











Community Facility

- Total area of 1,200m²
- 1 storey
- Adaptable and flexible spaces

Library

- Total area of 1,265m²
- 1 storey
- Adaptable and flexible spaces
- Ground floor

Residential Floor Plate 1

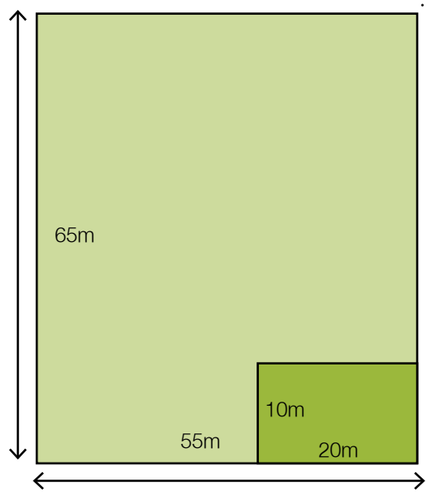
- 16 dwellings per floor
- GBA of 1430m²
- GFA of 1215m² with 85% efficiency

Residential Floor Plate 2

- 16 dwellings per floor
- GBA of 1210m²
- GFA of 1028m² with 85% efficiency

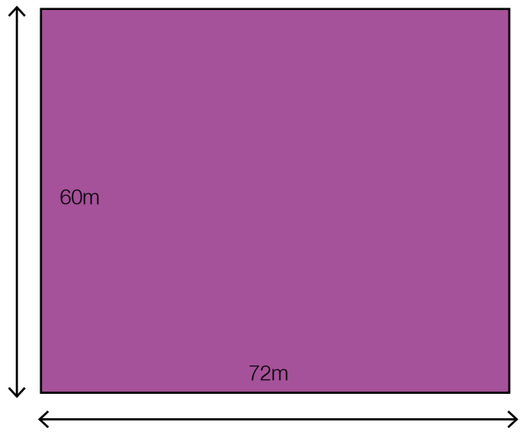
Residential Floor Plate 3

- 14 dwellings per floor
- GBA of 880m²
- GFA of 748m² with 85% efficiency



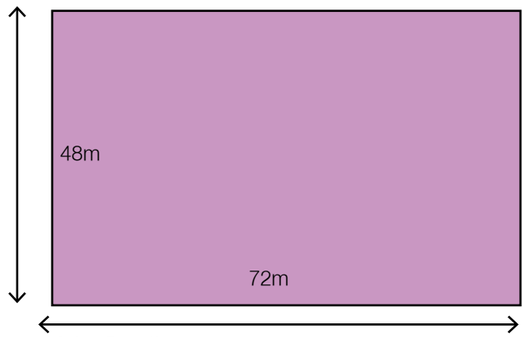
Open Space

- Total area of 3800m²
- Town square of 200m²



Full Line Supermarket

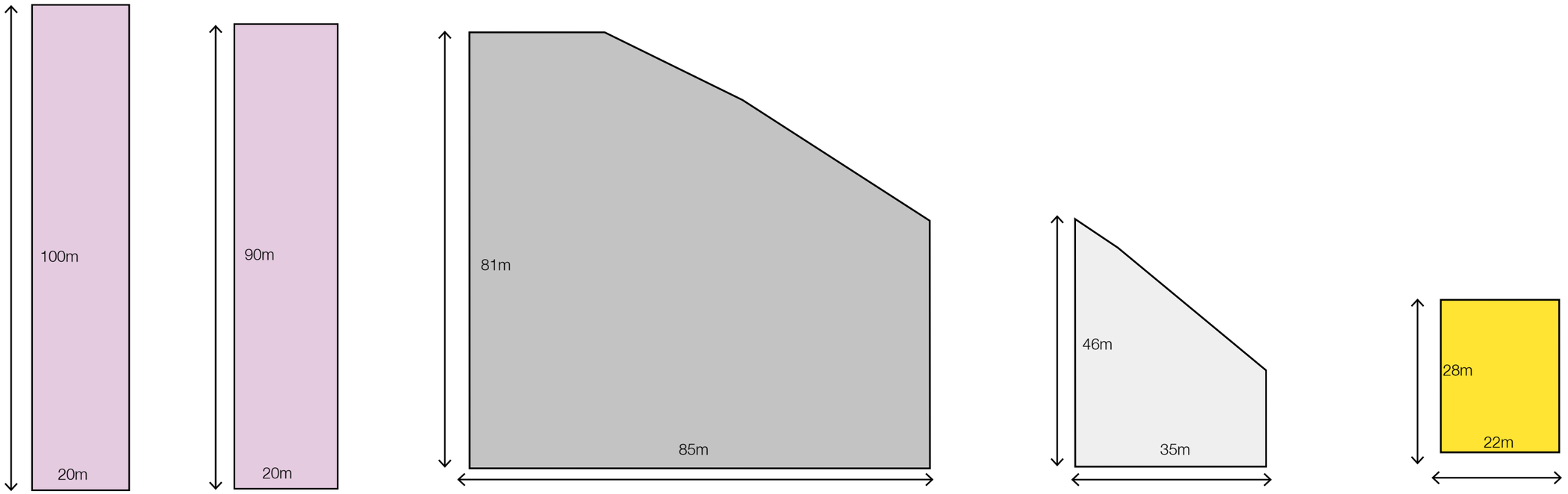
- Total area of 4200m²



Major Retail

- Total area of 3430m²

3.3 Key Land Use Components (continued)



Secondary Retail 1

- Total area of 2000m^2

Secondary Retail 2

- Total area of 1800m^2

Parking 1

- Total area of 6,000m^2 per floor plate
- Approximately 171 parking spaces per level
- 140 dedicated commuter spaces with controlled access
- 113 council owned parking spaces with 50 dedicated to the Community Hub

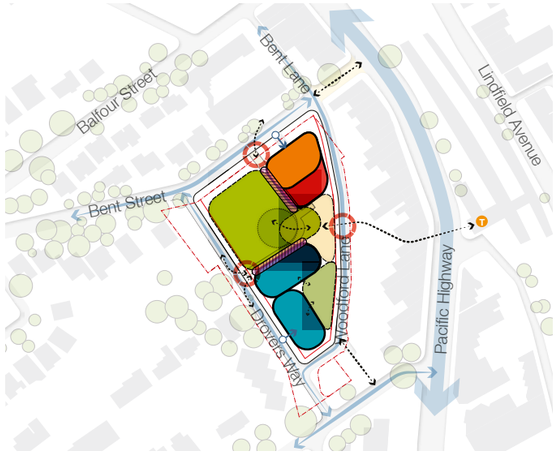
Parking 2

- Total area of 1,165m^2 per floor plate
- Approximately 35 parking spaces per level
- Dedicated parking for residents

Childcare

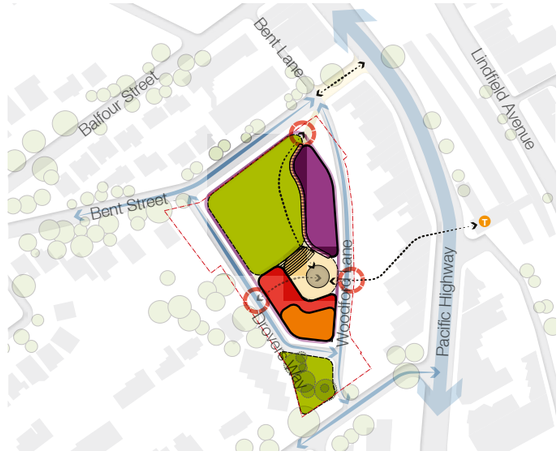
- Total area of 620m^2

3.4 Snapshot of Concept Options









Option 1

- Low scale development
- Retain some significant trees
- New park with deep soil planting
- Civic edge to Bent Street
- Community Hub is visible from Pacific Highway
- Corner park with at grade connections
- Small supermarket and associated retail
- Residential edge to Drovers Way
- Good relationship between Hub, Park and Square
- Residential is stand alone and easily subdivided
- Connection from Community Centre to the square
- Square connects to existing and future potential links to Pacific Highway
- Separate access to residential development
- Active frontages addressing the park
- Passive surveillance over the park

Option 2

- Large development with a variety of uses
- Building heights up to seven storeys
- No significant trees retained
- New park with deep soil planting around the edge
- Community Hub is visible from Pacific Highway
- Civic edge to Bent Street
- Built edge to Drovers Way
- Public space to Woodford Lane
- Residential edge to Beaconsfield Parade
- Good relationship between Hub, Park and Square
- Residential is stand-alone, more deliverable
- Retail offer to Square
- Large supermarket with associated retail below ground
- Grade access from Library to Park
- Square connects to existing and future potential links to Pacific Highway
- Separate access to residential development
- Active frontages to park and square

Option 3

- No supermarket proposed
- Most significant trees retained
- New linear park/ reserve with deep soil planting
- Civic edge to Bent Street and Drovers Way
- Residential buildings address Woodford Lane
- Residential edge to Beaconsfield Parade
- Good relationship between Hub and Park
- Passive surveillance to park and square
- 3 separate residential buildings
- Small ‘eat street’ retail offer
- Community Hub is less visible from Pacific Highway
- Square connects to existing and future potential links to the Pacific Highway
- Separate access to residential development
- Active frontage to park and square

Option 4

- No residential building
- Some significant trees retained
- Large elevated park on top of supermarket
- Supermarket/ planted wall to Bent Street and Drovers Way
- Retail + Community Hub to Woodford Lane
- Park and natural edge fronting Beaconsfield Parade
- Good relationship between Hub, Park and Square
- Elevated park above Drovers Way
- Hub is not visible from Pacific Highway
- Good retail connections to park
- Shared entry to car park
- Active retail frontages to park
- Some deep soil planting available to north
- Square connects to existing and future potential pedestrian links to Pacific Highway

3.5 Option 1 - Illustrative Masterplan

The Community Hub occupies the most prominent corner of the site so that this important public building is clearly visible from the Pacific Highway. The primary access to the site is gained from Bent Street, from where pedestrians will move past the Community Hub and around the edge of the new naturally graded public open space, which will feature a number of retained trees, active play spaces and public seating.

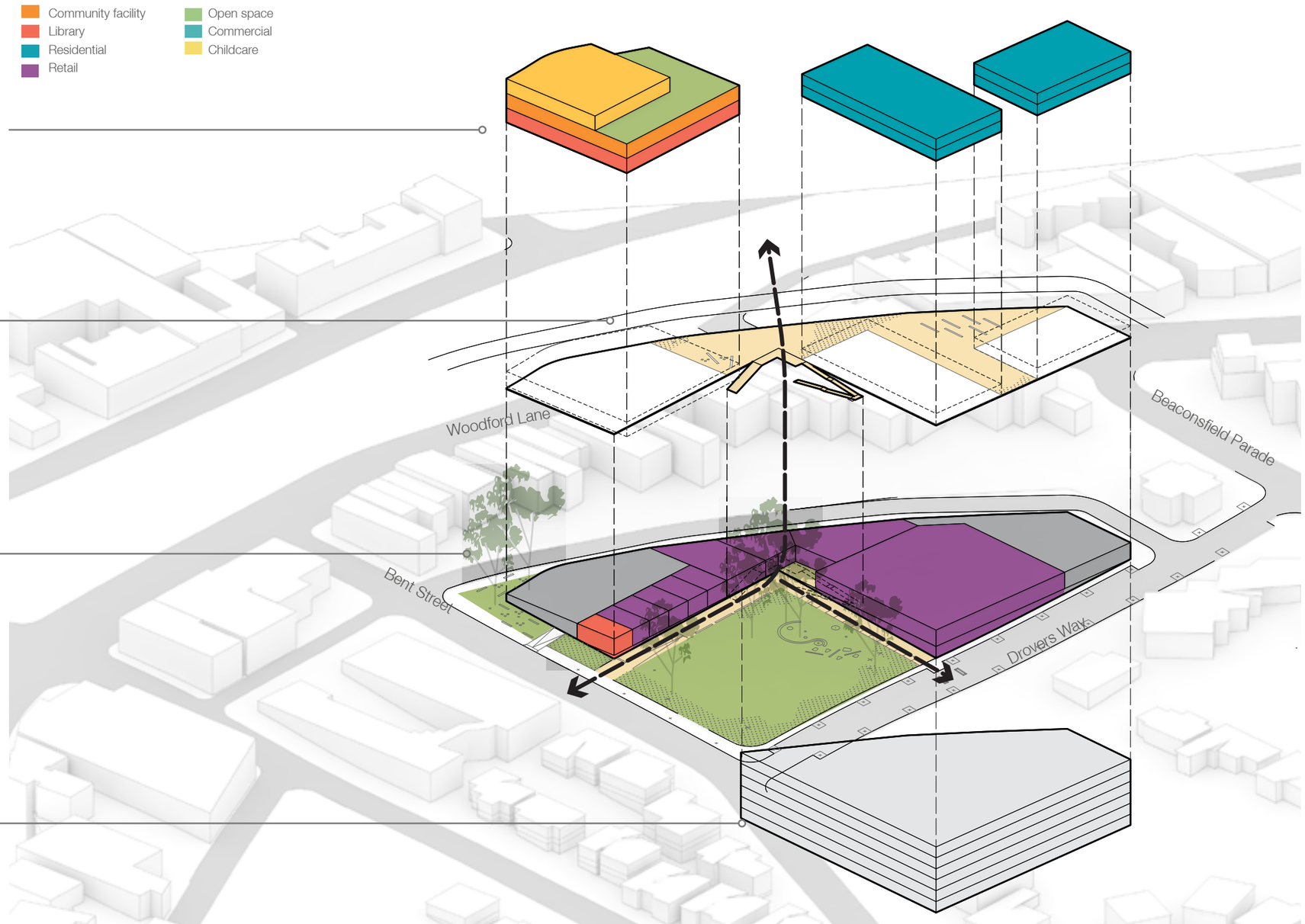
Cafés, shops and a small supermarket are accessible to pedestrian from the park level, the civic plaza above (Woodford Lane) or from the basement car park below. Outdoor dining areas can open directly on to the park.

Two residential buildings are located to the south of the new park, standing to a limit of 3-storeys, with pedestrian access taken from an urban plaza off Woodford Lane, or the basement car park accessed of Drovers Way. All other servicing, community and commuter car parking is also accessed off Drovers Way,which also features on-street car parking and landscaping.

- 1,265 m² library
- 620 m² childcare
- 1,000 m² specialty retail
- 1,200 m² community
- 515 parking spaces
- 1,500 m² supermarket
- 32 dwellings
- 819 m² civic plaza
- 725 m² roof garden
- 3,923 m² streetscape and landscaping
- 2,938 m² consolidated open space



3.5.1 Option 1 Axonometric



3.5.2 Option 1 Visualisation



Illustrative view from the corner of Bent Street and Drovers Way

3.6 Option 2 - Illustrative Masterplan

The Community Hub is located at the corner of Bent Street and Drovers Way. The Park occupies the north-eastern corner of the site, providing direct at-grade pedestrian access from the Pacific Highway and Bent Street to the Community Hub and retail. The Civic Plaza is one level above the Park and is directly accessible from Woodford Lane. Below the Civic Plaza are a number of retail outlets, cafes, gym, a large supermarket and other specialty retail shops.

The basement car park runs underneath the majority of the site and is accessible for vehicles from Drovers Way, or via the escalators that connect the Urban Plaza and Park above. All servicing and retail, residential, community and commuter parking is accessed off Drovers Way.

Two 7-storey residential blocks are located to the south of the public spaces and Community Hub. The southernmost residential block fronts Beaconsfield Parade and assumes the existing Scout Hall and Substation is relocated elsewhere in Lindfield. This approach also allows Woodford Lane to be realigned, providing two north-south connections through the site between Bent Street and Beaconsfield Parade.



- 1,265 m² library
- 620 m² childcare
- 1,573 m² specialty retail
- 1,200 m² community
- 760 parking spaces
- 3,000 m² supermarket
- 105 dwellings
- 575 m² gym
- 1,565 m² civic plaza
- 965 m² roof garden
- 2,812 m² streetscape and landscaping
- 2,700 m² consolidated open space

3.6.1 Option 2 - Axonometric

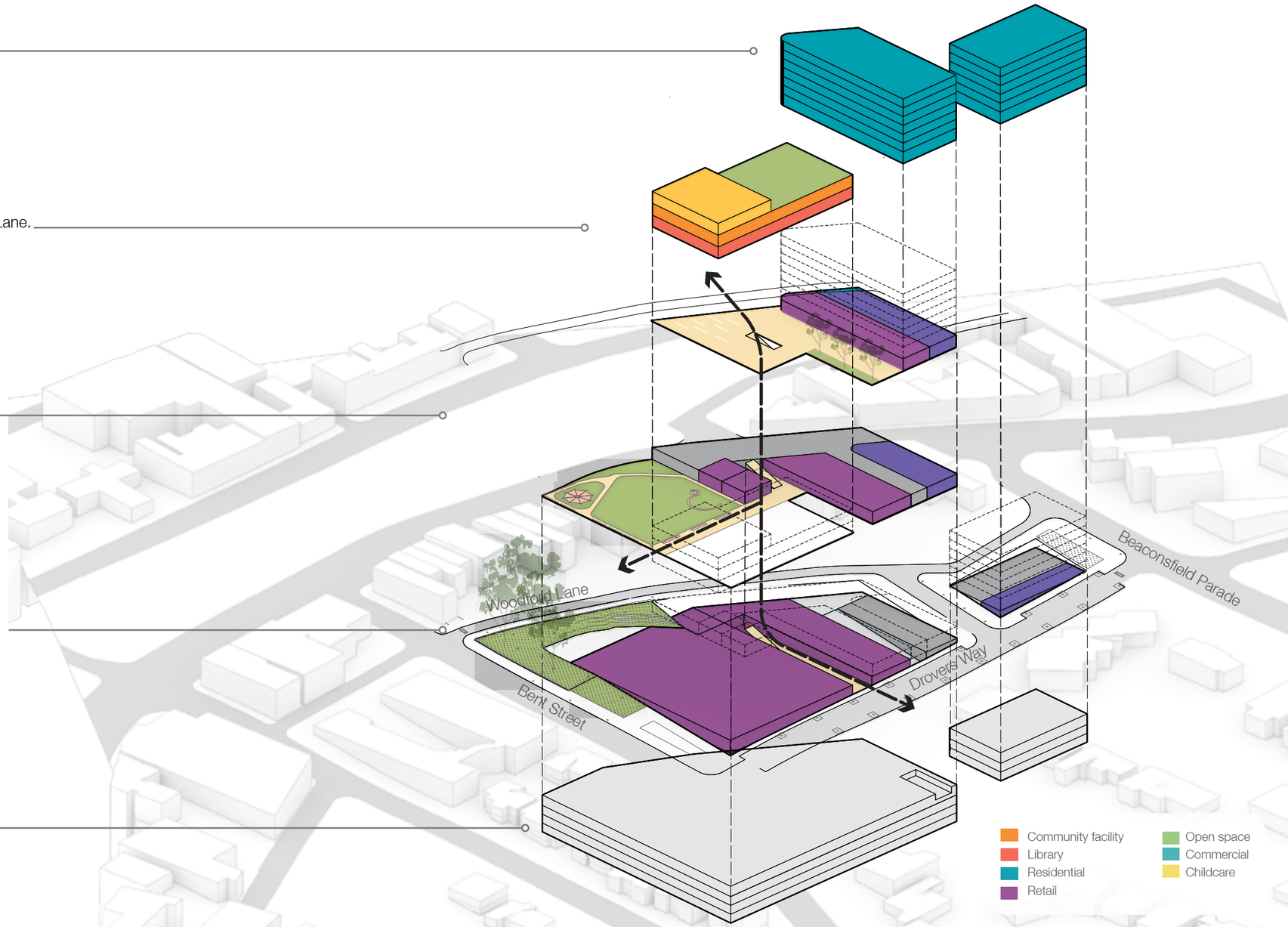
Above - Library, Community Centre, Childcare (& Residential)

Plaza Level - Retail and Commercial with access off Woodford Lane.

Park Level - Retail and Community Facilities accessed off Bent Street and Woodford Lane

Supermarket Level - Retail accessed off Drovers Way via ramp

Basement - 2 basements accessed off Drovers Way



3.6.2 Option 2 - Visualisation



Illustrative view from the open space towards the Community Hub and retail

3.7 Option 3 - Illustrative Masterplan

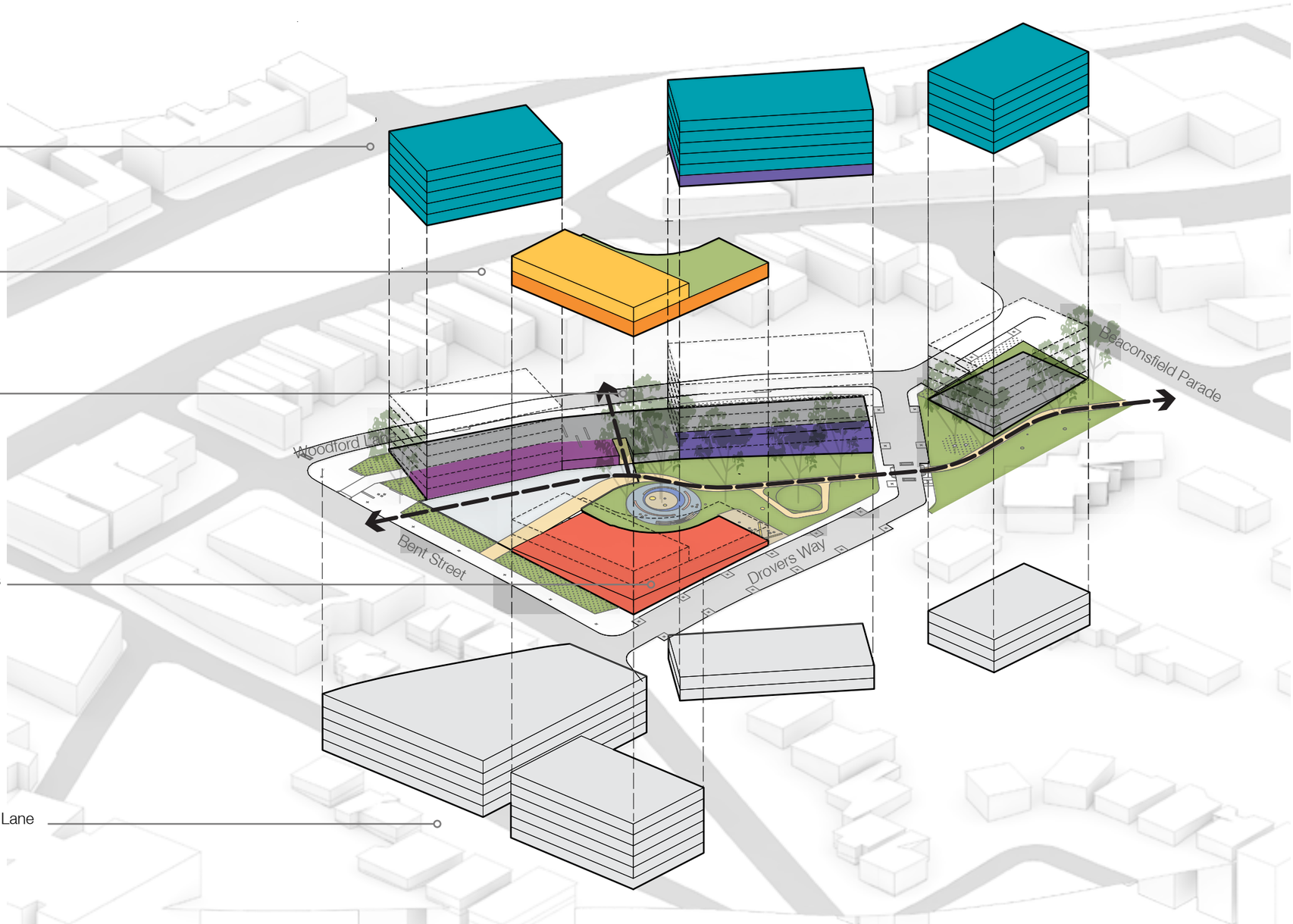
A central green space runs through the middle of the site between Bent Street and Beaconsfield Parade, connecting the retained trees and various spaces via a singular public reserve. There is also a number of opportunities to introduce commercial and retail uses along the edge of the public reserve. Without the need for a supermarket, the building footprints are smaller and they can be placed within the landscape. Each building has its own basement parking and the commuter parking has been relocated to the northern edge of the site, accessed from Bent Street.

The Community Hub is located at the corner of Drovers Way and Bent Street, providing actives frontages to these two streets, and opening on to the public reserve. A small Civic Plaza is located off Bent Street, which features some ground floor retail. It is access from Woodford Lane and provides access to the upper levels of the Community Hub and residents access to the 5-storey residential blocks. A third residential block (5-storeys) is located on Beaconsfield Parade, where the Scout Hall and Substation have been relocated, access to the site is limited to Woodford Lane and the existing trees are retained.

- 1,245 m² library
- 620 m² childcare
- 1,100 m² commercial
- 1,200 m² community
- 627 parking spaces
- 476 m² specialty retail
- 120 dwellings
- 800 m² civic plaza
- 686 m² roof garden
- 2,251 m² streetscape and landscaping
- 3,807 m² consolidated open space



3.7.1 Option 3 - Axonometric



3.7.2 Option 3 - Visualisation



Illustrative view from the open space towards the Community Hub and residential

3.8 Option 4 - Illustrative Masterplan

A full-line supermarket occupies a large proportion of the site, which means most of the existing trees must be removed and replaced. Specialty retail is located at the same level as the supermarket, below the Community Hub. Access to this retail precinct is either at-grade from Drovers Way, travelators from the basement car park, or escalators from the Urban Plaza and Park above. The 3 storey Hub wraps around the western and south edge of the Urban Plaza, which connects to the Park level via a ramp or set of north-facing steps, which will serves as an informal place to sit, or an amphitheatre for performances and outdoor cinema nights.

Running along the eastern edge of the Park to the corner of Bent Street and Woodford Lane is a continuous food and dining strip. The strong retail focus of this option, and the absence of residential development, has resulted in a broad configuration of land uses. This means the supermarket is no longer buried in the ground, either in part of in full, which creates an outcome where it is visible at the corner of Bent Street and Drovers Way . Parking and servicing access is taken from Drovers Way. This option also considered the Scout Hall and Substation are re-provided elsewhere.

- 1,255 m² library
- 640 m² childcare
- 2,778 m² specialty retail
- 1,210 m² community
- 600 parking spaces
- 4,200 m² supermarket
- 105 dwellings
- 1,080 m² civic plaza
- 725 m² roof garden
- 3,125 m² streetscape and landscaping
- 3,541 m² consolidated open space



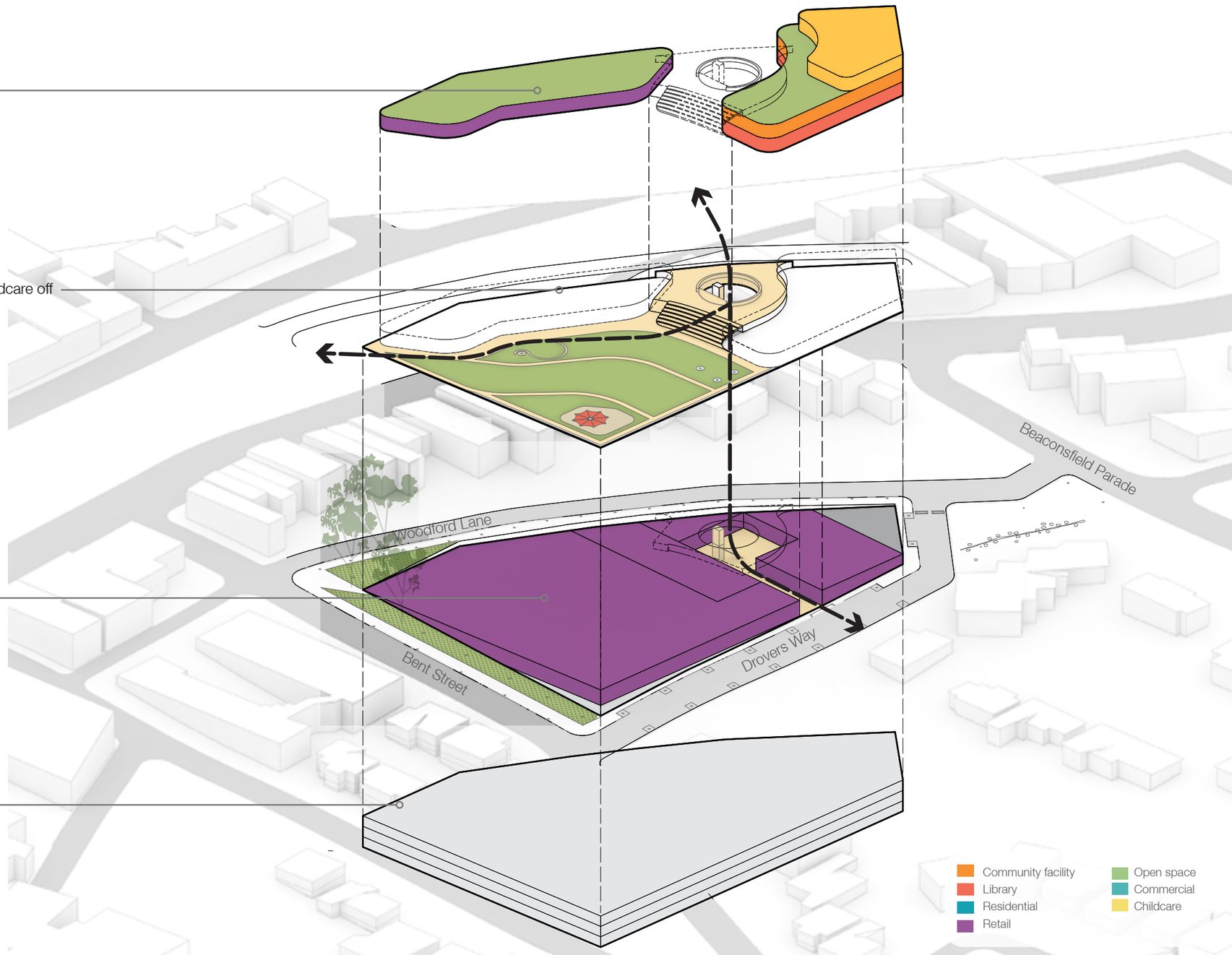
3.8.1 Option 4 - Axonometric

Above - Retail, Library, Community Centre, & Childcare

Park Level - Access to Retail, Library, Community Centre & Childcare off Woodford Lane, Bent Street and Square

Lower Retail - Retail accessed off Drovers Way and vertical circulation from square

Basement - Basements off Drovers Way



3.8.2 Option 4 - Visualisation



Illustrative view from the open space towards the Community Hub and retail

4

Community Engagement

Summary of the feedback received of the four options from an online survey and recruited workshop.

4.1 Community Feedback Summary

Following the public exhibition of the four site concept options outlined in the previous section of this report, several public workshops were run in order to gather feedback from the community to inform the design of the preferred option.

The feedback showed a preference for Option 4 which was focused around a retail offer, and followed by Option 2 which incorporated a good mix of land uses. Option 3 with a focus on residential was the least preferable, followed by Option 1 which also gathered similar comments.

Additional comments were also gathered by Cred Consulting which gathers comments on what the community would like to see for the future of Lindfield and the study site.

These comments were then taken aboard, considered and assisted in the development of the preferred option.

Option 1

22.4%

34.1%

43.5%

‘Great open space and retention of trees with an appropriate height limit, however too focused on residential component.’

Option 2

42.0%

39.1%

18.9%

‘An integrated option with a good balance of uses such as retail, parking and residential. Concerns over traffic congestion with the introduction of a 7 storey residency.’

Option 3

14.8%

64.8%

20.4%

‘Appreciate the rention of trees, however a general lack of open space with too much residential and does not have a ’community’ feel.’

Option 4

62.8%

19.5%

17.7%

‘Good mix of major and specialty retail, love the large open space with a strong community focus with the absence of residential.’

Community needs..

- Multi-purpose space
- Active recreation such as yoga and tai chi
- Community lounge to hangout and have a book club and library
- Performance space

Library

- Study and reading space
- Vibrant meeting space
- Children and youth area
- Technology focused centre

Open Space

- Plaza space for community events
- Large park
- Children’s play space
- Passive recreational space

Retail

- Boutique food grocer
- Eateries
- Large supermarket
- Service retail (hairdresser, bank etc.)

Reason to visit?

- Shopping
- Library
- Community facility
- Recreation (eateries and social)

What else?

- Village character
- Night time activities
- A green ‘heart’
- Childcare

4.2 Online Survey

During the public exhibition period the public were provided with an opportunity to provide feedback through an online survey on the four options which were developed for the Lindfield Community Hub. 206 surveys were completed with 93% of respondents living in the Ku-ring-gai LGA. The feedback gathered from the online survey showed Option 4 as the preferred option followed by Option 2. Option 3 was the least preferred option due to its high residential component.

206 online surveys

Demographics:

69% aged 40+

93% live in Ku-ring-gai LGA

69% live in Lindfield

57% female respondents

Lower proportion of 18-24 year old respondents in comparison to LGA, and higher proportion of 60+

Option 1:

23% like
- Human scale
- Retains trees
- 3 storey limit
- Retains scouts
- Open space
- Supermarket

35% dislike
- Not enough retail
- Residential development
- Public square doesnt integrate well with park

Option 2:

41% like
- Good balance
- Supermarket
- Integrated
- Combines square and park to create a sense of place

40% dislike
- 7 storey residential is too high for the site

Option 3:

15% like
- Green space
- Retention of trees

64% dislike
- Largely devoted to residential which may be unwelcoming to the public
- 5 storey too high

Option 4:

63% like
- Large super-market and quality retail
- Large open space
- No residential

20% dislike
- Retail focus instead of community
- Traffic congestion into supermarket

Public Exhibition → **Options Preference**

Community Facilities:

1. Multi-purpose space
2. Active recreation space
3. Community lounge
4. Performance space
5. Creative art space

The space should be designed to appeal to all members of the community.

Open Space:

1. Plaza/space for community events
2. Large park
3. Children's play space
4. Passive recreation
5. Art/water features

The space should be a community space for meeting and relaxing.

Retail and Commercial:

1. Restaurants
2. Boutique food grocer
3. Large supermarket
4. Service retail
5. Small supermarket

Preference for a large supermarket due to poor facilities at existing Lindfield Coles.

Ranked Preference

Reasons for Visit:
- Community facilities and classes
- Relaxing and meeting up with people
- Convenient parking and supermarket
- Restaurants and retail
- Bringing children to the park/centre
- Walking home from work and the station through the Hub

Modes of Transport:

How people will travel to and from the Hub

56%	Car
37%	Walk
3%	Cycle
2%	Train
1%	Bus
1%	Skate

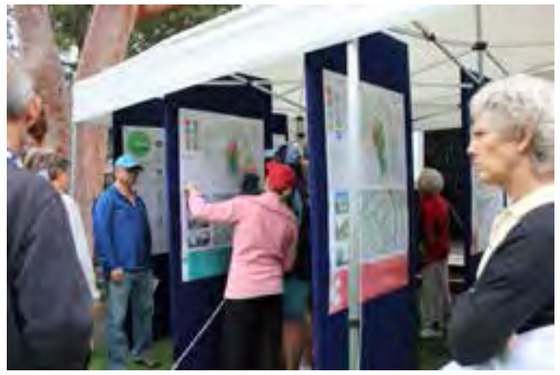
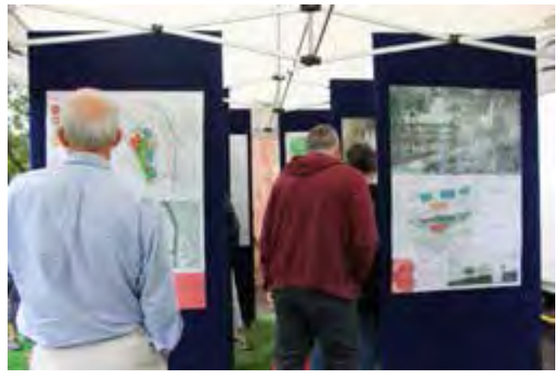
Other Comments

Source: Activate Lindfield - Lindfield Community Hub Engagement Outcomes Report, Cred Community Planning, 2015

4.3 Public Exhibition - 21 March - 14 May 2015






4.4 Recruited Community Workshop

Two workshops were planned for the Lindfield Community Hub one which is a recruited workshop and the other an opt-in workshop which was cancelled due to its low registrations.

Participants in the recruited workshop were recruited by an external agency and accurately represents the age proportion of the Ku-ring-gai LGA demographic. Furthermore, recruited participants are less likely to have vested interests and more likely to be representative of the local community.

28 recruited participants

Demographics:

12% 18-34 year olds
34% 35-49 year olds
37% 50-64 year olds
15% aged 65+

The participants recruited are proportionate to the current LGA demographics.

Source: Activate Lindfield - Lindfield Community Hub Engagement Outcomes Report, Cred Community Planning, 2015

Public Exhibition

Option 1: 0% Preference

- Like the civic presence from Bent Street
- The park feels like it is the backyard of the residential complex
- The green is not a workable space
- Existing trees are not of high importance if more can be planted

Option 2: 78% Preference

- Like the ‘green threshold’ of the park into the civic building
- Like that it encourages the re-orientation of Pacific Highway retail
- Residential is good for passive surveillance
- Like the eat street but want more bars
- Needs a village feel

Option 3: 4% Preference

- Generally disliked by all participants
- 1 vote due to its absence of a supermarket
- There is no reason for the public to go there as the residential component is highly dominant

Option 4: 18% Preference

- Potential for more active sports
- Like the retail and supermarket offer
- Like the large open space which can cater to the community.

Options Preference

Community Facilities:

It is important that the hub:

- Has good accessiblity into the community facility eg. drop off areas and parking accessiblity
- Open space is seen as an extension of the indoor facilities
- Community facility should be within proximity of specialty retail and cafe

Open Space:

It is important that the hub:

- Has a ‘green heart’ and ‘village feel’
- A mix of uses is desirable and a night life
- Consider the uses in the open space and the impact of noise in the park on neighbouring residents

Retail and Commercial:

It is important that the hub:

- Has a provision of a small supermarket and quality specialty retail
- A large supermarket is not necessary if Lindfield Coles gets upgraded
- Creates something unique as both a community place and a place to shop

Movement and Access:

It is important that the hub:

- Has an availability of both sort and long term parking
- Provides a ‘kiss and ride’ zone
- Has an ease of access and adequate parking
- Lighting and safety is important along pedestrian thoroughfares

Design Themes

Important Notes:

- Keep it as a ‘green heart’
- Planting through the site is important
- Maintain a ‘village feel’
- Night life is currently missing from the area and the Hub ahs the opportunity to create activity
- Traffic and parking are significant components to consider

Other Comments

4.5 Recruited Workshop - 9 May 2015














5

Preferred Option

Documentation and studies of the preferred option developed in conjunction with Council.

5.1 Introduction of Options

5.1.1 Summary

Following feedback received from both the community and Council, Option 2 was adopted as Council's preferred option to which SJB have further explored and reasoned.

The preferred option is a mixed-use option with a two level public space with a park which sits on top of a large supermarket and specialty retail and an urban plaza on the upper level accessed off Woodford Lane. The Community Hub is located at the corner of Bent Street and Drovers Way.

The Park occupies the north-eastern corner of the site, providing direct at-grade pedestrian access from Pacific Highway and Bent Street to the Community Hub and the three levels of retail. The Urban Plaza is one level above the Park and is directly accessible from Woodford Lane, and via the narrow pedestrian pathways that squeeze between the shops fronting the Pacific Highway. Sitting below the Urban Plaza are a number of retail outlets, including cafés that can open on to the park, as well as gyms and other associated uses. The next level down is directly accessible from Drovers Way and features a large supermarket and other specialty retail shops. To deliver a supermarket of this scale (3,000sqm) the existing significant trees on the site must be removed. There are opportunities to replace these trees at the northern and eastern edges of the Park, which sits above the supermarket level.

The basement car park runs underneath the majority of the site and is accessible for vehicles from Drovers Way, or via the escalators for pedestrians which connects to the Urban Plaza, Park and Hub above.

Servicing to retail and commuter parking are accessed off Drovers Way, which also features short-stay car parking, landscaping and pedestrian footpaths.

Two 7-storey residential blocks are located to the south of the public spaces and Community Hub. There's an opportunity to provide retail (cafés/shops) on the ground floor of the northern block that fronts the Urban Plaza. There is also an opportunity for an outdoor dining area fronting the secondary open space.

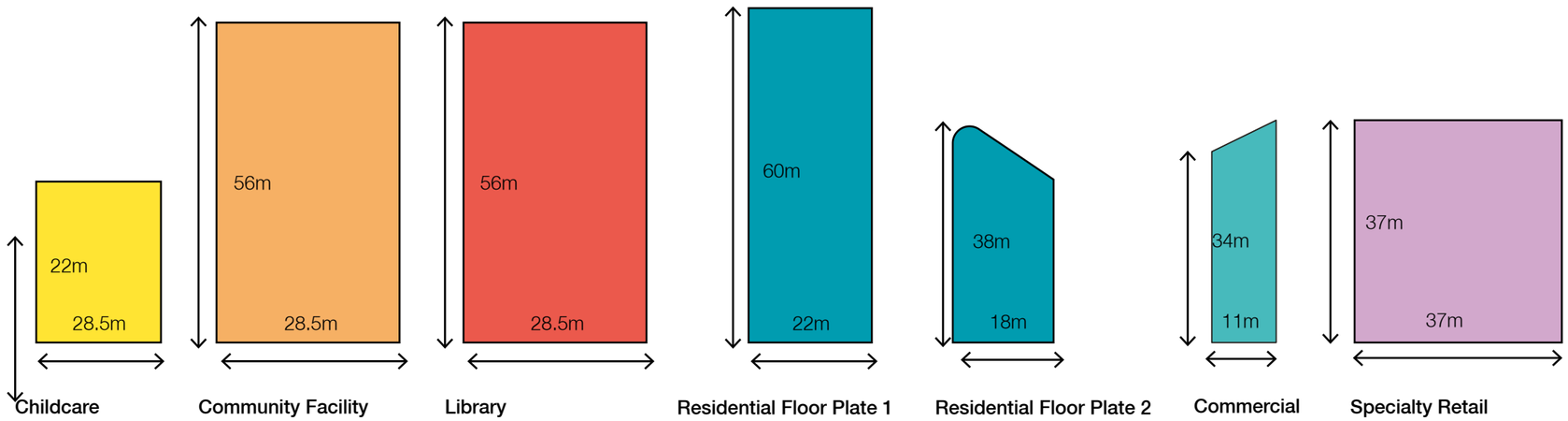


5.1.2 Key Components

Following on from the key components study carried out in formulating the initial four option, the land uses and areas have since been refined and adjusted accordingly in size for the preferred option.

The following pieces of land use have been integrated;

- Community Facility
- Library
- Childcare
- Open Space
- Plaza
- Secondary/specialty retail
- Supermarket
- Commercial
- Residential
- Commuter and Council parking
- Site parking



Childcare
- GBA of 627m²
- GFA of 533m²

Community Facility
- GBA of 1,596m²
- GFA of 1,200m²
- 1 storey

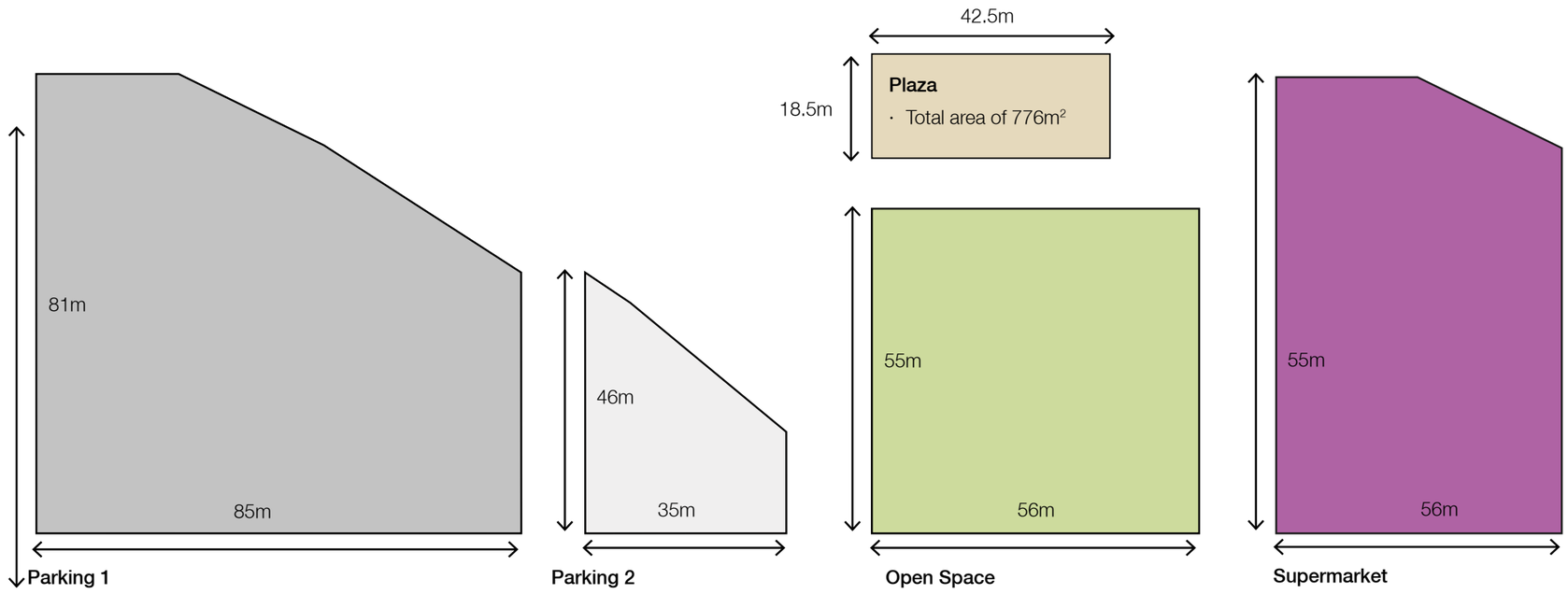
Library
- GBA of 1,596m²
- GFA of 1,265m²
- 1 storey

Residential Floor Plate 1
- GBA of 1,311m²
- GFA of 983m² with 85% efficiency

Residential Floor Plate 2
- GBA of 625m²
- GFA of 469m² with 85% efficiency

Commercial
- GBA of 382m²
- GFA of 325m²

Specialty Retail
- Total GBA of 1,381m²
- Total GFA of 1,174m²



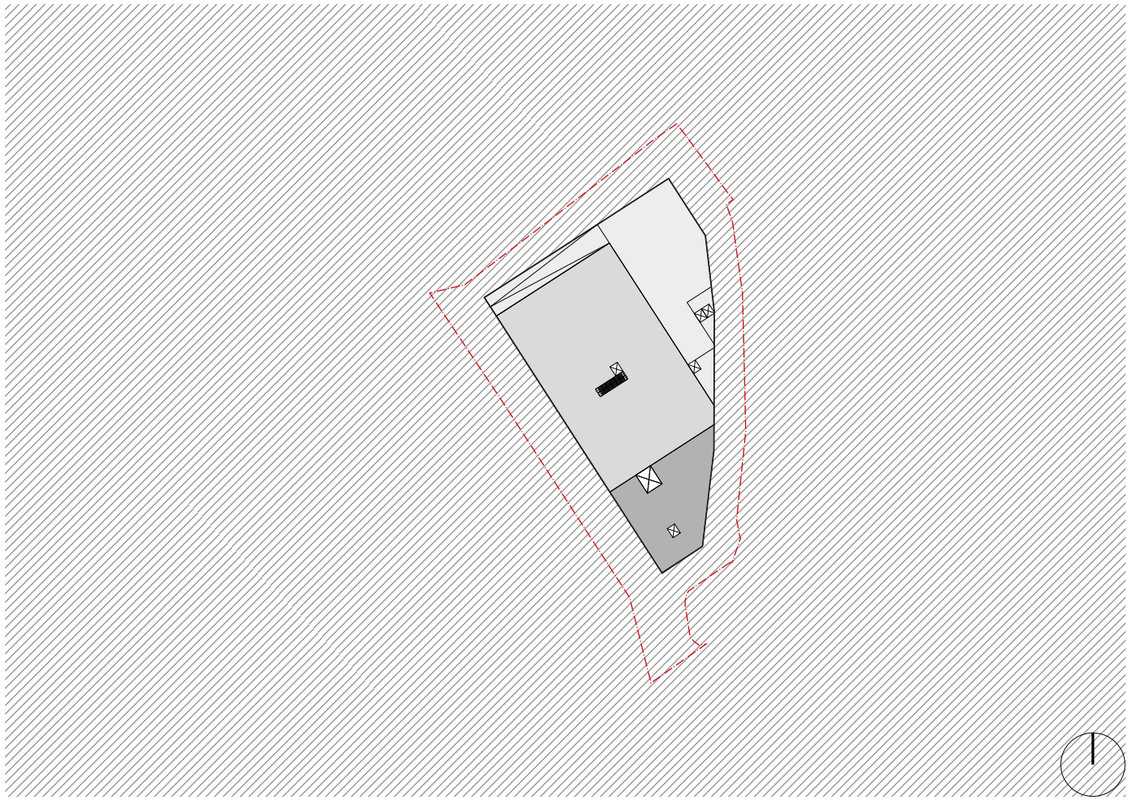
Parking 1
- Total area of 6,000m² per floor plate
- Approximately 171 parking spaces per level
- 140 dedicated commuter spaces with controlled access
- 113 council owned parking spaces

Parking 2
- Total area of 1,165m² per floor plate
- Approximately 35 parking spaces per level
- Dedicated parking for residents

Open Space
- Total area of 3,000m²

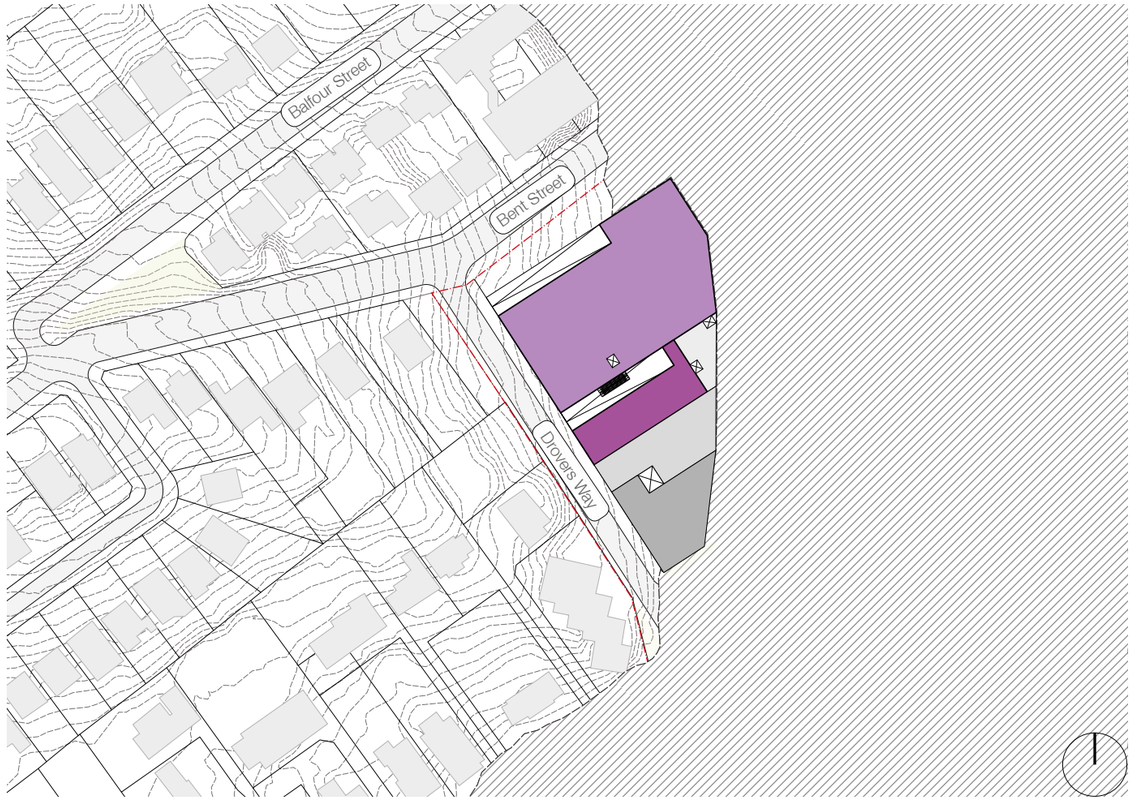
Supermarket
- GBA of 3,580m²
- GFA of 2,658m²

5.1.3 Mix of Uses



Basement Plan

This level consists of:
- Retail parking
- Residential parking
- Retail servicing zone



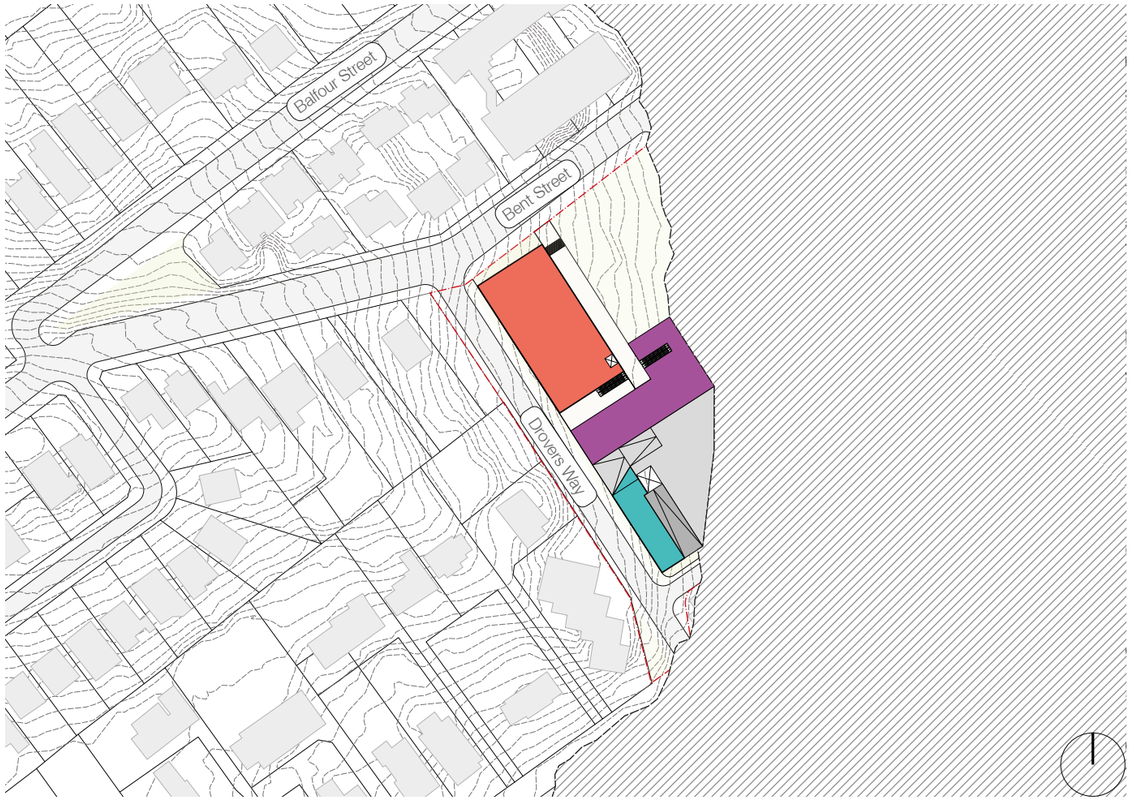
Supermarket Plan

This level consists of:
- Supermarket
- Specialty retail
- Retail service access
- Retail parking
- Residential parking

Key

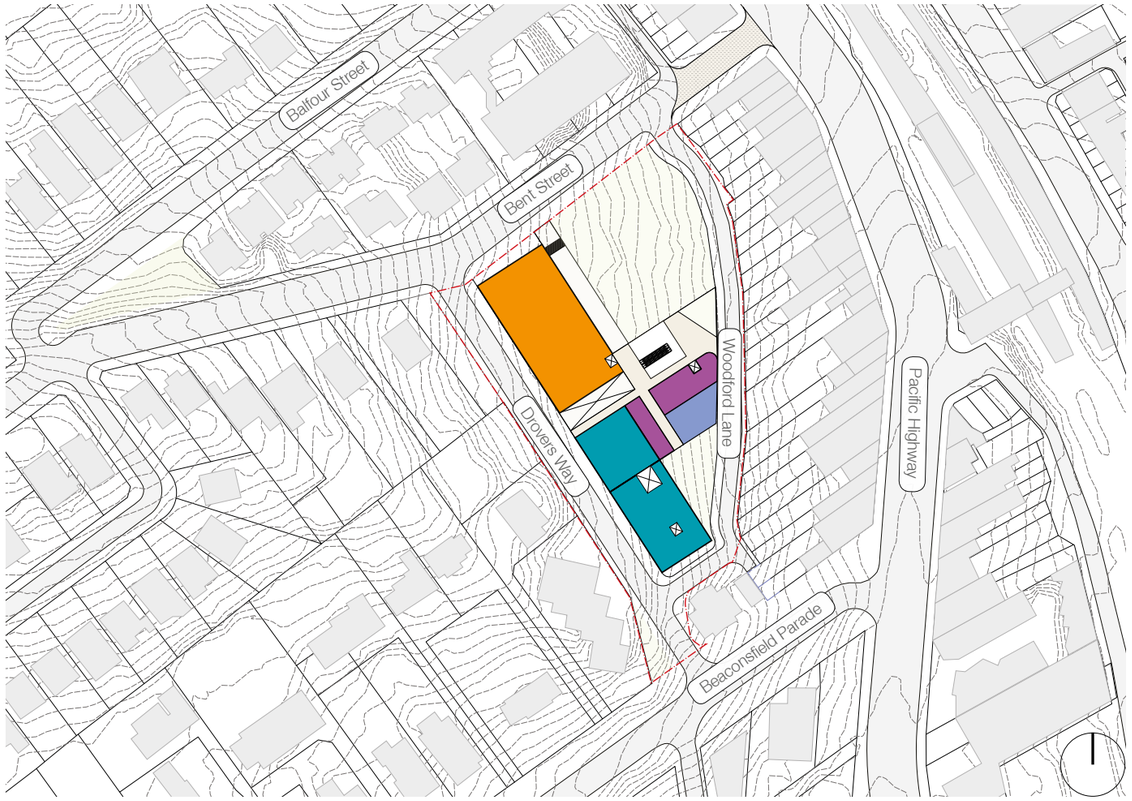
Boundary
Community facility
Library
Residential
Retail
Open space
Commercial
Childcare
Supermarket
Residential parking
Public parking
Services

5.1.4 Mix of Uses



Ground Plan

This level consists of:
- Library
- Open space
- Specialty retail
- Commercial
- Retail parking access
- Residential parking access



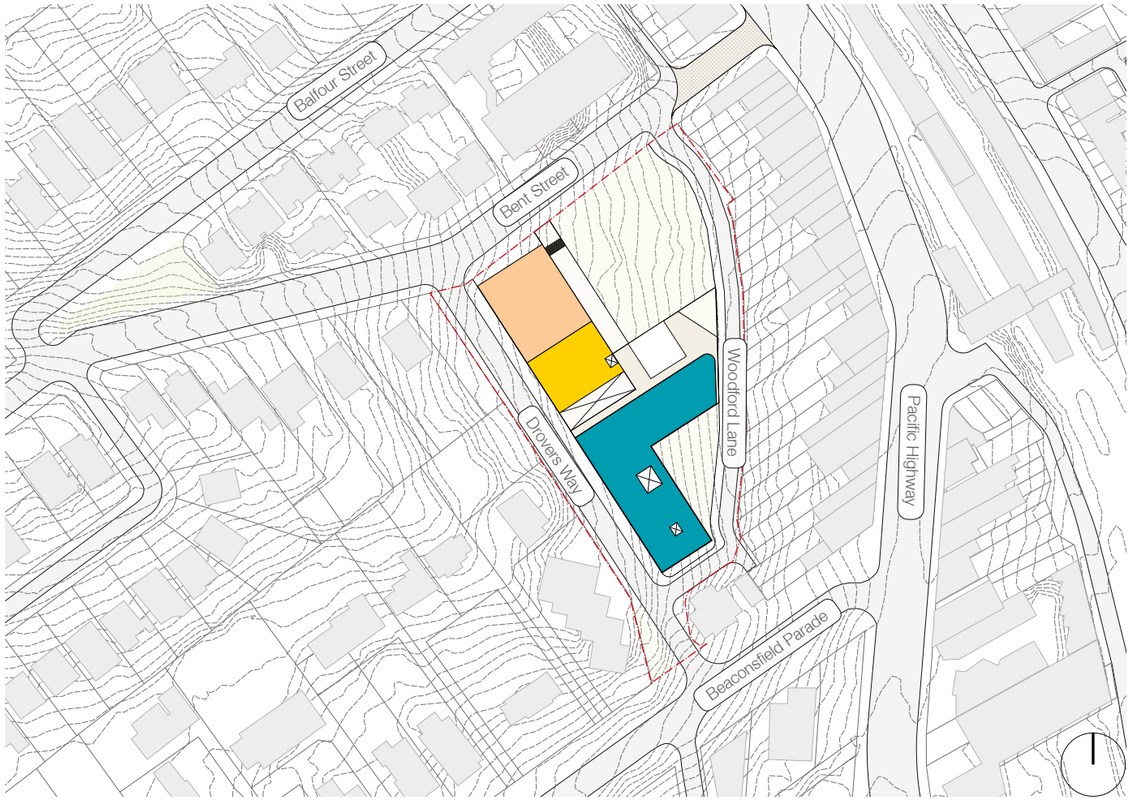
Plaza Plan

This level consists of:
- Community facility
- Civic plaza
- Specialty retail
- Outdoor dining
- Residential
- Secondary open space

Key

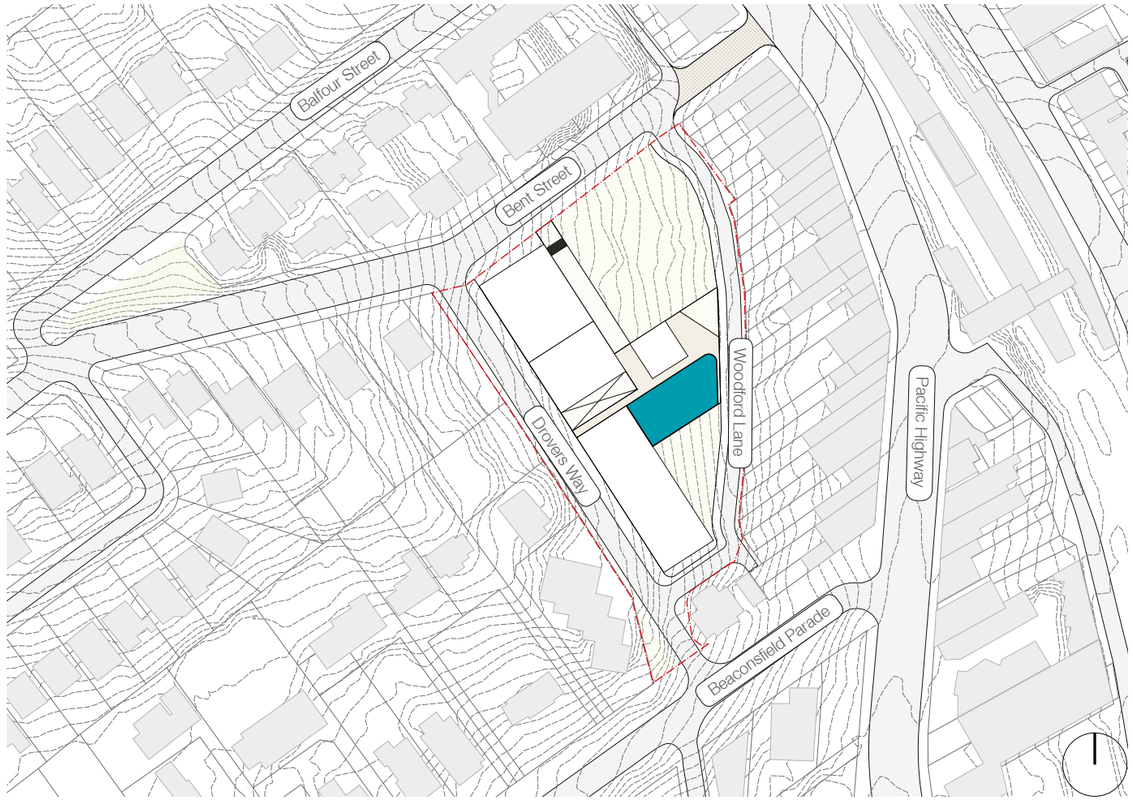
Boundary
Community facility
Library
Residential
Retail
Open space
Commercial
Childcare

5.1.5 Mix of Uses



Typical Plan

This level consists of:
- Childcare
- Residential
- Roof terrace



Top Floor Plan

This level consists of:
- Residential

Key

- Boundary
- Community facility
- Library
- Residential
- Retail
- Open space
- Commercial
- Childcare

5.1.6 Axonometric

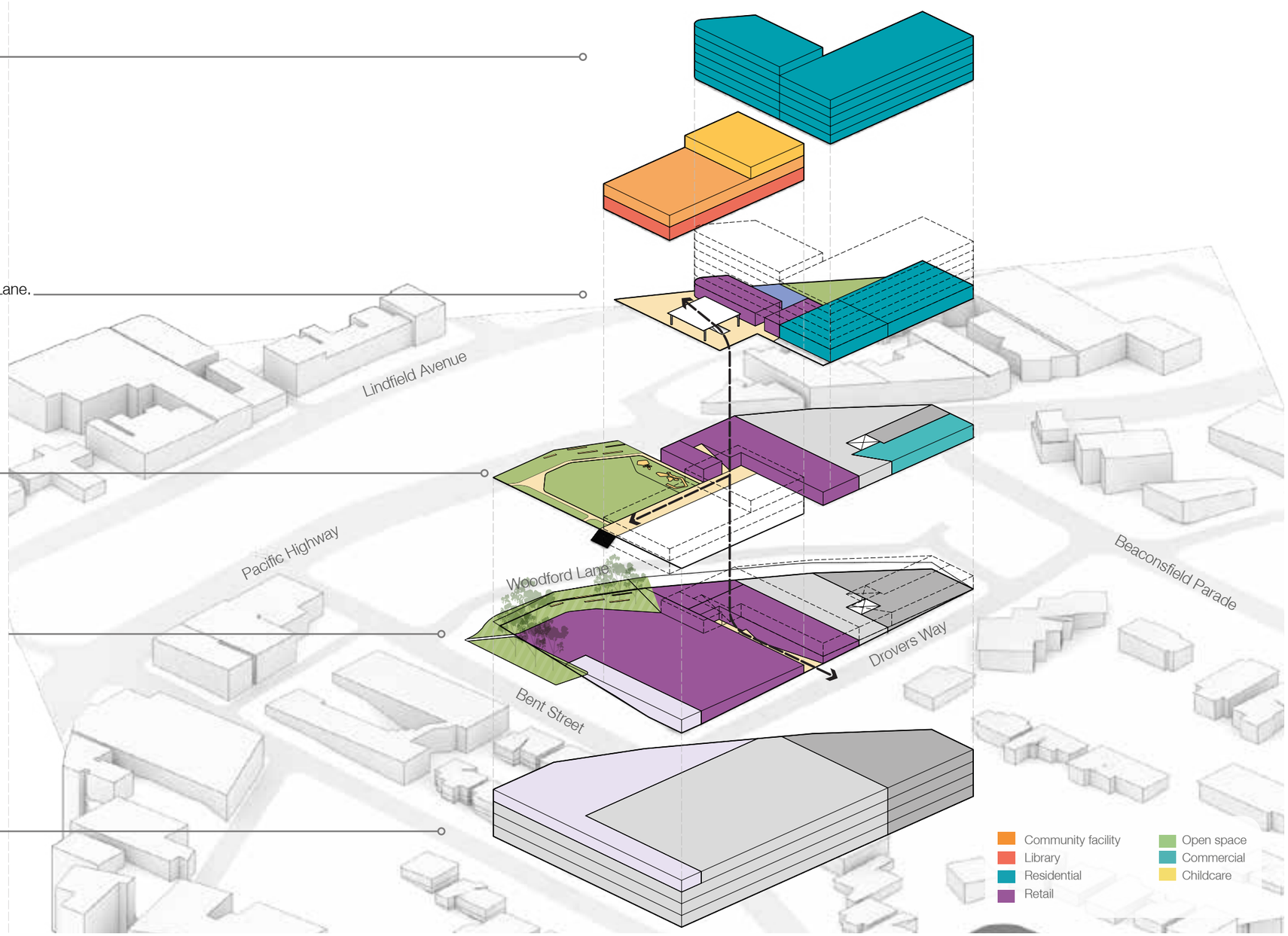
Above - Library, Community Centre, Childcare (& Residential)

Plaza Level - Retail and Commercial with access off Woodford Lane.
Residential foyer also accessed off Woodford Lane.

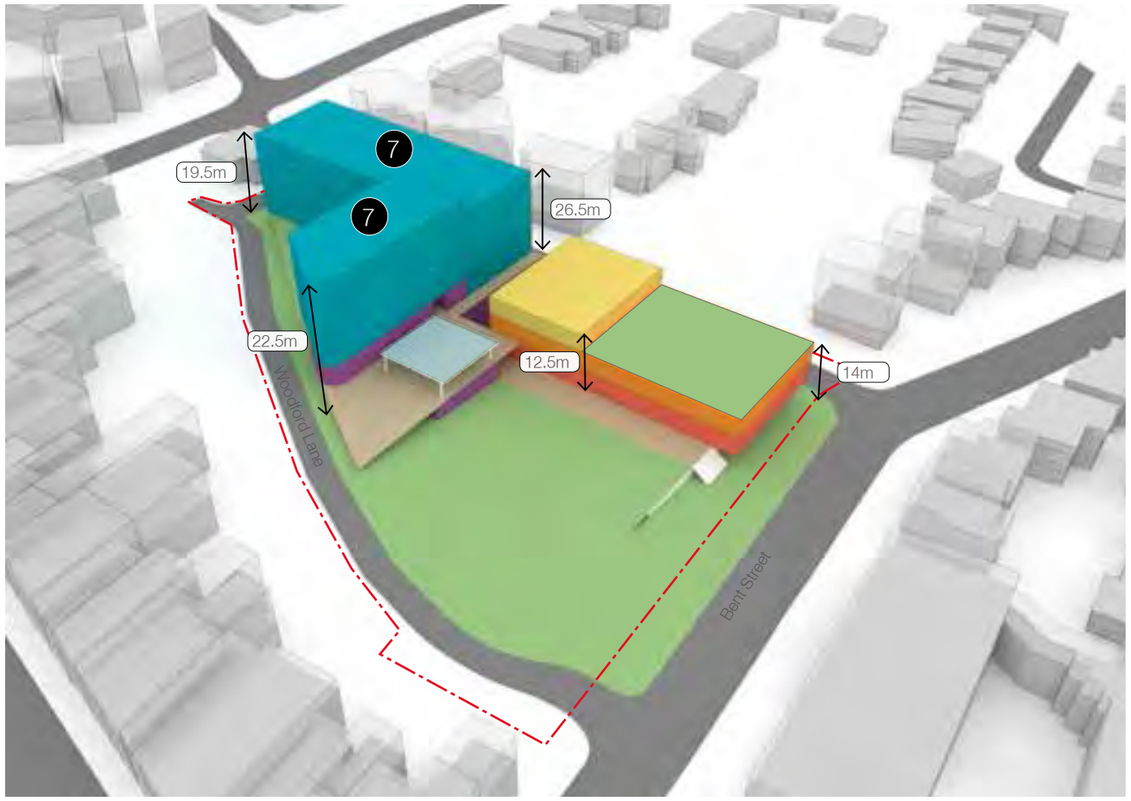
Park Level - Retail, Commercial and Community Facilities accessed off Bent Street

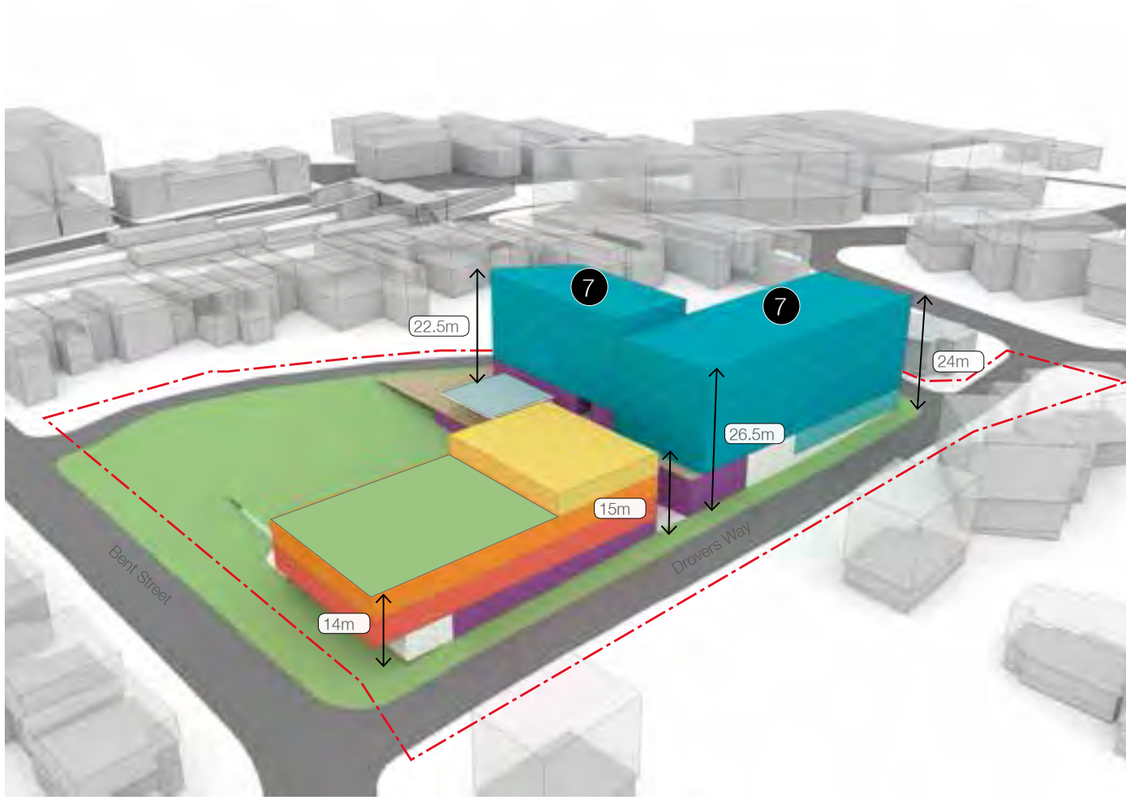
Supermarket Level - Retail accessed by pedestrians off Drovers Way via ramp. Supermarket services accessed off the corner of Bent Street and Drovers Way.

Basement - Servicing, Retail and Residential Parking accessed off Drovers Way



5.1.7 Building Heights





1,265 m² library
1,200 m² community
533 m² Childcare
95 dwellings
3,238 m² open space
969 m² roof garden
776 m² civic plaza
3,000 m² supermarket
1,951 m² specialty retail
325 m² commercial
598 parking spaces
1.26:1 FSR
161 m² public domain
244 m² pavillion

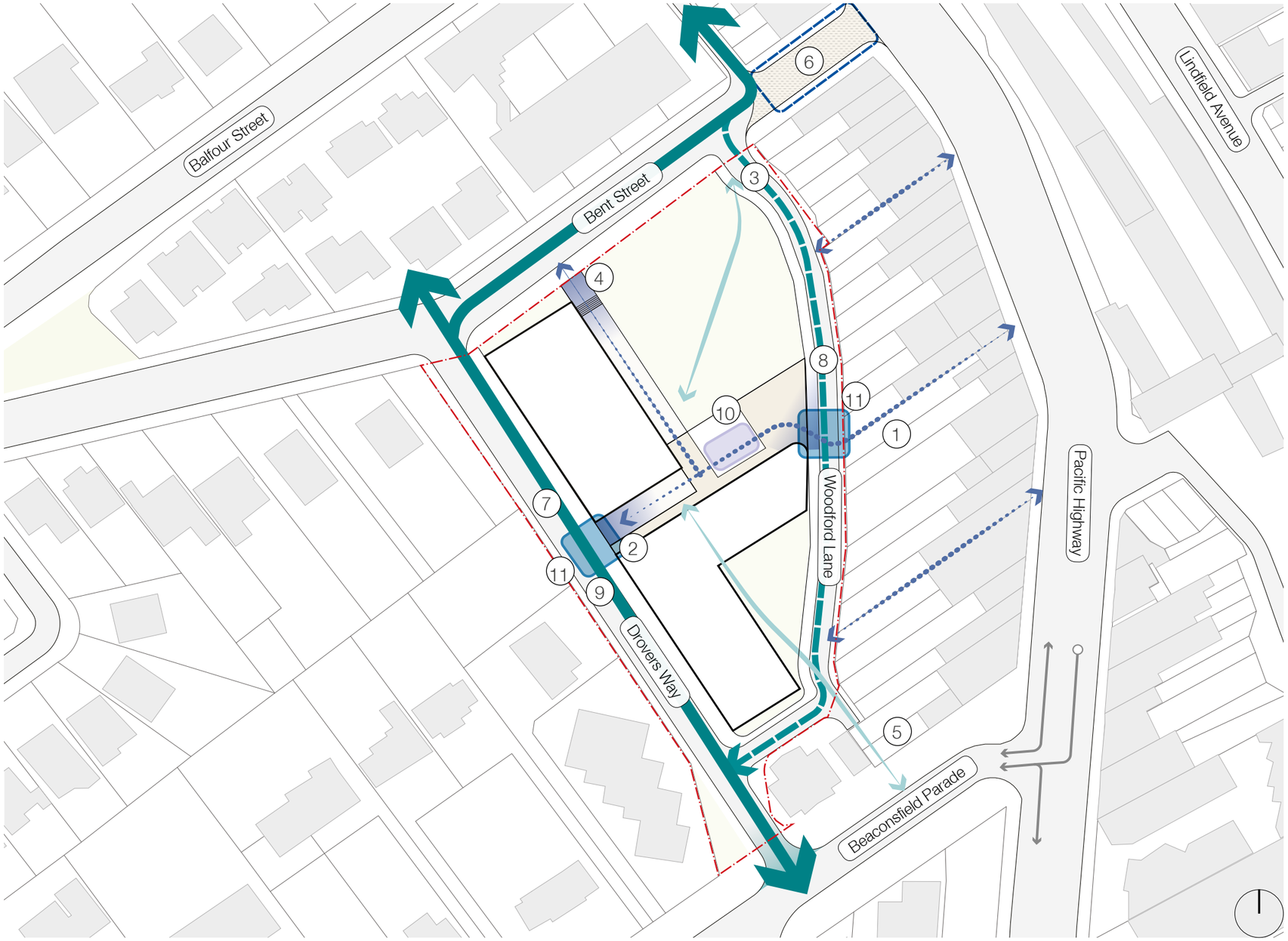
Boundary
Community facility
Library
Residential
Retail
Open space
Commercial
Childcare

5.2 Option Study

5.2.1 Movement

Movement within the site has been categorised into either pedestrian or vehicular. The following are key movements which have been identified:

1. Pedestrian thoroughfare connection from Pacific Highway into the Plaza
2. Pedestrian access from Drovers Way into Supermarket level (Basement 01)
3. Secondary pedestrian access off pedestrianised section of Bent Street
4. Primary pedestrian access into the site off Bent Street
5. Secondary pedestrian access off Beaconsfield Parade
6. Upper portion of Bent Street closed to pedestrians only
7. Two way vehicular movement on Drovers Way
8. One way vehicular movement on Woodford Lane
9. Primary vehicle access off Balfour Street into Bent Lane and into Drovers Way. Secondary access into Woodford Lane.
10. Vertical circulation linking the Civic Plaza all the way down to basement parking
11. Pick up drop off zones on Drovers Way and Woodford Lane



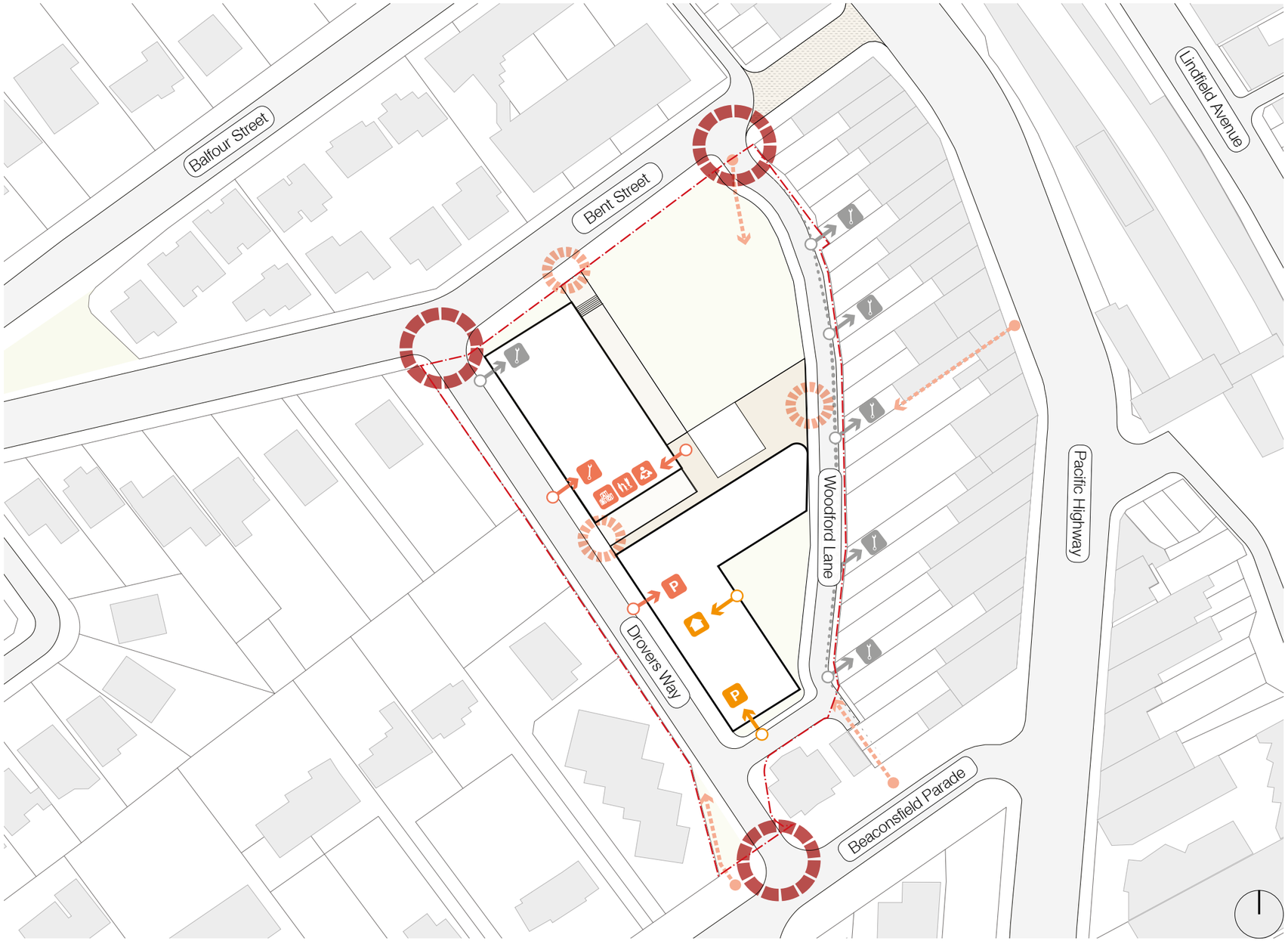
Key

- Secondary vehicle movement
- Primary pedestrian movement
- Secondary pedestrian movement
- Primary vehicular movement
- Vehicular movement external
- Vertical circulation
- Pick up/drop off zone

5.2.2 Access and Servicing

The following are key access and servicing points which have been identified:

- There are three primary vehicular access points into the site located on the intersection of Bent Street and Drovers Way, Bent Street and Woodford Lane and Beaconsfield Parade and Drovers Way.
- Three primary pedestrian access points are proposed and are located on Bent Street into the open space, Drovers Way into the supermarket level and Woodford Lane into the Plaza.
- Secondary pedestrian movements are access through the landscaped areas on the western end of Bent Street, western end of Beaconsfield Parade, pedestrian thoroughfare off the Pacific Highway and potential path off Beaconsfield Parade between the retail lots and the substation.
- The library, community hub and childcare are accessible from both ground and plaza levels.
- The residential foyer is off Woodford Lane and fronts onto the secondary open space.
- Commuter, retail and council parking are accessed off Drovers Way and residential parking is accessed off Woodford Lane.
- Servicing to the retail units fronting Pacific Highway will still be serviced off Drovers Way. Services to the supermarket and retail units within the site are accessed off Drovers Way.



Key

- Access point
- Pedestrian access point
- Secondary pedestrian point
- Community hub access
- Residential access
- Servicing access
- Library
- Community centre
- Childcare
- Public parking
- Hub services
- Residential
- Residential parking
- Servicing

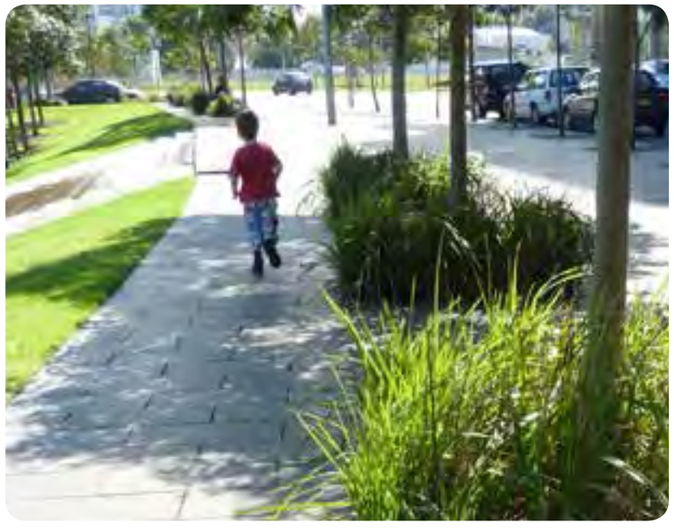
5.2.3 Woodford Lane (Typical)

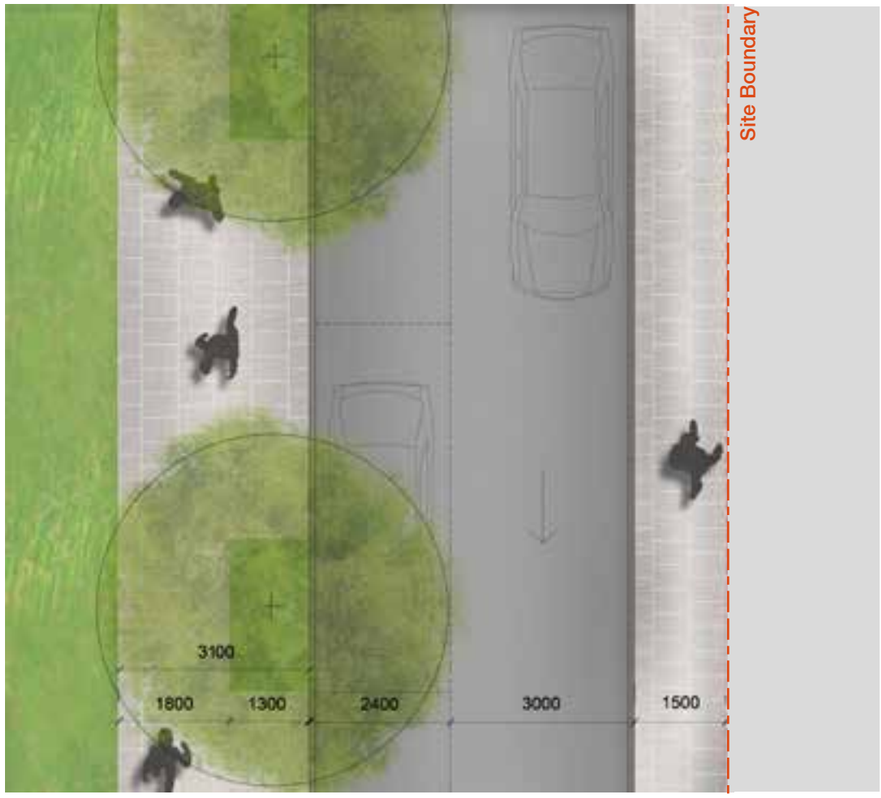
Total 10m wide one way street including;

- 3m one way traffic lane running south
- 2.4m parking zone
- 1.5m wide footpath to eastern edge
- 1.8m wide clear footpath area to west, with additional 1.3m for tree planting at 6m cts
- Parking bays located to allow existing access to back of Pacific Highway Retail

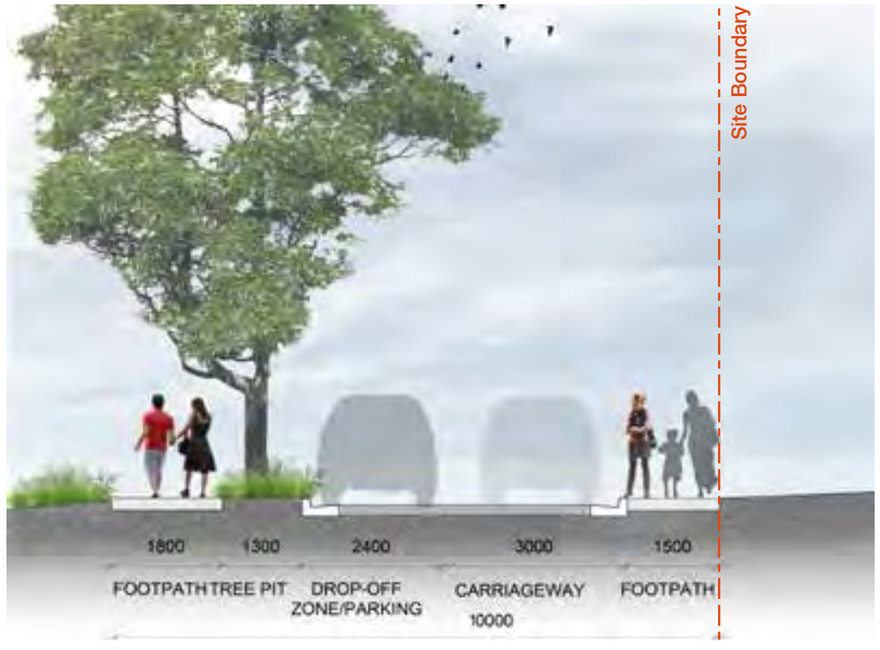
KEY DIAGRAM







Typical Plan 1:100@A3



Typical Section looking north 1:100@A3

5.2.4 Woodford Lane (South Side)

Total 8.7m wide two way street including:

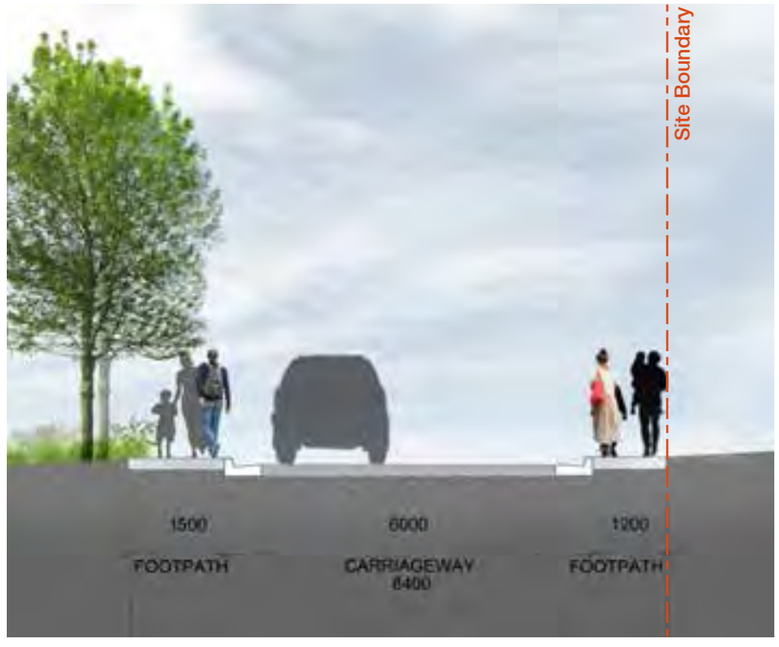
- 6m two way carriageway
- 1.5m wide footpath to north edge
- 1.2m wide footpath to south edge
- Street tree planting

KEY DIAGRAM





Typical Plan 1:100@A3



Typical Section looking east 1:100@A3

5.2.5 Drovers Way

Total 15m wide two way street including;

- 5.7m two way carriageway
- 2.3m parking zone/ tree planting in both sides of carriageway
- 2.35m wide footpaths both sides of street
- Street trees at 12m cts

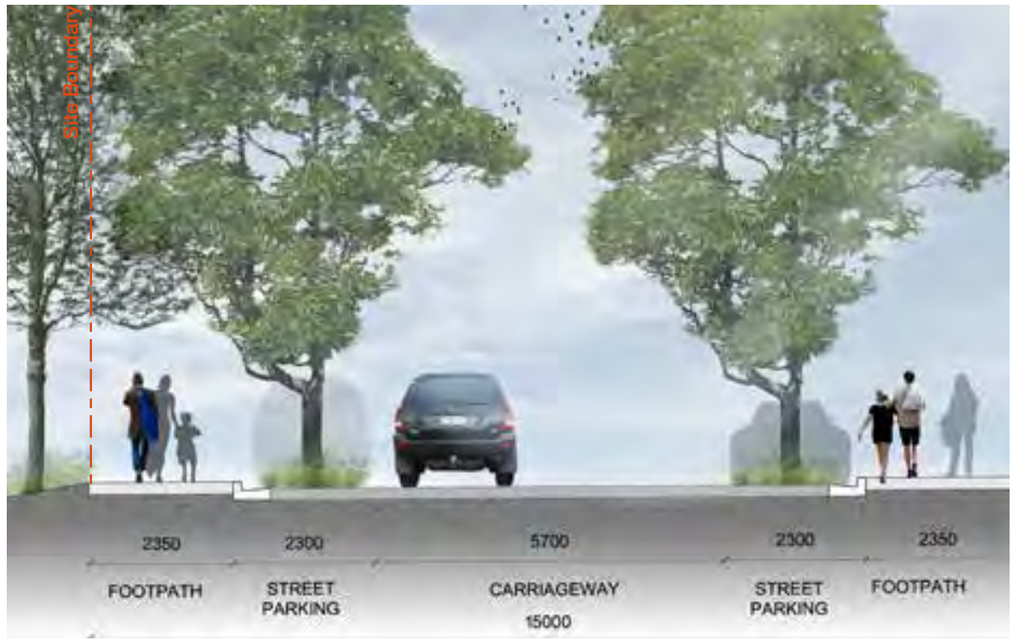
KEY DIAGRAM







Typical Plan 1:100@A3



5.2.6 Bent Street

Existing street with upgrades including;

- New 3.5m wide footpath
- Street trees at 6m cts in mass planted verge
- Underground power
- 2m wide concrete footpath to north side

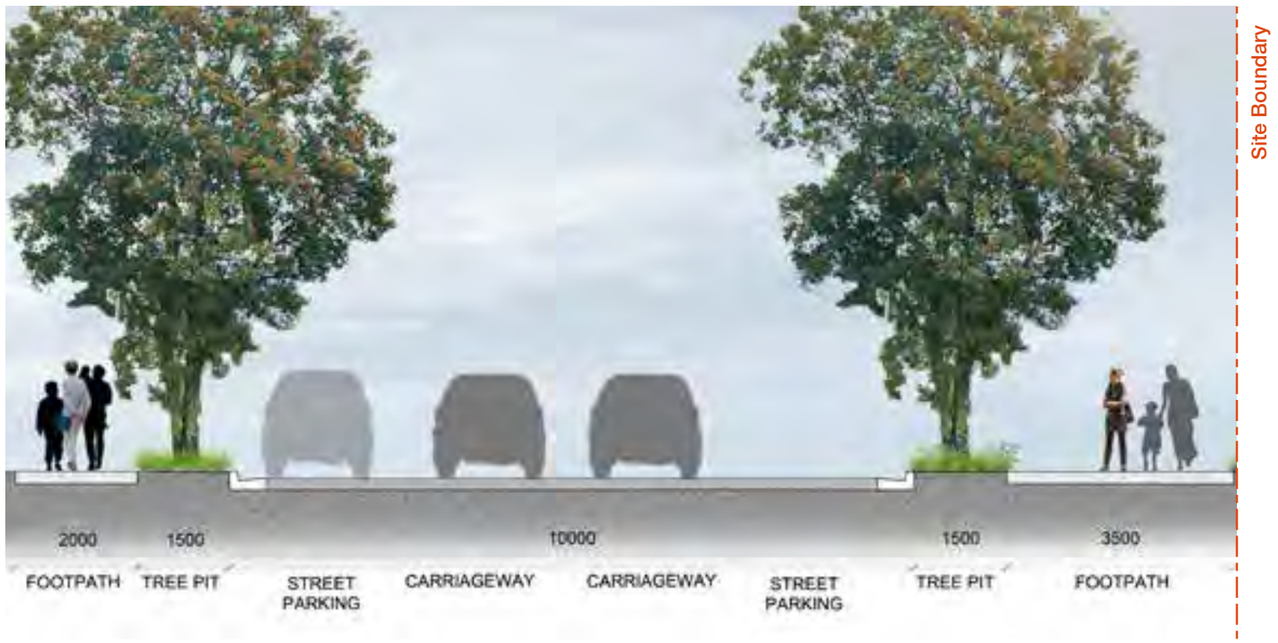
KEY DIAGRAM





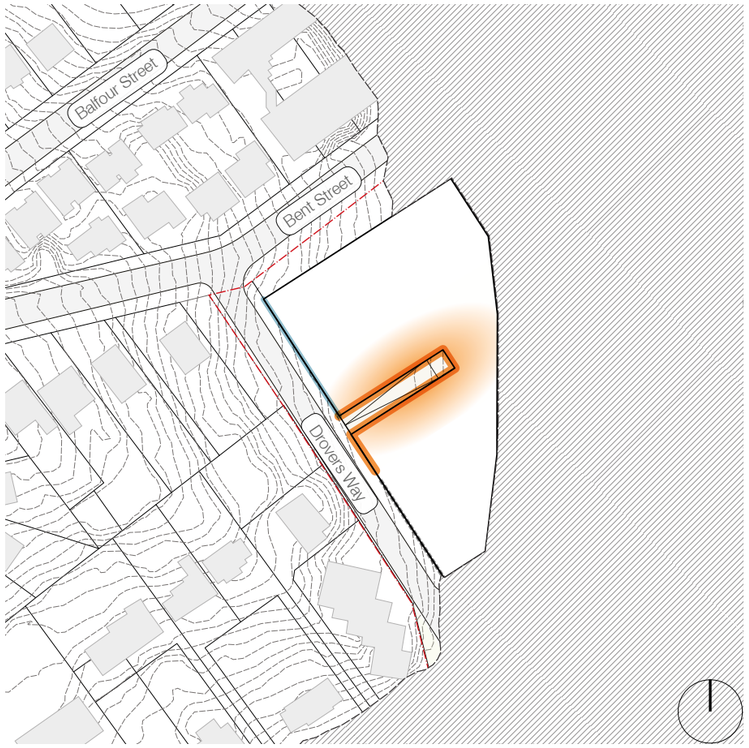


Typical Plan 1:100@A3



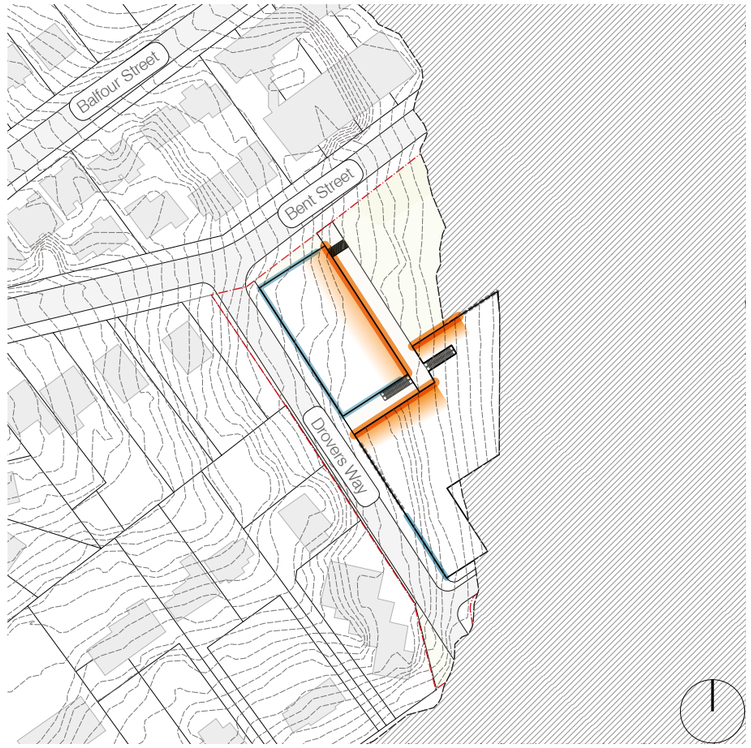
Typical Section looking east 1:100@A3

5.2.7 Frontages



Supermarket Level

- Active frontage along the retail arcade with entrances into both supermarket and specialty retail
- Passive frontage along northern end of Drovers Way by the supermarket
- Dead frontage along southern end of Drovers Way with only retail parking access



Ground Level

- Active frontage provided by library and associated cafe along pedestrian walkway.
- Active frontage to the retail arcade and open space provided by specialty retail and cafés.
- Passive frontages along Drovers Way provided by the library on the northern end of the street and by commercial on the southern end of the street.



Plaza level

- Active frontage provided by community facility fronting the civic plaza and open space.
- Active frontage to the civic plaza and through site link to the secondary open space provided by retail and eateries.
- Passive frontages along Drovers Way provided by the community facility on the northern end of the street and residential on the southern end of the street.

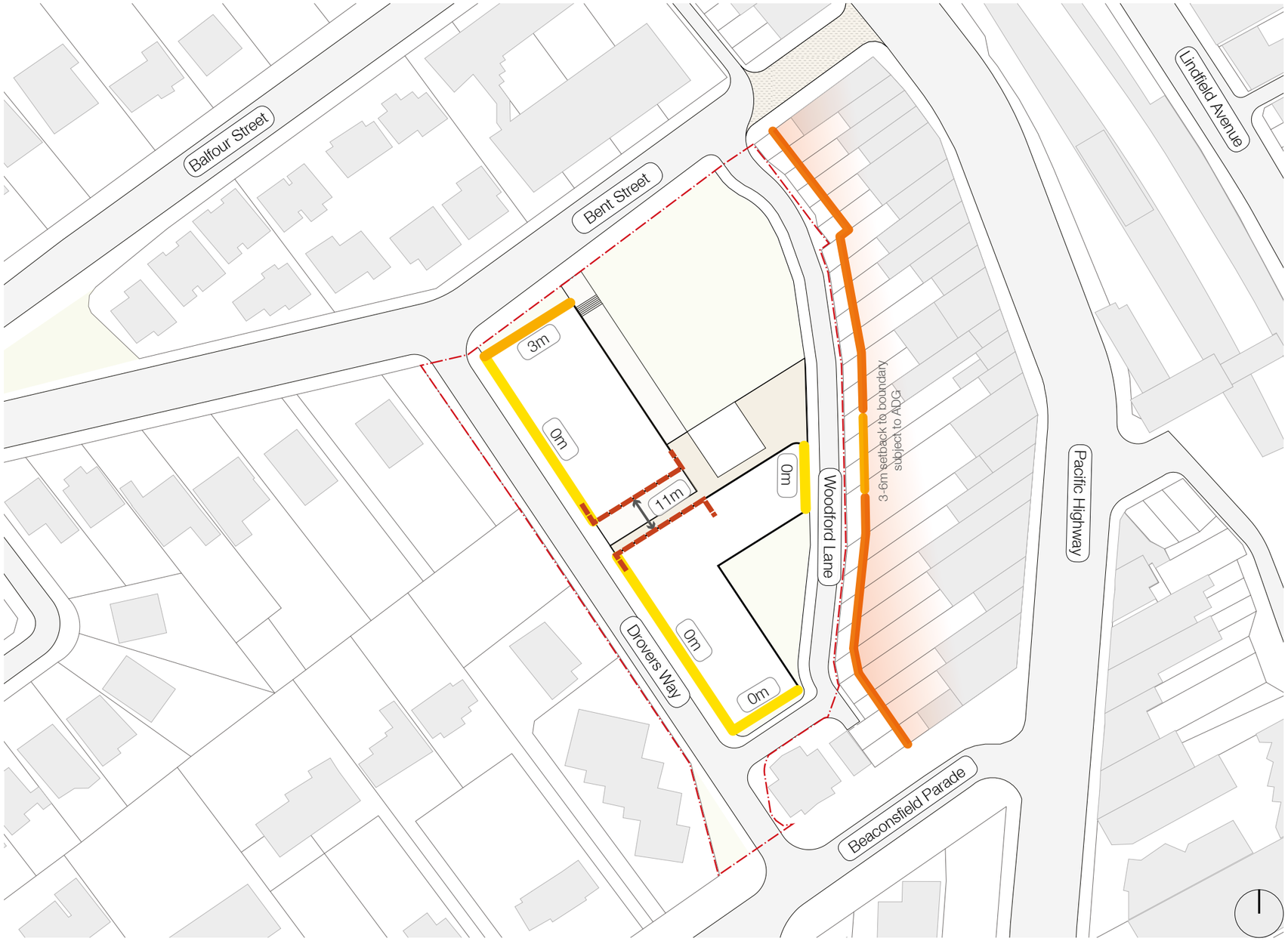
Key

- Active frontages
- Passive frontages
- Dead frontages

5.2.8 Setbacks and Separation

The following are setbacks and separation which have been established for the site:

- A zero metre setback along Drovers Way to the street
- A zero metre setback along Woodford Lane to the street
- A three metre setback to from the boundary along Bent Street to the built form
- A three to six metre desired setback to from the boundary to the potential development associated with the re-orientation of properties along Pacific Highway
- Eleven metre building separation between community facility and residential block



Key

- Street to building setback
- Built form separation
- Woodford Lane setback

5.2.9 Open Space and Landscape Characteristics

The Lindfield Hub Masterplan includes various typologies of open space and landscaping in order to maintains the character of Lindfield and consists of the following:

- A large 3000m^2 open space to the north-eastern corner with opportunities for deep soil planting along the northern and eastern edges. This is bordered by a natural earth mound along Woodford Lane following the topography of the site.
- A secondary 900m^2 open space is located to the south of the site and provides a transitional space between the residential lobby and Woodford Lane.
- A large civic plaza in the heart of the site is accessed off Woodford Lane and is where the primary vertical circulation for the site is located. The plaza also provides access to the community hub, library and childcare.

The north-eastern portion of Bent Street will be a pedestrianised zone which is closed to vehicular traffic. This will become an additional access point into the site from the Pacific Highway.



Key

- Open space
- Deep soil planting
- Hard surface plaza
- Hard surface path
- Pedestrianised zone
- Street frontage

5.3 Response to DCP

5.3.1 Desired Future Character

1. Public Realm

An open space with a retail and community facility edge providing passive surveillance activation. There is an opportunity for the provision of children's play and amphitheatre style public seating.

2. Retail Arcade and Civic Plaza

A retail precinct open to the sky arranged around the vertical circulation linking the basement levels to the civic plaza. Included is a supermarket and a mix of specialty retail.

3. Residential

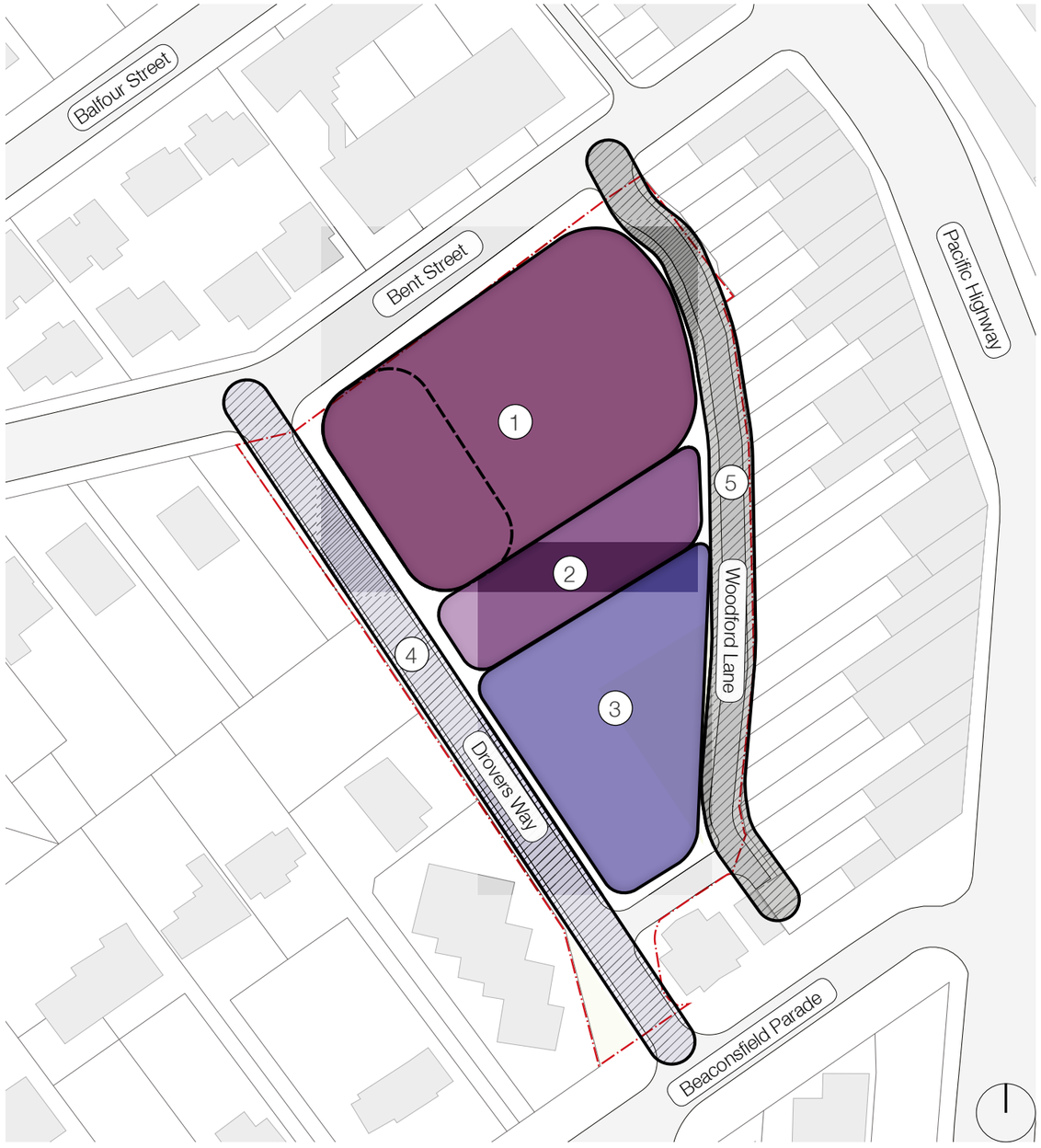
7 storey residential block with a mix of 3, 2 and 1 bedroom units. There is an opportunity to provide a secondary public open space to create a transition zone between the street and residential lobby.

4. Drovers Way

Tree lined street with on street parking, landscaped areas and access into the retail arcade. Retail parking and servicing is also accessed off this street.

5. Woodford Lane

Tree lined street with footpaths, a pick up/drop off zone and a potential shared zone. There is an opportunity to create an active lane with the orientation of the retail units along Pacific Highway to open out onto the civic plaza.









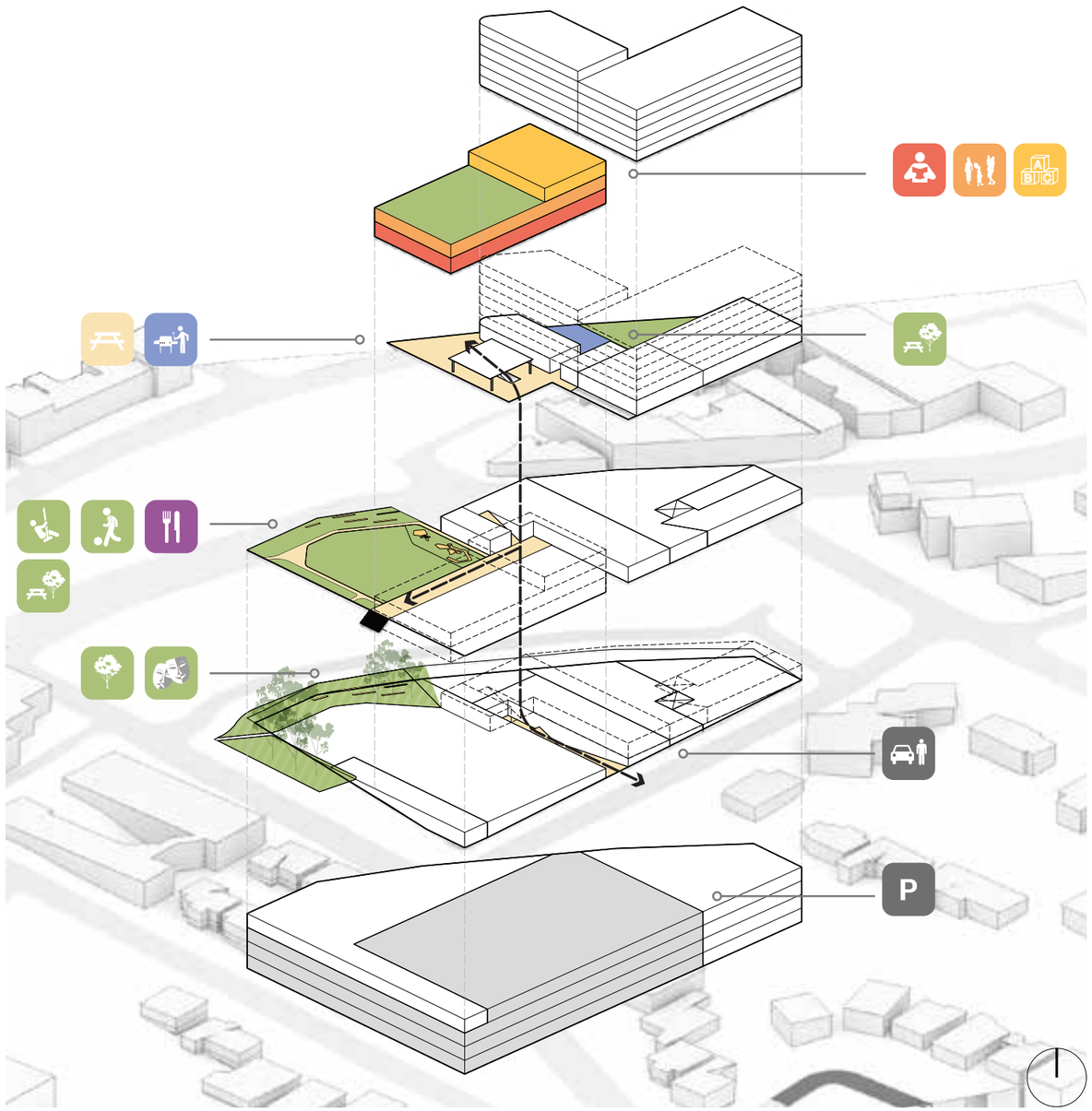




5.3.2 Community Hub

Key

- Library
- Community centre
- Childcare
- Plaza public seating
- Garden seating
- Play space
- Deep soil planting
- Amphitheatre seating
- Flexible open space
- Outdoor dining
- Library cafe
- Pick up drop off zone
- Commuter parking





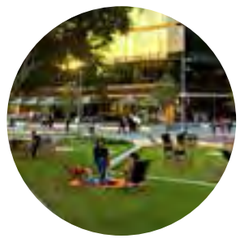
Outdoor seating



Outdoor dining



Children's play



Active open space



Deep soil planting



Amphitheatre seating



Library



Community hub



Childcare



Outdoor dining



Outdoor seating



Drop off zone

5.3.3 Development Control Plan

Objectives:
- To provide a vibrant community hub for Lindfield with a mix of retail, residential, commercial and community facilities
- To provide a large flexible open space for the community
- To improve vehicular movement through the site
- To provide 140 commuter parking spaces, replace existing council parking and additional parking associated with land uses within the master plan.

Controls:
1. A new two way street providing a link from Bent Street to Beaconsfield Parade (realigned Drovers Way)
2. Retail servicing as well as commuter, council and retail parking accessed off Drovers Way and Woodford Lane
3. Create an active frontage to public open spaces to encourage activity and provide passive surveillance
4. Create a street presence on Bent Street as a marker for the site
5. Allow for a minimum of 11 metre separation between community hub and residential block in accordance to the Apartment Design Guide
6. 0 (zero) metre setback is permitted along Drovers Way
7. 3 metre landscaped setback must be provided between the built form and the boundary along Bent Street
8. Provide a through-site link from Woodford Lane to Drovers Way
9. Create an opportunity for an active frontage along Woodford Lane

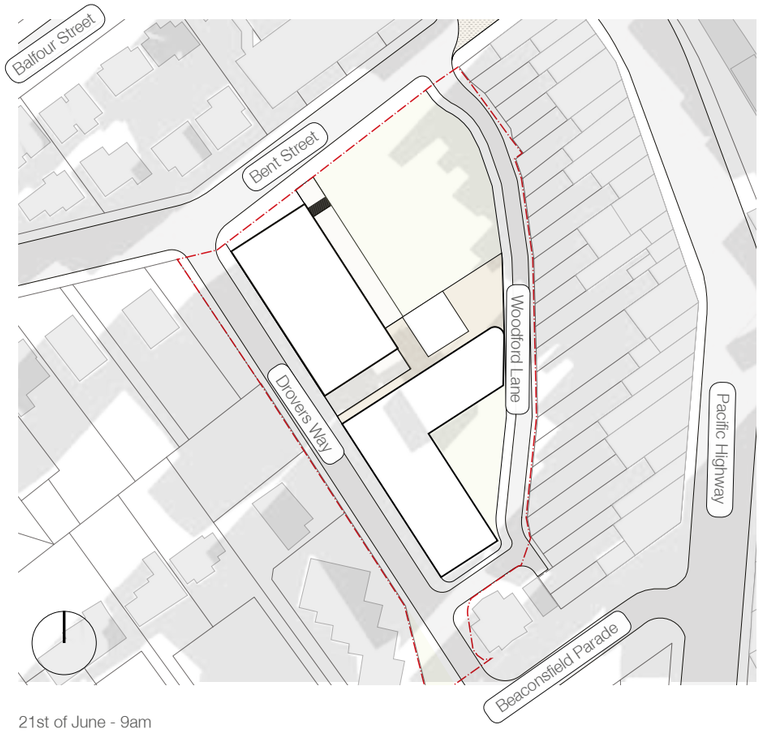
Additional Considerations:
- Residential development is to be focused on the western edge of the site to allow for the provision of open space and avoid overshadowing
- A large open space with deep soil planting must be provided, ideally on the north eastern corner of the site fronting Bent Street and Woodford Lane
- Existing council parking is to be relocated underground
- All car parking is to be provided underground
- All parking and service access to be provided from Drovers Way



Key
- Open space
- Landscaping and deep soil planting
- Civic plaza
- Retail arcade
- Active frontage
- Street presence
- 3m setback
- 0m setback
- 11m separation
- Parking and servicing access
- Primary vehicular road

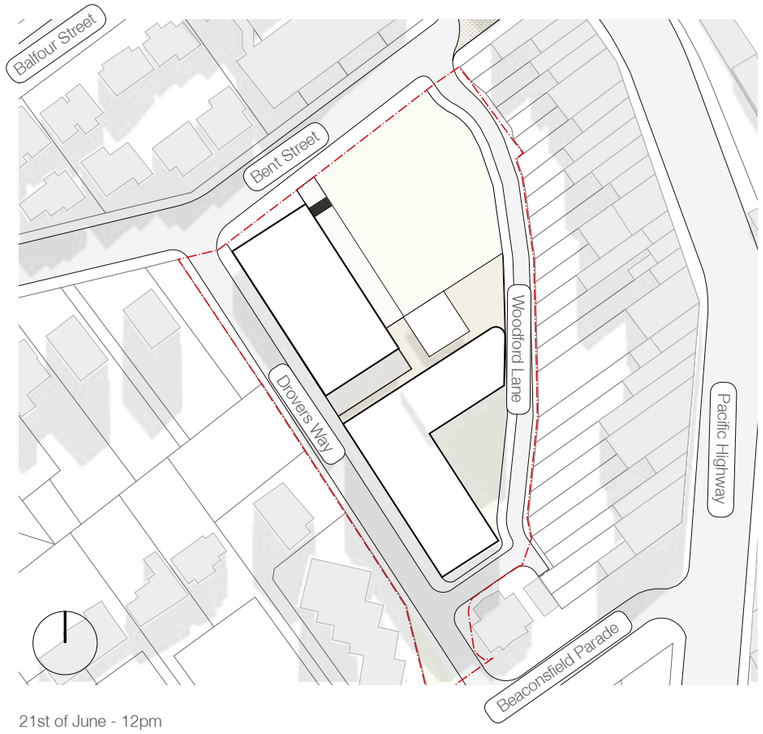
5.4 Option Analysis

5.4.1 Shadow Analysis



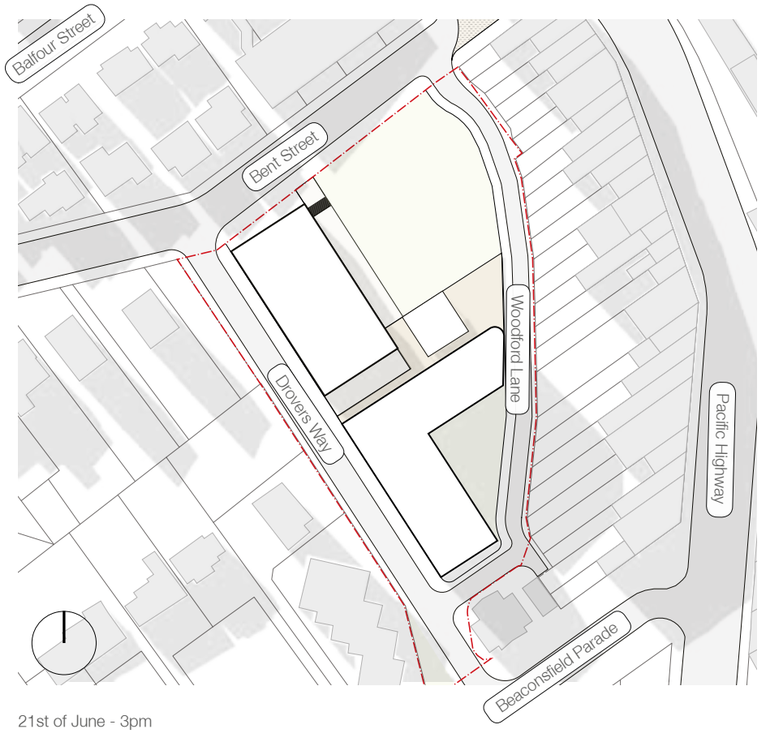
21st of June - 9am

Both the primary and secondary open spaces receive morning sun with minimal overshadowing from the new development. There is an opportunity for the community facility, library and childcare to be naturally lit on the eastern side through the morning sun. The residential plots directly to the west of the site is overshadowed.



21st of June - 12pm

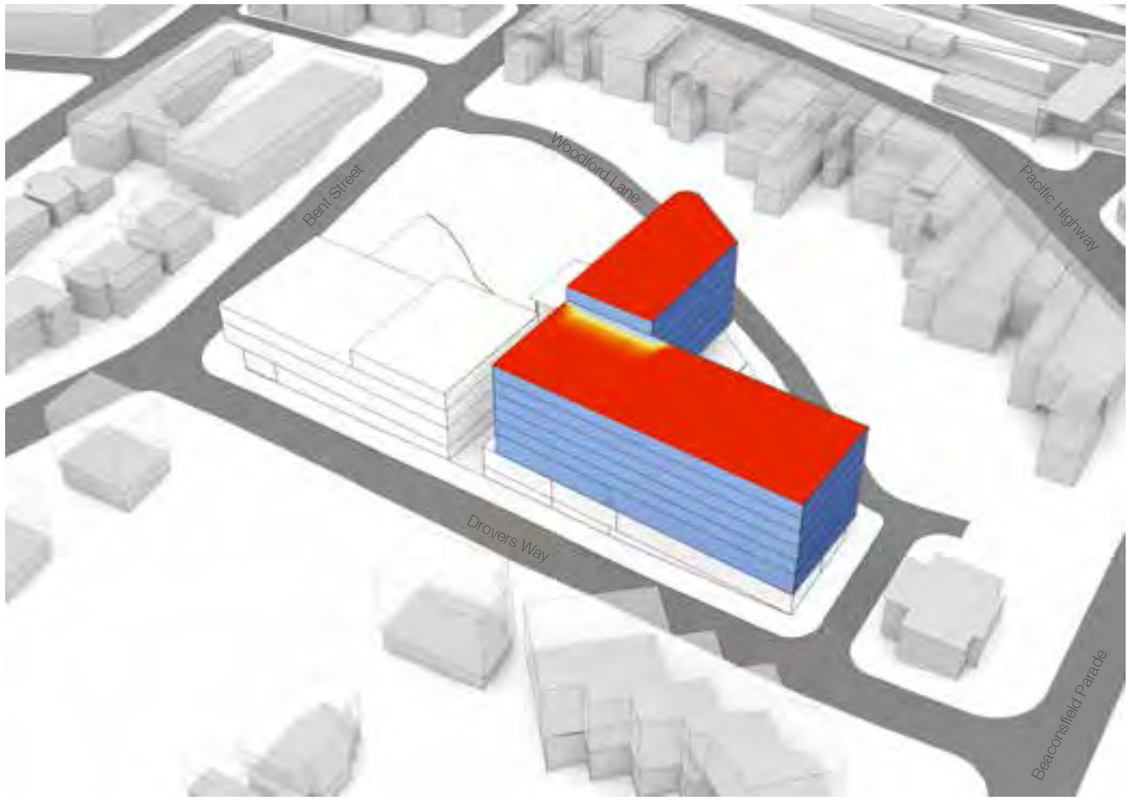
The large open space and area of landscaping fronting Bent Street receives afternoon sun with no impact of overshadowing from existing or proposed development. The residential plots directly to the west of the site is unaffected.



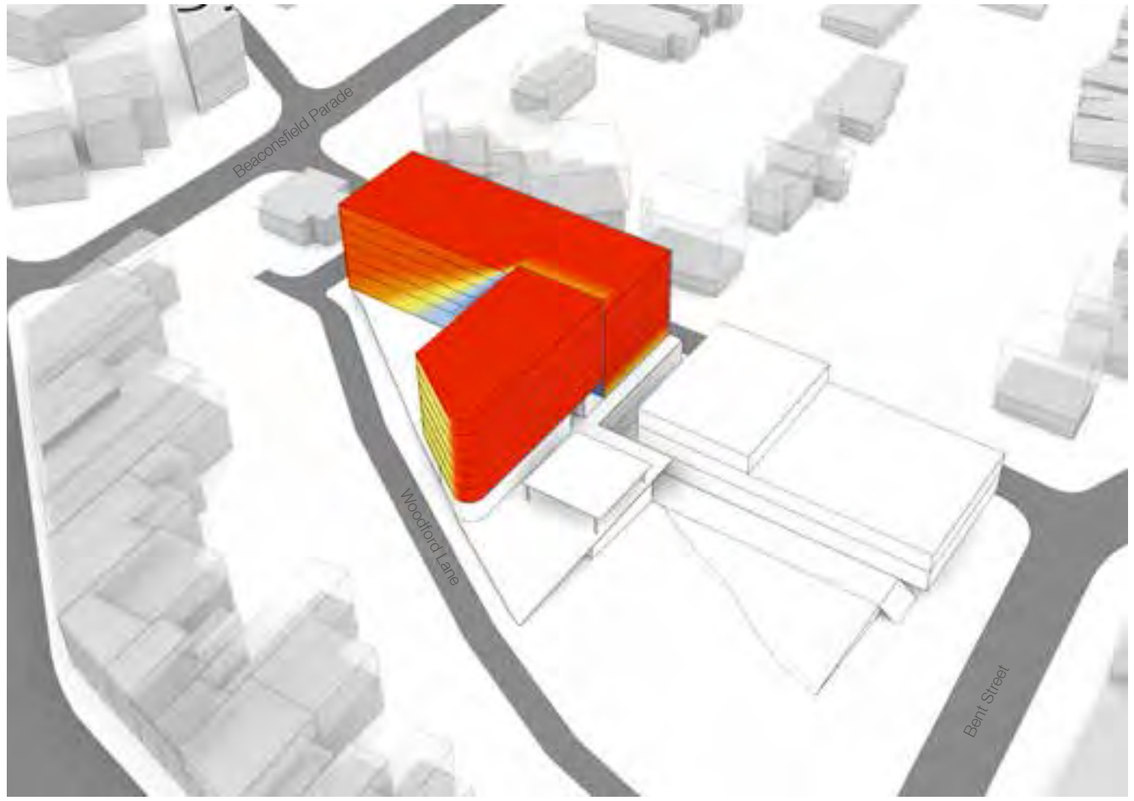
21st of June - 3pm

The large open space and area of landscaping fronting Bent Street receives afternoon sun with no impact of overshadowing from existing or proposed development. The northern end of Drovers Way also receives afternoon sun providing opportunities for natural lighting into the community facility, library and childcare. The residential plots directly to the west of the site is unaffected.

5.4.2 Solar Access Analysis



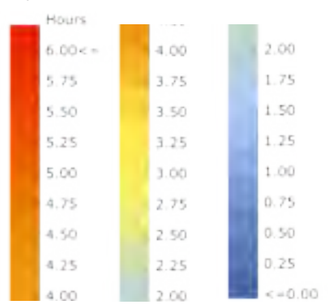
Solar Analysis - View 01



Solar Analysis - View 02

The diagrams above show the extent of solar access the residential envelopes will achieve during mid-winter, 21st June, between 9am and 3pm.

Key



5.4.3 Views Analysis



Existing view from Bent Street (north)



Existing view from Bent Street (south)



Existing view from Beaconsfield Parade



Proposed view from Bent Street (north)



Proposed view from Bent Street (south)



Proposed view from Beaconsfield Parade

The community facility with its frontage to Bent Street gives the development a street presence. This is enhanced by an active open space on the corner of Bent Street and Woodford Lane and creates a welcoming entrance into the site.

Bent Street will become an active pedestrian street with a set of stairs leading into the community hub, open space, civic plaza and into the main vertical circulation. Bent Street will have a visual connection to the open space, supermarket, community facility and library.

The view from Beaconsfield Parade is predominantly of the seven storey residential block and of the length of Drovers Way. The pedestrian entrance into the retail arcade can be seen from this angle from Beaconsfield Parade.

5.5 Final Documentation

5.5.1 Illustrative Masterplan

Open Space design principles

1. Provide open spaces that provide for a range of uses, for different age groups, and cater for day and night use.
2. Provide open spaces that are accessible, comfortable and safe, and connected by clearly defined public pedestrian paths.
3. Maximise the provision for green open passive space on the site.
4. Provide public space with strong connections to the new community hub building.
5. Upgrade existing streets, and provide new streets, that are pedestrian and cycle focussed, with generous footpaths, public seating and tree canopy cover.

Extent of deep soil

= Approx. 2676 sqm (20 % of site area)



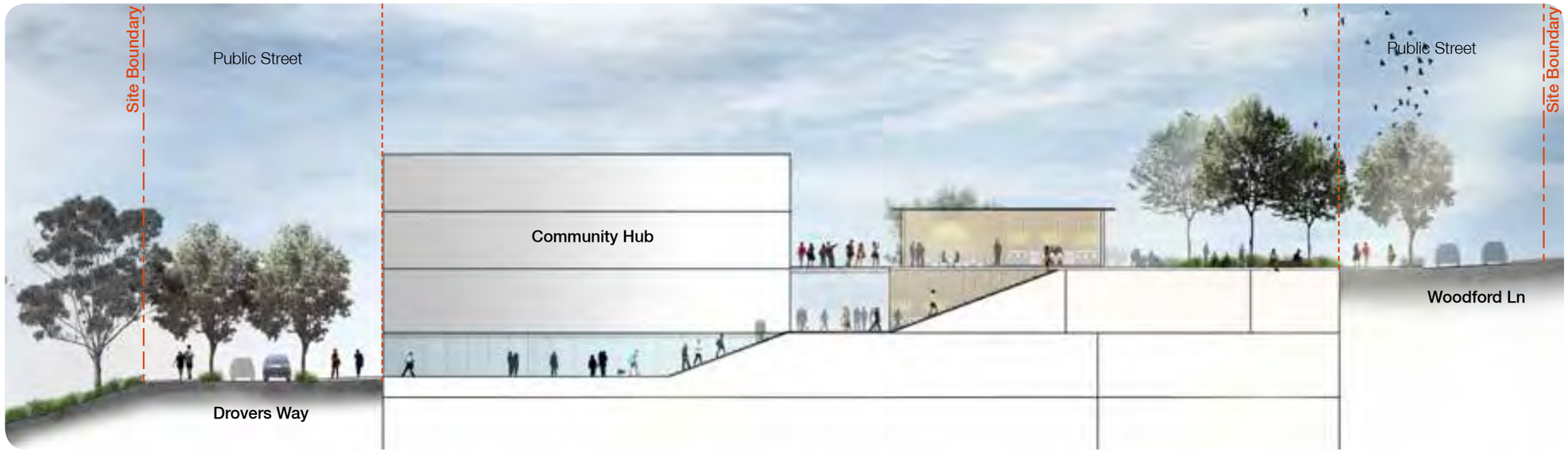


KEY

1. Community park (min. consolidated space of 3000m^2)
2. Civic plaza (min. 900m^2)
3. Public Garden (approx. 415m^2)
4. Street edge garden (approx. 160m^2)
   - Public garden space adjacent street edge corner within deep soil zone
5. Upgrades to existing streets and lanes
6. Realigned Drovers Way (new street)

Master Plan 1: 1000 @ A3

5.5.2 Sections



Section A-A (Drovers Way-Civic Plaza- Woodford Ln) 1: 500 @ A3



Section B-B (Bent St-Community Park- Civic Plaza) 1: 500 @ A3

5.5.3 Visualisation_Open Space



5.5.4 Visualisation_Woodford Lane



5.5.5 Development Statistics

Project.	Lindfield Community Hub
Job No.	5161
File No.	12.08
Rev No.	1
Approved.	JK
Date.	**29.02.16**

Area Summary Schedule

	Retail (NLA)						Residential (NSA)						Commercial (NLA)			Childcare (NLA)				Library (NLA)			Community (NLA)			Parking					Servicing		Public Realm			
	Supermarket			Specialty			Block 01			Block 2																Retail/Commuter			Residential							
	GBA - (100%)	GFA - (75% of GBA)	NAL - (90% of GFA)	GBA - (100%)	GFA - (85% of GBA)	NAL - (90% of GFA)	GBA - (100%)	GFA - (75% of GBA)	NSA - (85% of GFA)	GBA - (100%)	GFA - (75% of GBA)	NSA - (85% of GFA)	GBA - (100%)	GFA - (85% of GBA)	NLA - (90% of GFA)	GBA - (100%)	GFA - (85% of GBA)	NLA - (85% of GFA)	External Area	GBA - (100%)	GFA - (85% of GBA)	NAL - (85% of GFA)	GBA - (100%)	GFA - (85% of GBA)	NAL - (85% of GFA)	GBA - (100%)	GFA - (95% of GBA)	Available	GBA - (100%)	GFA - (95% of GBA)	Available	GBA - (100%)	GFA - (95% of GBA)	Open Space	Civic Plaza	Roof Garden	Streetscape and Landscaping
_-3-Basement 03																												1,162	1,104	32						
_-2-Basement 02																										6,000	5,700	163	1,162	1,104	32						
_-1-Basement 01																										6,000	5,700	163	1,162	1,104	32	2,124	2,018				
0- LVL 00 Cnr Bent & Drovers	3,580	2,685	2,417	794	675	607																				3,878	3,684	105	1,162	1,104	32	260	247				
1- LVL 01 Cnr Bent & Woodford				1,054	896	806							382	325	292					1,596	1,357	1,153				803	763	22	906	861	25			2,654			558
2-LVL 02				447	380	342				1,311	983	836											1,596	1,357	1,153				220	209	6			428	776		161
3-LVL 03							625	469	398	1,311	983	836				627	533	453	965																969	
4-LVL 04							625	469	398	1,311	983	836							.																	
5-LVL 05							625	469	398	1,311	983	836																								
6-LVL 06							625	469	398	1,311	983	836																								
7-LVL 07							625	469	398	1,311	983	836																								
8-LVL 08							625	469	398																											
	3,580	2,685	2,417	2,295	1,951	1,756	3,750	2,813	2,391	7,866	5,900	5,015	382	325	292	627	533	453	965	1,596	1,357	1,153	1,596	1,357	1,153	16,681	15,847	453	5,774	5,485	157	2,384	2,265	5,546			

Area Summary (GFA)

Site Area	13,404
Retail (GFA)	4,636
Residential (GFA)	8,712
Commercial (GFA)	325
Childcare(GFA)	533
Library(GFA)	1,357
Community(GFA)	1,357
Total GFA	**16,919**
Site FSR	**1.26**

	Studio	1b	2b	3b	Total
No.	0	38	47	9	95
%		40	50	10	

Land Use		Number of Parking Spaces
Retail		140
Community Facility		67
Commercial		10
Council		113
Commuter		140
Residential	1 bed	38
	2 bed	59
	3 bed	15
	Visitor	16
	Total	128
Subtotal		**598**

Parking Assumptions

Retail and commercial: 1 space per 33m2
Residential: 1 per 1 bed. 1.2 per 2 bed, 1.5 per 3 bed. 1 per 6 units for visitors
Library, Community Facility and Childcare: 1 per 45m2
Commuter parking: 140 spaces and 113 council owned spaces
35m2 of GFA per parking space

Detailed Design Studies

A detailed study into land use relationships, and various land uses within the masterplan.

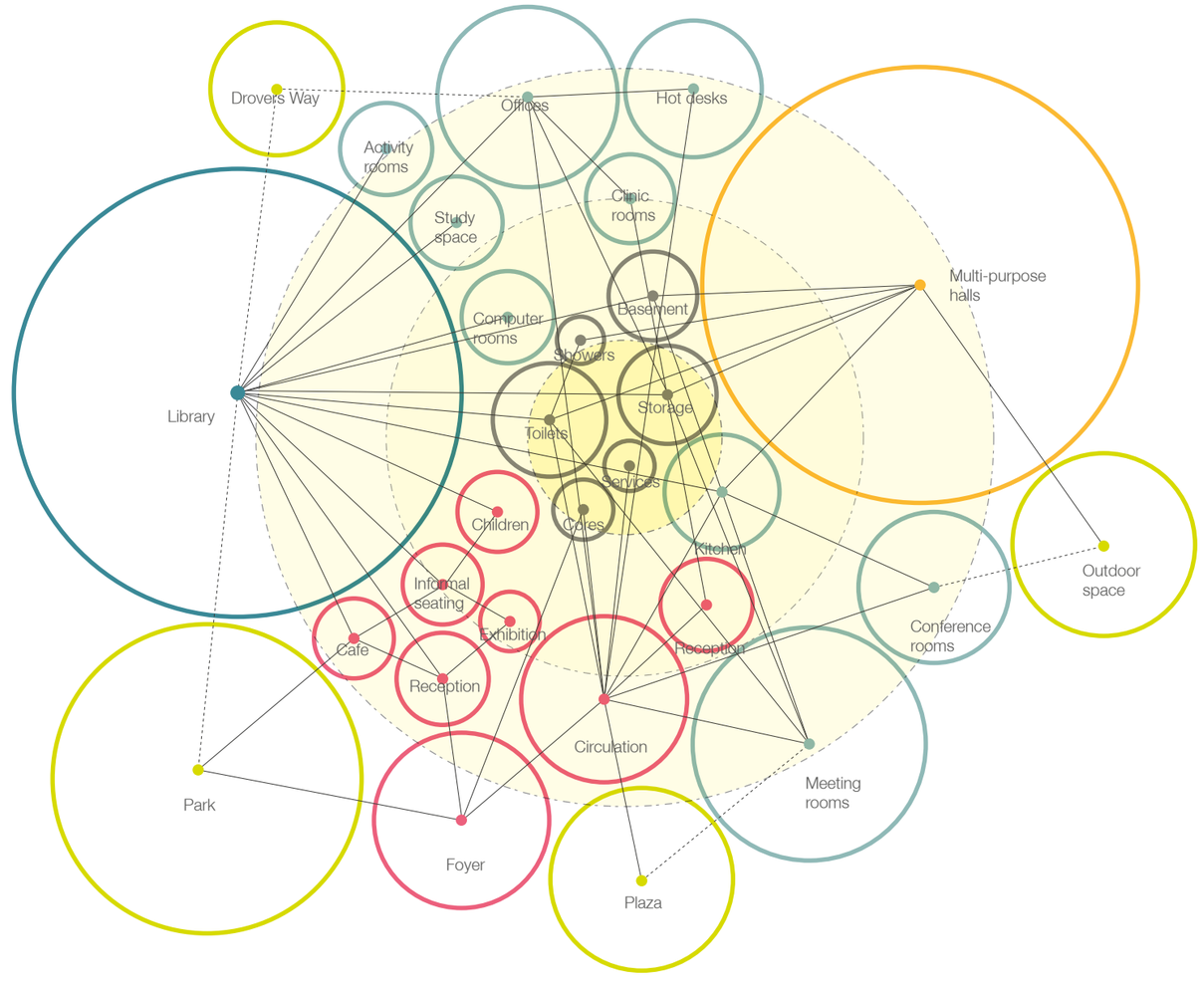
6.1 Spatial Relationships - Community Hub

Building on the Preferred Option, this section of the report provides a more detailed study into the design of the community hub, its relationships to other programs and characteristics of each of its open spaces.

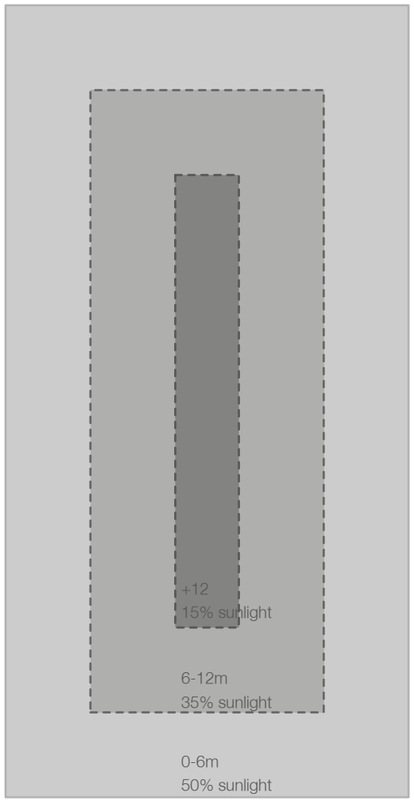
This spatial relationships diagram depicts the relationships between different building use programs and the links which are important to create in order for the community hub to be a successful space. These are considered as either critical or visual links and are placed according to their need of natural light. Programs requiring little to no sunlight are placed in the middle and those requiring most sunlight are placed on the periphery. The recommended programs identified have been derived from KYDS and Elton's Community Facility Study and are as follows:

KYDS:
- 4 x large counselling rooms (4 people with desk)
- 2 x small counselling rooms (3 people with desk)
- Large shared meeting room
- Reception and waiting area
- 5 x hot desks and 1 x office room
- Storage
- Kitchen
- Toilets

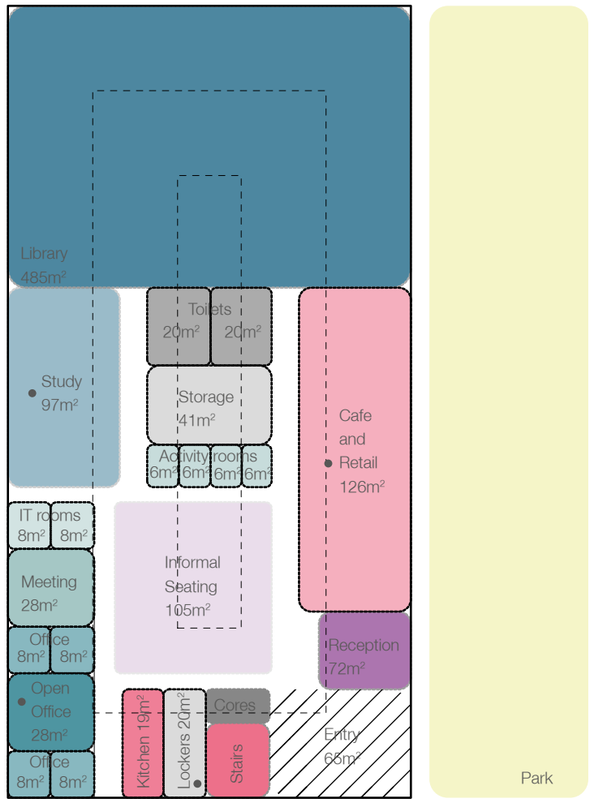
Elton:
- Service provision space
- Multi-purpose halls to accommodate 200 people
- Portable stage with dressing and green rooms)
- Commercial kitchen
- Toilets and shower facilities
- Meeting and activity rooms with kitchenette
- Computer room
- Foyer with informal open space
- Exhibition space
- Cafe
- Reception
- Storage
- Library space



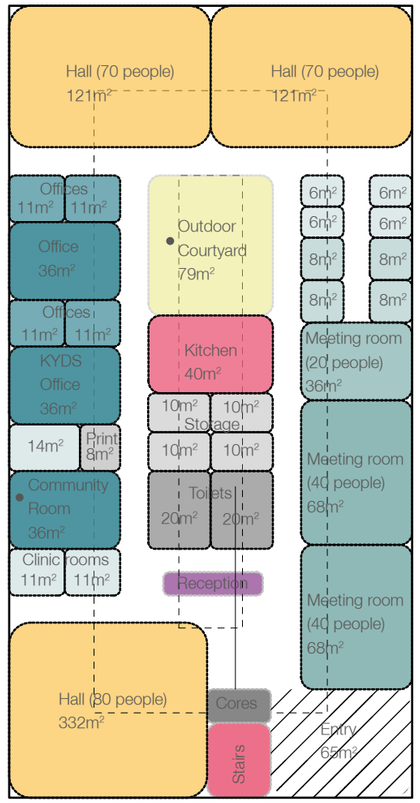
6.2 Spatial Arrangement - Community Hub



Sunlight intensity



Library - Ground



Community Facility - Level 1

Library
Study space
Open space office
Activity rooms

Office rooms
Meeting rooms
Cafe and retail
Kitchen

Reception
Informal seating
Halls
Outdoor courtyard

Cores
Toilets
Storage
Enclosed

Open
Proposed program

6.3 Open Space and Landscape Character

6.3.1 Public Open Space (Total area: approx. 3000m²)

Create a welcoming parkland with strong connections to the new community hub.
Enable highly programmed community activities - carols, outdoor movies, yoga etc. , passive recreational opportunities and native play.

1. Open turf area
   - Open turf area with perimeter path for informal passive parkland use
   - Terraced seating edge for informal gathering and small scaled events
   - Perimeter path connects to key entries
2. Main spine
   - Formal paved path adjoining turf and fronting library
   - Generous seating spaces along path
   - Path leads under plaza to escalators/retail
3. Mass planted deep soil perimeter embankment
   - Informal tree grove planting to park perimeter within deep soil embankment zone
   - Endemic tree species planted in deep soil (offset tree planting)
   - Mass planted under-story consists of a mix of native and exotic species appropriate for the site conditions
   - Pedestrian footpaths, stairs and ramps provide accessible connections to the street
   - Maintain clear site line through
4. Play space (approx. 190 sqm)
   - Play space located adjacent cafe outdoor seating area
   - Types of play to cater for toddlers and young children (0-7)
   - Water + native play theme
5. Lower terrace path and external seating zone
   - Paved edge to building frontage provides for pedestrian connection between street, park and upper plaza levels
   - Widened paved area allows for external seating for library/ cafe etc as an active edge to the park

6 Amphitheatre
   - Addresses parkland
   - Helps enclose turf area
   - Stair access to plaza




Open Turf Area


Water + Native Play


Amphitheatre

6.3.2 Pedestrian Plaza (Total area: approx. 962m^2)

Provide a high quality public plaza with a northern aspect and views over the park landscape

1. Open plaza with circulation paths in high quality unit paver
2. External seating zones for informal gatherings
3. Grove tree planting to street edge with seating
4. Access to centralised lift and escalators to retail below
5. Lift entry to library, childcare, community hub and retail below
6. Improve connections to Pacific Highway and train station
7. Mass planting under trees



Plaza planting with seats

Seating zones under tree grove



Active plaza for community gathering



Retail spill out zone



6.3.3 Garden Spaces (Total area: approx. 415m^2)

Provide a series of garden-like rooms with lush planting throughout - A green respite

1. Circulation/garden path with seating areas
2. Garden with mass planting and small scaled ornamental trees
3. Visible from Woodford Lane



Lush planting with seats



Mounded mass planting



Garden rooms with loose furniture



Timber decking space for gathering



Appendix A:
Precedent Studies

7.1 Double Bay

Key Facts:

Site Area: 12,000m^2

Land Uses:
Retail: 1 x Supermarket, 1 x Specialty Store, 1 x Liquor Store
Parking: Provided via Kiaora Lane and Patterson Street

Description: The building is a redevelopment of an old Telephone Exchange, with the supermarket and specialty store being located on the ground floor level of the precinct. The built form integrates with the fine grain of the neighbourhood through the inclusion of a pocket park and pedestrian walkways, ultimately activating the space and establishing connection links to the surrounding urban fabric.



01 Location Plan



02 Site Aerial

7.2 Double Bay



03 Outdoor dining area



04 Kiaora Lane frontage



05 Pocket Park connection Kiaora Lane to Patterson Street



06 Patterson Street Parking entrance



07 Anderson Street frontage



08 Undefined indoor and outdoor spaces create an informal interaction between streetscape and eateries

7.3 Lane Cove

Key Facts:

Site Area: 5,000m^2

Land Uses: Retail / Community Facility
Community Facility: Library, Gymnasium
Retail: 1 x Supermarket, 1450 sqm Specialty Retail
Parking: 335 spaces in basement

Description:



01 Location Plan



02 Site Aerial

7.4 Lane Cove

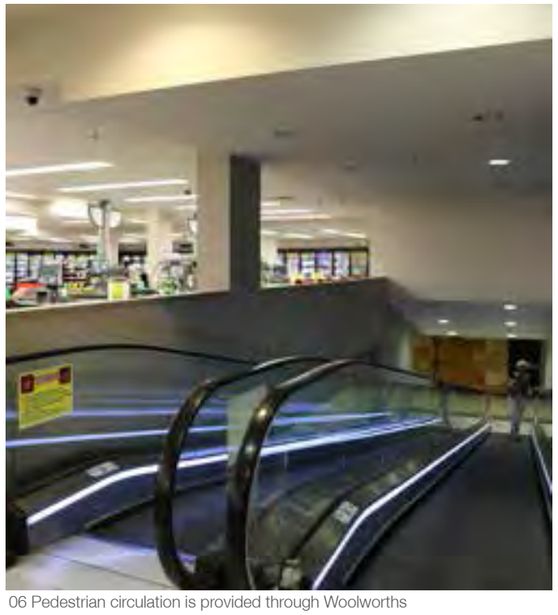


03 Austin Street frontage



04 Upper level specialty shops accessed through Woolworths


05 Courtyard between library entrance and specialty retail


06 Pedestrian circulation is provided through Woolworths


07 Plaza connecting library to Longueville Road streetscape



08 Library and specialty retail civic plaza

7.5 Willoughby

Key Facts:

Site Area: 9,750m²

Land Uses: Community Facility, Entertainment Facility, Library, Specialty Retail

Description: Positioned on the site of the former Willoughby Town Hall, The Concourse is a development consisting of a library, community and entertainment facilities and specialty retail, and is of civic and cultural significance.



01 Location Plan



02 Site Aerial

7.6 Willoughby



03 Entrance to The Concourse



04 Entertainment Facility



05 Civic outdoor plaza

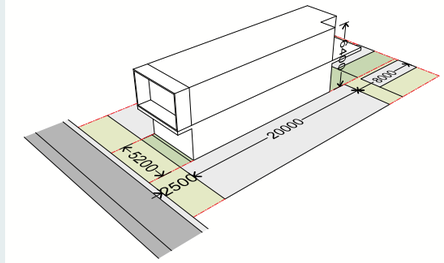


06 Civic Square and entrance

Appendix B: Building Typology Studies

8.1 Residential

8.6.1 Terrace

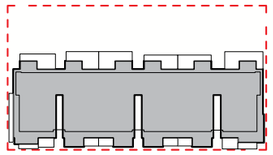


Site Cover	150-180m²
Building Footprint	100m²
Bedrooms	3 per dwelling
Height	6.4m
GFA (Total)	200m²



Terrace Housing at Glebe Harbour, SJB Architects

8.6.2 3-Storey Apartment

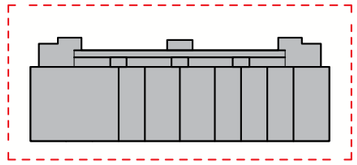


Site Cover	900m²
Building Footprint	589m²
Bedrooms	2 per dwelling
Height	11.5m
GFA (Total)	1767m²



Coast Apartments, SJB Architects

8.6.3 3-Storey Shop Top Apartment

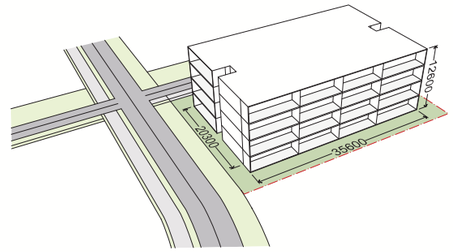


Site Cover	2000m²
Building Footprint	1156m²
Bedrooms	1/2/3 per dwelling
Height	11.5m
GFA (Total)	4624m²



Shop Top Apartments at St. Margarets, SJB Architects

8.6.4 4-Storey Apartment Block



GBA per floor (m²)	800m²
GFA (90% of GBA)	720m²
Dwellings per floor	7
Dwellings mix per floor	(11,14,3)
Dwellings (Total)	28
GFA (Total)	2,880m²

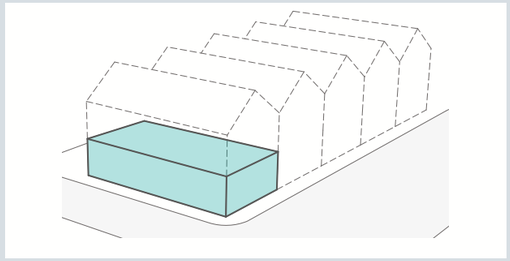


Ralph Street Apartments, SJB Architects

SCALE

8.2 Retail

8.1.1 Corner Shop



Site Area (m^2)	215 m^2
GFA (Retail)	60-150 m^2

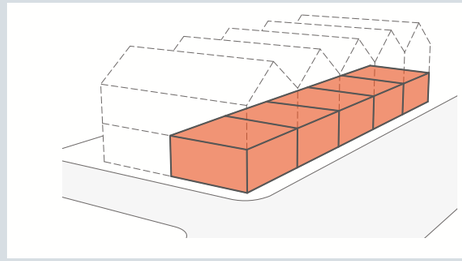


Reuben Hills, Surry Hills

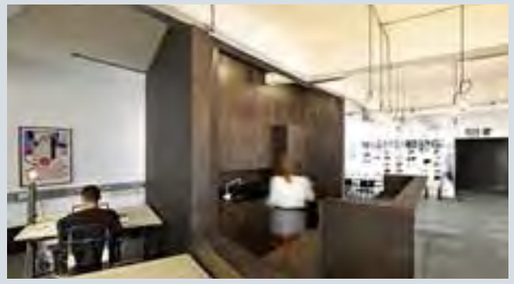


Suppose Design Office, Japan

8.1.2 Small Office / Studio



Site Area (m^2)	215 m^2
GFA (Retail)	60-150 m^2

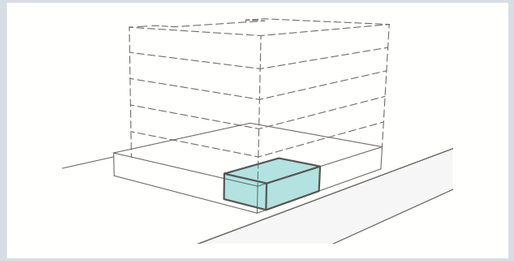


18 Feet & Rising Advertising Offices, London



Evernote Offices, Silicon Valley

8.1.3 Small-scale Ground Floor Retail



GBA per floor (m^2)	7,948 m^2
GFA (90% of GBA)	52 m^2
NSA	45 m^2

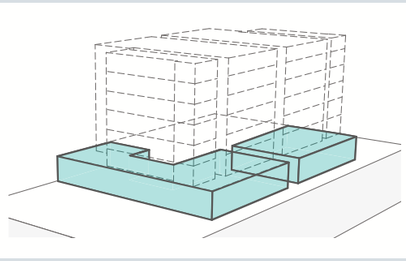


St. Margarets, SJB Architects



Casba Apartments, SJB Architects

8.1.4 Large-scale Ground Floor Retail



GBA per floor (m^2)	1,370 m^2
GFA (90% of GBA)	787 m^2
NSA	669 m^2



SJB Architects

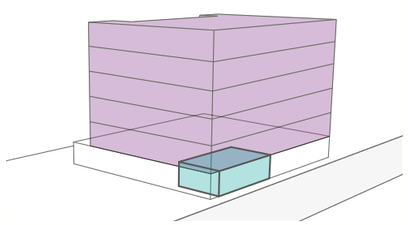


MPRIES Supermarket, Austria

SCALE

8.3 Residential and Retail

8.2.1 Small-scale Neighbourhood Precinct



Small-Scale Precinct / Design Principle	Public Domain	Connectivity	Sustainability	Activity	Character	Experience	Services
Residential	●			●	●	●	
Retail	●		●	●	●	●	●
Cafe / Restaurants	●		●	●	●	●	●
Car Parking		●		●		●	●
W.C. Facilities						●	●
Entry / Civic Space	●				●	●	
Accessible		●		●		●	

Residential	
GBA per floor (m^2)	800m^2
GFA (90% of GBA)	720m^2
Dwellings per floor	7
Dwellings mix per floor	(11,14,3)
Dwellings (Total)	28
Density	
GFA (Total)	2,880m^2

Retail	
GBA per floor (m^2)	7,948 m^2
GFA (90% of GBA)	52 m^2
NSA	45 m^2

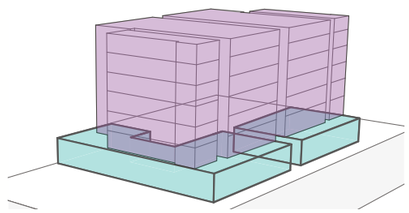


SJB Architects



St. Margarets, SJB Architects

8.2.2 Medium-scale Neighbourhood Precinct



Medium-Scale Precinct / Design Principle	Public Domain	Connectivity	Sustainability	Activity	Character	Experience	Services
Residential	●			●	●	●	
Retail	●		●	●	●	●	●
Cafe / Restaurants	●		●	●	●	●	●
Car Parking		●		●		●	●
W.C. Facilities						●	●
Entry / Civic Space	●				●	●	
Accessible		●		●		●	

Residential	
GBA per floor (m^2)	5,500m^2
GFA (90% of GBA)	4,950m^2
Dwellings per floor	26
Dwellings mix per floor	(84, 104, 20)
Dwellings (Total)	208
Density	
GFA (Total)	39,600m^2

Retail	
GBA per floor (m^2)	1,370 m^2
GFA (90% of GBA)	787 m^2
NSA	669 m^2



Erko, SJB Architects

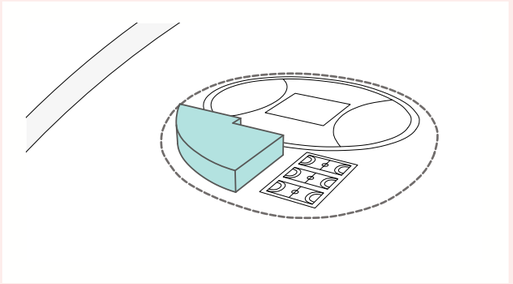


Green Square, SJB Architects

SCALE

8.4 Community Facility

8.3.1 Library



Library \ Design Principle	Public Domain	Connectivity	Sustainability	Activity	Character	Experience	Services
Hard Copy / Digital Resources						●	●
Study / Research Space				●	●	●	
Administrative / Information Space						●	●
Kitchenette			●				●
Entry / Civic Space	●			●	●	●	
Accessible		●				●	

Name	Vennelsa Library & Culture House
Area	1938m²
Location	Vennelsa, Norway
Facilities	Library Community centre

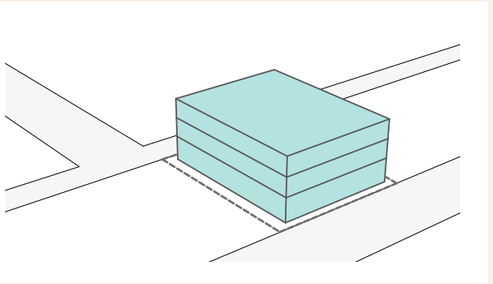


Vennesla Library & Culture House, Helen & Hard Architects



Vennesla Library & Culture House, Helen & Hard Architects

8.3.2 Community Centre / Library



Community Centre \ Design Principle	Public Domain	Connectivity	Sustainability	Activity	Character	Experience	Services
Main Hall / Performance Space	●		●	●	●	●	
Mixed Use Rooms	●		●	●	●	●	●
Administrative / Information Space						●	●
Kitchenette			●				●
Entry / Civic Space	●			●	●	●	
Accessible		●				●	

Name	Surry Hills Community Centre
Area	530m²
People	15,000
Facilities	Library Child care Community centre



Surry Hills Community Centre, FJMT Architects

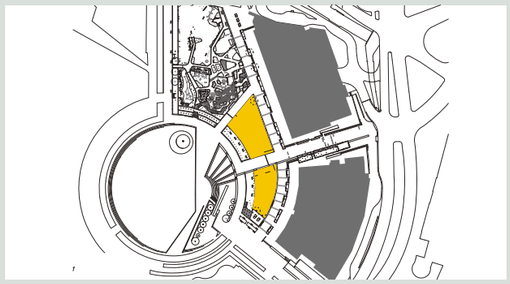


Surry Hills Community Centre, FJMT Architects

SCALE

Appendix C: Open Space Studies

9.1 Darling Quarter Lawns, Darling Harbour



Darling Quarter - Community Green, ASPECT Studios



Darling Quarter Lawns, ASPECT Studios



Darling Quarter Lawns, ASPECT Studios

Name	Darling Quarter Lawns
Area	1380m^2
Location	Darling Harbour, Sydney
Facilities	Retail, Restaurants, Outdoor Lawn, Bench Seating, Table Tennis.



Darling Quarter Lawns ASPECT Studios



Darling Quarter Lawns, ASPECT Studios

Key Points
- Outdoor/Indoor breakout spaces
- Flexibility
- Passive Leisure
- Curated

3800m^2 open space footprint at 1:5000

SCALE

9.2 UTS Alumni Green, Ultimo



1:5000 Plan



UTS Alumni Green, ASPECT Studios



UTS Alumni Green, ASPECT Studios

Name	UTS Alumni Green
Area	8700m²
Location	Ultimo, Sydney
Facilities	Library, University, Outdoor Lawn, Bench Seating, Table Tennis, Breakout Spaces.



UTS Alumni Green, ASPECT Studios



UTS Alumni Green, ASPECT Studios

Key Points
- Curated
- Flexibility
- Passive Surveillance
- Range of user experiences
- Multiple seating opportunities

3800m² open space footprint at 1:5000

SCALE

9.3 St James Park, Glebe

W



St James Park, ASPECT Studios



St James Park, ASPECT Studios



St James Park, ASPECT Studios

Name	St James Park
Area	3500m²
Location	Glebe, Sydney
Facilities	Children's Play Equipment, Seating Benches. Public Toilets.



St James Park, ASPECT Studios



St James Park, ASPECT Studios

Key Points
- Neighbourhood scale
- Passive surveillance
- Active play space and recreation
- Informal green

3800m² open space footprint at 1:5000

SCALE

9.4 Foley Park, Glebe

W



1:5000 Plan



Foley Park, ASPECT Studios



Foley Park, ASPECT Studios

Name	Foley Park
Area	5700m²
Location	Glebe, Sydney
Facilities	Children's Play Equipment, Outdoor Lawn, Bench Seating, Public Toilets, Heritage Interpretation.



Foley Park, ASPECT Studios



Foley Park, ASPECT Studios

Key Points
- Regional scale
- Community gathering space

3800m² open space footprint at 1:5000

9.5 One Central Park, Chippendale

W



1:5000 Plan



One Central Park, ASPECT Studios/Oculus



One Central Park, ASPECT Studios/Oculus

Name	One Central Park
Area	5700m^2
Location	Central Park, Sydney
Facilities	Retail, Restaurants, Seating Benches, Residential Courtyards.



One Central Park, ASPECT Studios/Oculus



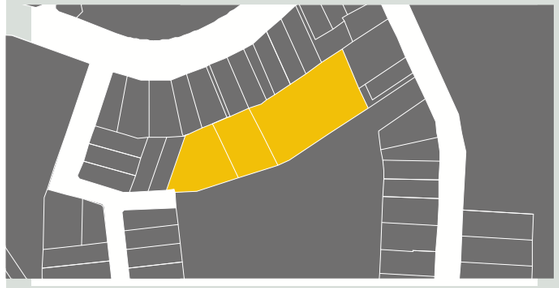
One Central Park, ASPECT Studios/Oculus

Key Points
- Informal activation
- Passive surveillance
- Connectivity
- Retail activation
- Integrated
- 18hr/7days space

3800m^2 open space footprint at 1:5000

9.6 Cranbrook Junior School, Rose Bay

W



1:5000 Plan



Cranbrook Junior School, ASPECT Studios



Cranbrook Junior School, ASPECT Studios

Name	Cranbrook Junior School
Area	4200m^2
Location	Rose Bay, Sydney
Facilities	Classrooms, Outdoor Decking, Sandpit, Breakout Spaces.



Cranbrook Junior School, ASPECT Studios



Cranbrook Junior School, ASPECT Studios

Key Points
- Multi-use space
- Flexibility
- Indoor/outdoor Learning

3800m^2 open space footprint at 1:5000

9.7 Surry Hills Library, Surry Hills

W



1:5000 Plan



Surry Hills LIbrary, FJMT



Surry Hills LIbrary, FJMT

Name	Surry Hills Library
Area	250m²
Location	Surry Hills, Sydney
Facilities	Library, Office Admin, Child care.



Surry Hills LIbrary, FJMT



Surry Hills LIbrary, FJMT

Key Points
- Neighbourhood scale
- Passive surveillance
- Community gathering space

3800m² open space footprint at 1:5000

Design Principle / *Local Road - Beaconsfield Parade*	Public Domain	Connectivity	Sustainability	Activity	Character	Experience	Services
Footpath	●	●	●	●	●	●	
Landscaped Verge with Tree Planting	●				●	●	
On Street Parking	●	●		●	●	●	
Cycle Lane	●	●	●	●	●	●	
Carriageway	●	●		●	●	●	

9.8 Shannon Reserve, Surry Hills

W



1:5000 Plan



Shannon Reserve



Shannon Reserve

Name	Shannon Reserve
Area	2500m^2
Location	Surry Hills, Sydney
Facilities	Children's Play Equipment, Seating Benches.



Shannon Reserve



Shannon Reserve

Key Points
- Neighbourhood scale
- Event space
- Temporary overlays/ markets

3800m^2 open space footprint at 1:5000

Appendix D: Background Documents Review

10.1 Ku-ring-gai Council Local Environmental Plan, 2012

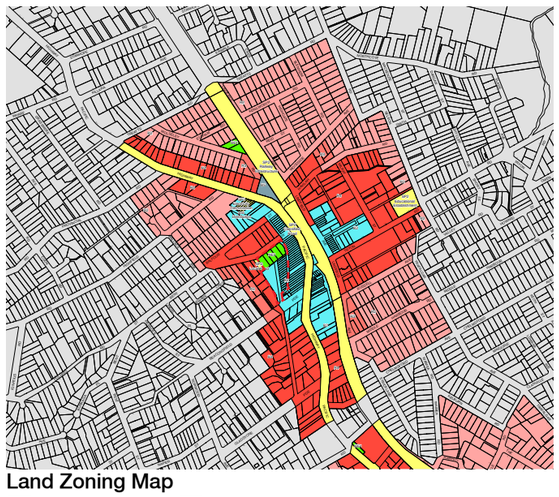
In accordance with the 2012 LEP, the study site falls under the following controls:

- Floor Space Ratio of 1:1
- The site has areas of biodiversity significance
- Maximum building height of 11.5m
- Does not have any items of heritage or conservation
- Zoned predominantly as a Local Centre with the north of the site zoned as Public Recreation and a section of Infrastructure for a new road.













FSR

A1 0.2
A2 0.3
D 0.5
I 0.8
K 0.85
N 1.0
Q 1.3
S1 1.6
S2 1.8
T1 2.0
T2 2.3
U1 2.5
U2 2.8
V 3.0
W 3.5
Area 1
Area 2
Area 3
Area 4
Area 5
Area 6

Biodiversity

Areas of Biodiversity Significance

Height of Buildings

J 9.5
L 11.5
N 14.5
P 17.5
Q 20.5
S 23.5
T 26.5
V 39.5
Area 1
Area 2

Land Zoning Map

B2 Local Centre
B4 Mixed Use
B5 Business Development
E2 Environmental Conservation
E4 Environmental Living
R2 Low Density Residential
R3 Medium Density Residential
R4 High Density Residential
RE1 Public Recreation
SP1 Special Activities
SP2 Infrastructure

Land Reservation Acquisition Map

Classified Road (SP2)
Local Open Space (RE1)
Local Road (SP2)

Heritage Map

Conservation area - General
Item - General

10.2 Ku-ring-gai Local Centres Development Control Plan, 2013

The Development Control Plan establishes a framework for future development in the Ku-ring-gai local centres and provides more detailed guidance to facilitate the aims and objectives in the KLEP (Local Centres) 2012, in addition to those controls outlined in the LEP. As part of the Baseline Review the following sections have been identified as being relevant to the Lindfield Community Hub:

- Volume A Part 8: Mixed Use Development
- Volume A Part 13: Tree and Vegetation Preservation Controls
- Volume B Part 1E: Lindfield Local Centre
- Volume B Part 6: Biodiversity Controls
- Volume B Part 8: Development Near Road or Rail Noise
- Volume C Part 1: Site Design
- Volume C: Part 2 Access and Parking
- Volume C Part 4: Water Management Controls

A full summary of the DCP is outlined in Appendix 2 of this report.

Volume A:

8A: Mixed Use Development Controls

8A.2 Building Separation:

- The minimum separation between a residential building and any neighbouring building either on the development site or on adjoining sites must comply with the following controls:
  - Buildings up to 4 storeys over the podium:
    - 12m between habitable rooms/balconies;
    - 9m between habitable rooms/balconies and non-habitable rooms;
    - 6m between non-habitable rooms.
  - Buildings of 5 to 8 storeys over the podium
    - 18m between habitable rooms / balconies;
    - 13m between habitable room / balcony and non habitable room;
    - 9m between non-habitable rooms.

8B.1 Vehicle and Service Access and Loading Facilities

Vehicle Access:

- Vehicle access points must not be located along principal active street frontages unless otherwise specified
- All developments must provide a shared vehicle entry/exit point for different uses (eg. retail, commercial and residential).
- Residential parking must be secure and separate from retail/commercial parking.

Service Access:

- On-site service vehicle access must be provided and designed in accordance with the following:
  - the driveway is to be designed such that service vehicle movement is in a forward direction, both when entering and exiting the site;
  - on-site manoeuvrability must be unimpeded for all site users.
- Generally service vehicle access is to be combined with parking access. Separate access may be required in major retail/commercial developments

Loading Facilities:

- On-site internal loading facilities must be provided for all developments with loading and unloading requirements.
- Loading docks are to be:
  - accessed via a rear lane or secondary streets where these are available, and accessible to heavy vehicles;
  - conveniently located in such a way that minimises conflict with pedestrians and other traffic; and
  - screened from the public street.
- Service vehicles turning into or out of a road or driveway must be able to complete their turning manoeuvres without crossing the centre line of the public road.

8B.2 Car Parking Provision

- All car parking areas are to be provided within the basement of a development wherever practicable.
- The basement car park areas must not project above finished ground level along the principal active street frontage.
- Separate and direct lift/stair access must be provided from basement car parks to apartments, commercial units and retail facilities.
- Multi-storey car parking above ground level may be permitted and must be housed within the building, leaving external walls for active uses
- Multi-storey above ground car parks must have a minimum floor to ceiling height of 3m to enable flexibility for a future change in use.
- The following car parking ranges apply to office, business premises and shops, where the development is within 400m of a train station and within a commercial centre:
  - Shops, including restaurants and cafes: 1 space/26m^2 GFA to 1 space/33m^2
- The following car parking ranges apply to the residential component within mixed use developments:
  - Studio: 0-0.5 spaces
  - One bedroom: 0.6-1 space
  - Two bedrooms: 1-1.25 spaces
  - Three or more bedrooms: 2 spaces
- Visitor parking is to be provided within the site at the rate of one space per 6 apartments.

8C.1 Solar Access:

- Buildings must be oriented to optimise the northern aspect.
- At least 70% of apartments must receive a minimum of two hours direct sunlight to living rooms and adjacent private open spaces between 9am and 3pm on 21st June.
- At least 50% of the communal open space for residents' use must receive direct sunlight for at least three hours between 9am and 3pm on 21st June.
- The number of single aspect apartments with a southerly aspect (SW to SE) is limited to 10%
- All developments must allow the retention of at least three hours of sunlight between 9am and 3pm on 21st June to the living areas and the principal portion of the private and communal open space of any residential development on adjoining lots.
- Where existing overshadowing by buildings is greater than this, sunlight is not to be reduced by more than 20%.

8C.2 Natural Ventilation

Residential Component:

- At least 60% of apartments must have natural cross ventilation.

8C.4 Apartment Depth and Width

- Dual aspect apartments are to have a maximum internal plan depth of 18m from glass line to glass line.
- Single aspect apartments are to have a maximum internal plan depth of 8m from glass line to internal face of wall of habitable area.
- The width of dual aspect apartments over 15m deep must be 4m or greater to avoid deep narrow apartment layouts.

8C.5 Apartment Mix and Sizes

- A range of apartment sizes and types must be included within the development.
- Apartments are to be a minimum size (GFA) of:
  - 38.5m2 for studios and one bedroom apartments;
  - 70m2 for two bedroom apartments;
  - 95m2 for three bedroom apartments.

8C.7 Building Entries

- Buildings must address the street with main entrances to lift lobbies directly accessible and visible from the street.
- Entries and lobbies to apartments are to be separated from commercial entries

8C.9 Roof Forms and Podiums

- The upper storeys of mixed use buildings must be articulated with differentiated roof forms
- Roof design must respond to solar access
- The incorporation of green roofs or green podiums is encouraged.

8C.10 Communal Open Space

- A minimum of 10m2 of communal open space per dwelling must be provided. This can be provided on the podium or roof area.
- Where mixed use development includes a residential component, the development must provide at least one single parcel of communal open space with the following requirements:
  - a minimum area of 80m2; and
  - a minimum dimension of 8m; and
  - access to direct sunlight for at least two hours between 9am and 3pm on 21st June, to at least 50% of the space.
- The location and design of communal open space must optimise opportunities for social and recreation activities, solar access and orientation, summer shade, outlook and the privacy of residents on adjoining sites.

8C.11 Private Open Space

- Ground and podium level apartments are to have a private outdoor courtyard/terrace with a minimum area (internal dimension) of 25m2.
- All apartments that are not at ground or podium level are to include private open space with a minimum area of:
  - 10m2 for each one bedroom apartment;
  - 12m2 for each two bedroom apartment; and
  - 15m2 for each apartment with three or more bedrooms.
- The primary private open space must have a minimum dimension of 2.4m and have direct access from main living areas.

10.2.1 Ku-ring-gai Local Centres Development Control Plan, 2013

8C.12 Building Façades

- In B2 zones mixed use buildings are to establish a consistent street wall facade along the Pacific Highway frontage, especially along retail strips.
- The continuous length of a residential building over the podium facing the street or the public domain must not exceed 36m.

8C.14 Ground Floor Shopfronts

- Buildings on principal active street frontages must:
  - support a mix of activities, including after hour activities;
  - avoid the incorporation of vehicle access points; and
  - not have projecting basements.
- Buildings on supporting active street frontages must:
  - support dispersed pedestrian-oriented activities with well articulated entrances;

8C.16 Colonnades

- All colonnade spaces must be within the property boundary.
- Colonnades are to have a height/width ratio no less than 1.5:1, a minimum width of 2.4m, and a minimum soffit height of 3.6m.

8C.17 Internal Ceiling Heights

- For all new buildings in the B2 Local Centre zone, the minimum ceiling heights, measured from FFL to FCL, are to be:
  - 3.3m for ground floor retail or commercial uses;
  - 3m for first floor commercial or residential uses;
  - 2.7m for residential use or 3m for commercial uses on all other floors

8C.18 Visual Privacy

- Buildings must be designed to ensure privacy for residents of the development and of the neighbouring site.

8C.19 Acoustic Privacy

- In particular, proposed developments are to consider the cumulative impact of the premises on the mix, diversity and possible concentration of late night uses in the locality.

8C.20 Late Night Trading

- Development for late night trading premises must be designed to minimise the impacts of noise production on nearby and adjoining premises.

Volume B

1E Lindfield Local Centre

1E.1 Local Centre Urban Precincts

Precinct L5: Lindfield Community Hub

- This precinct is located on the western side of Lindfield local centre. The area is currently occupied by a large at-grade Council car park.
- This precinct is planned to become a community hub with a range of facilities including a community centre, a new park, restaurants and cafes and a commuter car parking station.
- Major changes are proposed to the local road network to improve vehicle and pedestrian access to the area.

1E.2 Local Centre Key Community Infrastructure

- Development is to be designed to support and to compliment the provision of Key Community Infrastructure.
- A new local park on Bent Street of about 3,000sqm in size.
- A new multi-purpose community building including full internal fit out.
- Car Parking for community facilities in the basement.
- Construction of a new 12 metre wide two-way street (realigned Drovers Way) between Beaconsfield Parade and Bent Street including on-street parking.
- A new kiss-and-ride zone and taxi ranks on Woodford Lane.
- Upgrade and widening of Bent Lane and Woodford Lane including new footpaths
- Construction of a new 240 space commuter car park and a new kiss and ride area

1E.3 Local Centre Setbacks

Precinct L5: Lindfield Community Hub

- 2 metre setback to Woodford Lane, the new street (re-aligned Drovers Way) and the new park.
- The properties 4 and 8 Beaconsfield Parade and A2, 2, 4, 6, 8, 8A and 10 Drovers Way are to provide a 6m setback to Drovers Way.

1E.4 Local Centre Built Form

Precinct L5:

- Provide active street frontages to the new park.
- Provide active frontages to Woodford Lane and the new street (re-aligned Drovers Way) wherever possible.

1E.5 Local Centre Public Domain and Pedestrian Access

- Provide a new pedestrian walkway between Beaconsfield Parade and Bent Street.
- Provide a new pedestrian walkway between the new street and Woodford Lane

1E.6 Local Centre Building Entries, Car Parking and Service Access

- Vehicle and service access is to be via the new street.

6 Biodiversity Controls

This part applies to development that will have an impact on areas identified as the Greenweb in this DCP. The Greenweb identifies lands containing significant strategic biodiversity values considered important in the support of native flora, fauna and ecological processes. The study site falls under Category 3 - Landscape Remnant and Category 5 - Canopy remnant.

6.1 All Greenweb Categories

- The development must be designed and sited to conserve the area of vegetation and/or habitat of the highest ecological value on and adjacent to the site, and to minimise fragmentation and edge effects.

6.4 Category 3 - Landscape Remnant

Category 3: Key vegetation community patches that are less than or equal to 1 ha in size or contain vegetation in key vegetation communities and the mapped area in which they are located.

- Avoid locating development on land identified as Category 3 on the Greenweb map.
- Vegetation retention and rehabilitation on sites that include land identified as Category 3 must be designed to improve connectivity with existing vegetation and habitat.
- Planting within land identified as Category 3 on the Greenweb map is to consist of not less than 50% locally native species.

6.6 Category 5 - Canopy Remnants

Canopy remnants provide habitat for urban and more mobile species, species diversity and ecosystem services including maintenance of air quality, carbon storage and a sense of place. KVC vegetation less than 0.1 ha, and not in good, moderate condition.

- Retain trees identified as Category 5
- Planting within land identified as Category 5 on the

Volume C

1 Site Design

1.2 Earthworks and Slope

- Development must demonstrate consideration of site topography, drainage, soil landscapes, flora, fauna and bushfire hazard.
- Development must be accommodated within the natural slope of the land. Level changes across the site are to be primarily resolved within the building footprint.
- Existing ground level is to be maintained for a distance of 2m from any boundary.

1.3 Landscape Design

- All developments must:
  - be designed to conserve indigenous vegetation, habitat and existing natural features on the site as part of the site planning and the site layout process;
  - retain the most significant, intact and sustainable areas of vegetation;
  - retain trees that contribute to the neighbourhood character;
- Existing ground level must be maintained beneath the canopy spread of trees to be retained.

2 Access and Parking

2.2 Vehicle Access

- Car park entry and egress, for developments other than low density residential, must be provided from secondary streets or lanes where these are available.
- The width and number of vehicle access points are to be limited to minimise potential pedestrian/vehicle conflicts.
- Vehicle access driveways must be set back a minimum of 10m from street intersections
- Vehicle access must be located a minimum of 3m from pedestrian entrances.

2.3 Basement Car Parking

- The minimum height between floor level and an overhead obstruction is to be 2.2m

10.3 Ku-ring-gai Contributions Plan, 2010



Purpose

The purpose of the plan is to enable council to require a direct contribution towards the provision, extension and augmentation of key community infrastructure to support the concentrated development and project population growth around the 6 town centres of Ku-ring-gai.

The plan seeks to:

- Provide framework under which strategies for the provision of community infrastructure may be implemented and coordinated.
- Provide greater housing choices to promote affordability, increase apartments and unit and average home sizes to 3+ bedrooms
- Introduce the concept of urban design benefits to the Ku-ring-gai LEP

In addition the plan draws from the Metropolitan Strategy which outlines successful centres as:

- Accessible and pedestrian friendly
- Providing good public transport options
- Containing high-level jobs, learning opportunities and cultural activities
- Having attractive and safe public domain spaces

The Draft North Subregional Strategy has specified Ku-ring-gai's contribution to Sydney's dwelling infrastructure is to be a minimum of 10,000 dwellings by 2031 and an employment capacity for 4,500 new jobs.

Current key strategic planning issues around community infrastructure are as follows:

- Population growth and demographic change
- Opportunity for development around transport nodes
- Rectify a relatively limited choice of housing and improve housing affordability
- Respond to a significant escape of retail to neighbouring town centres such as Macquarie and Chatswood
- Support the character of Ku-ring-gai by strengthening local heritage provisions and access to parks

A greater variety of housing infrastructure has been identified as a need to allow the ageing population to downsize and for younger adults and families to inhabit larger residences. With current redevelopment plans around the town centres of Ku-ring-gai, this presents an opportunity to increase the density of housing and variety around public transport nodes.

Local Parks

The Contributions Plan seeks to maintain a reasonable proportion of the current per capita provision of local open space and public gardens.

20% of the Ku-ring-gai LGA is covered by Ku-ring-gai Chase National Park, Garigal National Park and Lane Cove National Park, 80% of total greenspace. They do not fulfil the role of local open space nor are they located near town centres.

It has been identified that it is of utmost importance to pay attention to the needs of younger and older people in meeting their needs to create a vibrant town centre which is actively used.

It is projected that there will be a 33.4% increase in dwellings by 2031 within Ku-ring-gai which will create highly urbanised town centres with increased traffic. In order to effectively respond to this issue, the following objectives have been established:

- Facilitate access within and around town centres particularly around public transport nodes and retail
- Facilitate pedestrian and vehicular access in and around Gordon maintaining its retail hierarchy
- Facilitate commuter parking on the outskirts of town centres to support public transport use.
- Spatial priority around railway transport interchanges need to be around pedestrian, buses and cyclists to encourage the utilisation of 'active' transport.

The chief mode of transport to work is by private car with only 19% of the population commuting by public transport. Vehicle demand and its impact on roads and intersections are expected to remain high.

The following are objectives specific to the Lindfield Town Centre:

- To improve north-south pedestrian connections as well as across the Pacific Highway by pedestrian bridge and through block links
- Upgrade access to the station and provide contemporary bus facilities to facilitate additional bus services
- Reduce pedestrian and vehicular conflicts within town centre through a redesign of traffic signal configurations and introduction of new roads to improve access to retail core
- Make modifications to existing streets and lanes to improve local vehicle access

Existing community facilities within Ku-ring-gai are generally old, no longer fit for purpose and are either at or close to capacity. As it stands they are not capable of meeting the demands of the projected population growth and the following have been identified as key needs for the community:

- Expand and upgrade library facilities to meet contemporary standards
- Need for quality, multi purpose space flexible for a range of activities
- Services, leisure and learning opportunities should reflect and support the generally ageing population.

The current Lindfield library is the oldest within the network with limited space and amenities, predominantly used by families with young children and older people. The North Subregional Strategy notes that cultural facilities within the region are limited and exists an opportunity to improve and consolidate facilities which are no longer fit for use.

10.3.1 Town Centres Facilities Plan, 2010 - Lindfield

In accordance with the objectives and strategies in the Ku-ring-gai Development Contributions Plan, the following vision for the future of Lindfield has been proposed by Council:

- New access road/lane to the west of the site with a kiss and ride zone
- Modifications to Woodford Lane to create a lively and active street
- Increased pedestrian access around the town centre and railway station to allow for accessibility and to strengthen the retail core
- Increase in bicycle parking zones as well as an improvement to bus facilities along Pacific Highway.
- Implementation of new traffic signals on Pacific Highway to better accomodate for an increase in vehicular activity.



TOWN CENTRES FACILITIES PLAN - LINDFIELD

Issued - November 2010

LOCAL ROADS

- NEW ACCESS ROADS / LANES
- MODIFICATIONS TO EXISTING ROADS AND TRAFFIC FLOW
- STREETSCAPE IMPROVEMENTS
  PAVING, STREET TREES, UNDERGROUND POWERLINES, STREET FURNITURE, LIGHTING
- NEW ROUNDABOUT
- NEW SIGNALS
- ALTERED SIGNALS
- REMOVAL OF SIGNALS
- NEW PEDESTRIAN ACTIVATED SIGNALS
- STORMWATER TREATMENT SYSTEM
- NEW TAXI RANK
- NEW KISS AND RIDE
- NEW/UPGRADED BUS STOPS
- BICYCLE PARKING AND CYCLEWAY
- PEDESTRIAN CONNECTIONS-IMPROVEMENTS TO EXISTING, OR NEW

LOCAL SOCIAL FACILITIES

- NEW AND/OR IMPROVED COMMUNITY FACILITIES

LOCAL PARKS

- EXISTING PARKS TO BE UPGRADED TO URBAN PARK STANDARD
- NEW CIVIC SPACES
- NEW URBAN PARK

10.4 Town Centres Parking Management Plan, 2010



The objective of the study is to develop a comprehensive plan for long term management and provision of car parking within Ku-ring-gai commercial centres and consider parking strategies in relation to land use.

The following are recommendations provided by ARUP:

- Future car parking be provided in major retail/commercial and mixed use developments
- Parking space rates should be lower in centres with good access to public transport to encourage the use of alternative modes of commuting
- Incorporate the provision of bicycle, motorcycle and scooter parking
- Create more formalised zones of 'kiss-and-ride' around railway stations
- Parking spaces can be shared by more than one user in relation to different peaks of use as shown in Figure 6
- Increase bus services during peak hours to relieve congestion and absorb some on-street parking

The plan specifies parking rate requirements for various land uses shown from Figures 1-5.

Land Use	Parking Space Requirement
Office and business, including professional suites	1 space/33m² GFA to 1 space/45m² GFA Suggested split: 90% employee parking 10% visitor parking
Retail/shops, including restaurants and cafes	1 space/26m² GFA to) 1 space/33m² GFA Suggested split: 30% employee parking 70% shopper parking
Residential: Studio 1 bedroom 2 bedroom 3 or more bedroom Visitor	 0- 0.5 0.6 - 1.0 1.0 – 1.25 1.0 – 1.5 1 space/6 units

Figure 1: Mixed use development

Land Use	Parking Space Requirement
Office and business, including professional suites	1 space/33m² GFA to 1 space/45m² GFA* Plus, 1 space if resident/manager or caretaker Plus, 1 courier space for development in excess of 200m2 GFA Suggested split: 90% employee parking 10% visitor parking
Retail	1 space/26m² GFA to) 1 space/33m² GFA Suggested split: 30% employee parking 70% shopper parking

Figure 2: Business and office development

	Parking Space Requirement
1 bedroom	1
2 bedroom	1-1.5
3 or more bedroom	1-2
Visitor	1 space/4 units

Figure 3: Multi-dwelling housing development

Land Use	Parking Space Requirement
Office and business	1 space/200m² GFA (for employees) 1 space/750m² over 1000m² (for visitors)
Retail/shops	1 space/300m² GFA (for employees) 1 space/500m² over 1000m² (for shoppers)
Residential	1 space/5 units (for residents) 1 space/10 units (for visitors)

Figure 4: Bicycle parking rate

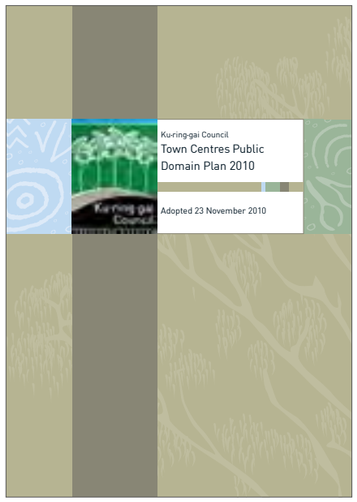
Land Use	Minimum Rate of Provision (% of total number of parking spaces)
Retail/Commercial	1-2%
Civic/Community Centres	2-3%
Recreational Facilities	2-3%
Theatres/Entertainment Centres	3-4%
Medical Centres	3%

Figure 5: Bicycle parking rates

Weekday Peaks	Evening Peaks	Weekend Peaks
Retail Medical centres Business/Offices Professional services Schools Medical	Auditoriums Bars and dance halls Meeting halls Restaurants Theatres	Religious institutions Parks Retail Restaurants/cafe

Figure 6: Typical peak parking demand periods of various land uses

10.5 Town Centres Public Domain Plan, 2010



The Public Domain Plan will guide the design of streets and public spaces within and around the town centres and aims to support the delivery and implementation of an integrated and consistently high quality public realm.

The urban structure of Lindfield will be defined by two retail hubs on the eastern and western sides which will allow an opportunity for additional retail, offices and new shop top housing.

The following are the visions proposed by Ku-ring-gai Council as seen in Figure 1:

- A large town square at Kochia Lane car park as illustrated in Figure 2
- Co-located library and community facility with a village green on Woodford Lane car park site illustrated in Figure 3
- Expand and improve main strip of shops on Pacific Highway with residential apartments
- New public space on Tryon Place forming an entry forecourt to the railway station
-

The plan specifies to maintain cultural planting of native and exotic species and should respond to the predominant street tree type. The significant canopy trees on Drovers Way should be incorporated and retained.



Figure 1: Lindfield town centre concept plan

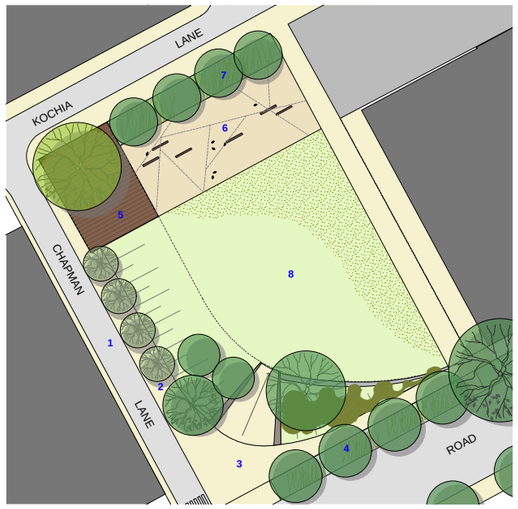


Figure 2: Tryon Road town square concept plan

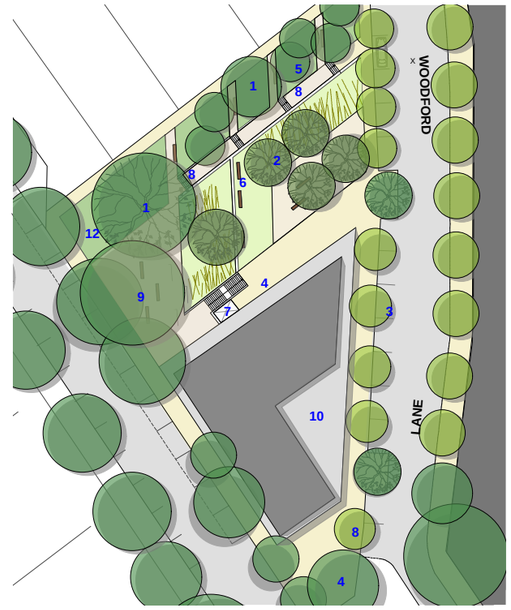


Figure 3: Drovers Way village green oncept plan

10.6 Town Centres Public Domain Plan, 2010

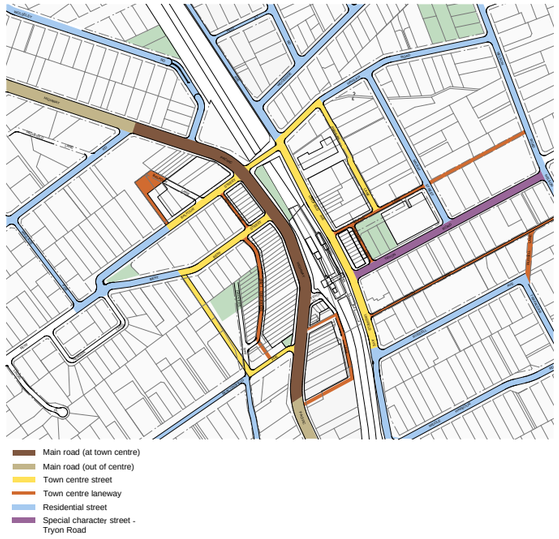


Figure 4: Lindfield town centre street character

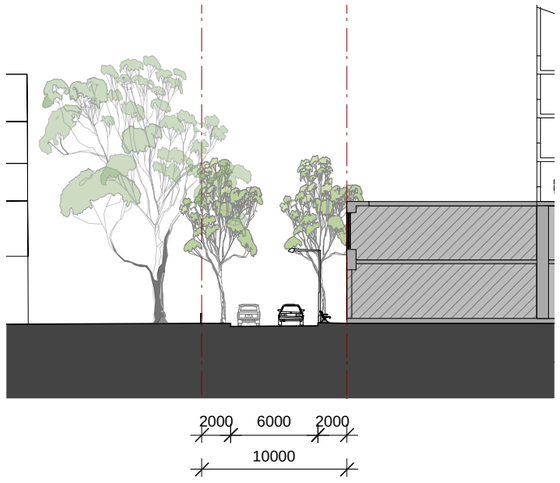


Figure 5: Kochia Lane street section

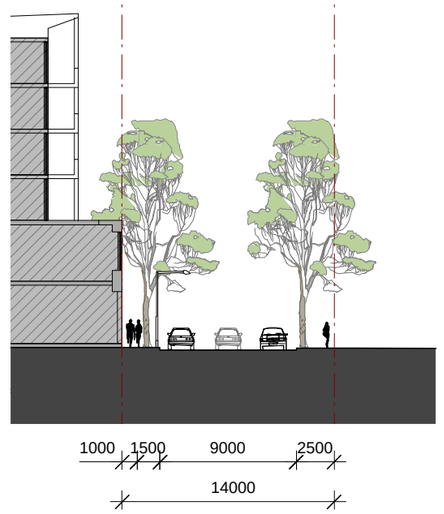


Figure 6: Havilah Lane street section

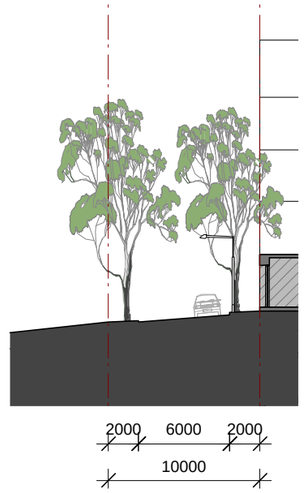


Figure 7: Bent Lane street section

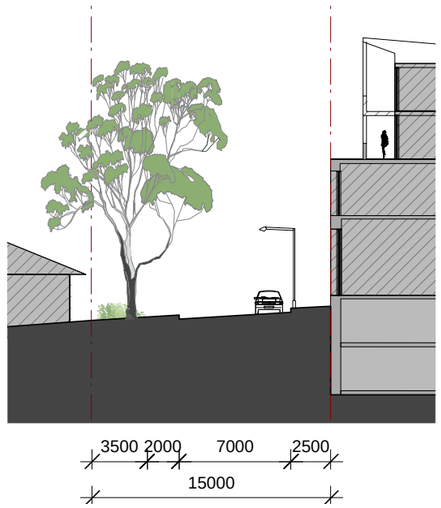


Figure 8: Balfour Lane re-alignment street section

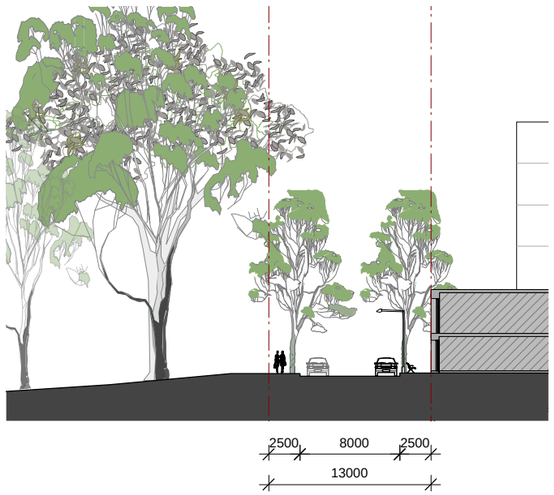


Figure 9: Woodford Lane street section

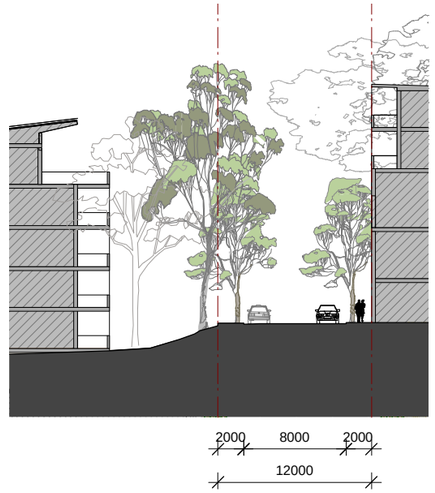


Figure 10: Drovers Way street section



Figure 11: Tryon Place street section

10.7 Ku-ring-gai Integrated Water Cycle Management Policy, 2008



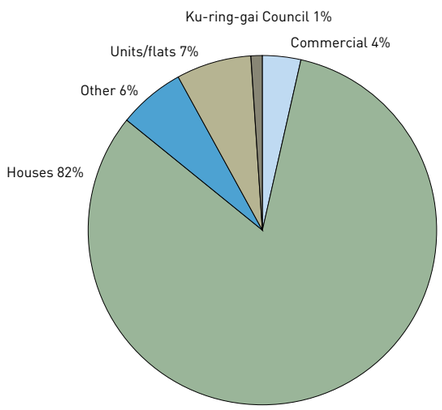


Figure 1: Potable water use

This strategy has been prepared in response to concerns surrounding effective water management within Ku-ring-gai as projected developments will inevitably put pressure on the water system.

Waterways through the LGA flows through Hawkesbury Sandstone landscape and its urban stream water quality is considered poor according to ANZECC guidelines. Potable water inflow through Ku-ring-gai sits at 10,622 millilitres per year, 89% of which is used by the residential sector as shown in Figure 1. The average annual rainfall is 1,118 millilitres and average runoff or stormwater flow is 36,635 millilitres.

An action plan shown in Figure 3 has been put in place by Council with the following key objectives:

- Decrease the use of potable water and increase the amount of public and private water reuse and recycling
- Ensure water sensitive urban design elements are incorporated within public infrastructure and private development
- Improve planning procedures to promote the sustainable use of water

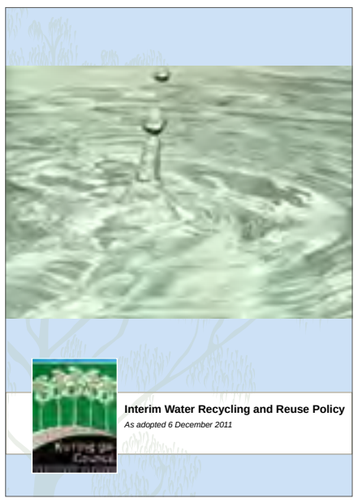
To address these issues the following targets have been set:

- Decrease potable water consumption by 30% over five years with a 6% each year
- Increase the use of non-potable water used by Council by 25% with an increase of 5% each year through stormwater reuse and recycled sewage.



Objective	Target	Programs/actions	Funding source	Responsibility
Decrease the use of potable water	Reduce Council's potable water consumption by six per cent per year based on 2000 levels	Develop annual water conservation program targeting highest water using sites and those with highest rates of return	General programs	Strategy Operations Finance
		Implement high priority actions each year against energy and water performance plan	Revolving energy fund, Internal loans	Strategy Operations Finance
	Implement all water saving projects with a seven per cent or greater return on investment	Award staged contracts to achieve progressive investment returns as per target with annual reporting on outcomes	Revolving Environmental Levy Fund, Internal loans	Strategy Finance
	Reduce community potable water consumption by six per cent per year based on 2000 levels	Promote Sydney Water programs: Tank rebate; Water fix; Love your garden; Washing machine rebate, etc.	Sydney Water	Strategy Community
		Provide technical assistance to residential and business sector to achieve savings	Grants, Sydney Water	Strategy
Increase the amount of public and private water reuse and recycling	Increase Council's non potable water consumption by five per cent per year based on 2000	On average one stormwater harvesting project completed per year	Environmental Levy, Grants and other capital funding	Strategy Operations
		Identify and implement strategic sewer mining projects with forward capital works and landscape master plans	Grants, capital works	Strategy
	Increase community non-potable water use	Promote and reduce barriers to community uptake of rainwater tanks and grey water reuse	Sydney Water, Grants, Environmental Levy	Strategy Development and Regulation
Ensure water sensitive urban design elements are incorporated within public infrastructure and private property	100 per cent of town centre redevelopments incorporate WSUD features	90 per cent of WSUD program completed per year	Developer contributions, Grants, Environmental levy, general revenue	Strategy Operations Development and Regulation
		90 per cent of IWMS program completed per year	Environmental Levy, Grants	Strategy Operations
Improve planning procedures to promote the sustainable use of water	Increase number of developments that integrate sustainable water management in their design, construction and operation	Establish data management systems to capture developments that demonstrate leading WSUD practice	General revenue	Strategy Development and Regulation
		Enable development approval systems to facilitate water re-use projects	General revenue	Strategy Development and Regulation Operations
		Incorporate planning controls for sustainable water use within LEP and DCPs	General revenue	Strategy
		Update onsite detention and retention within DCPs to reflect best practice	General revenue	Strategy Development and Regulation Operations
		Update Riparian Policy to best practice and include in LEP/DCP	General revenue	Strategy Development and Regulation
Develop and implement programs that ensure infrastructure is properly designed and maintained	Optimal maintenance of WSUD infrastructure	90 per cent of stormwater pollution control maintenance program completed per year (Appendix 6)	Stormwater charge, Environmental levy, General revenue	Operations
		Incorporate potential climate change impacts as part of infrastructure design standards and specifications	General revenue, Stormwater charge	Strategy
Improve the condition of natural waterways to increase native biodiversity	Stable, diverse waterway environments	Three creek rehabilitation projects completed per year	Environmental Levy and Grants	Strategy Operations
Continue to build knowledge on Ku-ring-gai's water cycle	Improved understanding of environmental mechanisms	Undertake detailed water quality and macroinvertebrate monitoring to ascertain effects of programs	Environmental Levy and Grants	Strategy
		Undertaken hydraulic monitoring to assess changes in catchment characteristics	Environmental Levy and Grants	Strategy Operations
		Undertaken modelling to assess impacts of climate change	General revenue and grants	Strategy
		Create one major sub catchment water plan every two years	General revenue	Strategy Operations

10.8 Interim Water Recycling and Reuse Policy, 2011



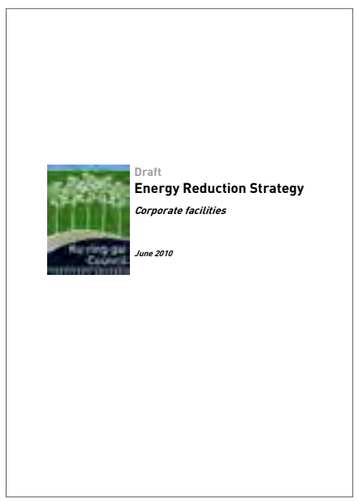
This policy has been developed in response to the drought, water restrictions and climate change within Ku-ring-gai. Access to potable water has reduced as a consequence of water restrictions and increasing demands on potable water supplies. Council wishes to decrease its use of potable water and increase the amount of water reuse and recycling. This policy therefore seeks to:

- Secure alternate sustainable water supplies which can be utilised in a responsible manner
- Raise council and community awareness of water recycling and reuse
- Reduce the cost of water supply to council

This will be implemented through:

- Development management plans for each water recycling and reuse site
- Application of the latest water reuse guidelines in planning recycling and reuse systems
- Application of the latest water guidelines for the ongoing management of recycled and reused water
- Regular auditing of water recycling systems

10.9 Ku-ring-gai Draft Energy Reduction Strategy, 2010



This strategy identifies potential capital works projects which will assist in achieving Council's climate change mitigation target and reduce its financial viability to increasing operation costs associated with rising energy prices.

Council energy consumptions will inevitably increase as a result of an expanding population which will consequently add more demand on Council services and facilities.
In accordance to the Climate Change Mitigation Study conducted in 2009, it is of importance for Council to lead by example in its energy efficiency which can be implemented through the following:

- Solar hot water
- Photovoltaic (PV) panels
- Small wind turbines
- On-demand street lighting

By undertaking this strategy, Council should see a reduction of 4% in its total corporate greenhouse emissions and a potential savings of $2.28 million over ten years based on studies conducted in 2000 shown in Figure 1 for the town centre projects listed for St Ives, Gordon and Turramurra.

The Environmental Levy has been put in place with an allocated $1,090,000 to fund water and energy efficiency projects within town centres to assist Council in achieving its targets.

The funding for the projects are divided into three categories as shown in Figure 2 with co-related amount of funding.

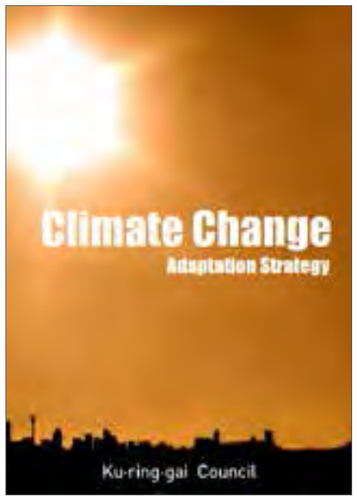
Capital Cost	$1,047,763
CO2 emissions *pa*	981
kWh savings *pa*	952,282
Financial saving over 10 years	$2,283,979
Overall payback period	5.2 years
Reduction from 2000	4%

Figure 1: Summary of savings through projects in report

	Environmental Levy	Operational budget	Total
Iconic	$903,994	$17,354	**$921,348**
Capital Works	$31,989	$6,876	**$38,865**
Operational	$66,018	$21,532	**$87,550**
Total	**$1,002,001**	**$45,762**	**$1,047,763**

Figure 2: Funding categorisation

10.10 Ku-ring-gai Climate Change Adaptation Strategy



The purpose of this strategy is to reinforce the advice that climate change is progressing rapidly and an adaptation action is required to reduce the impacts of extreme weather and enhance sustainability.

Ku-ring-gai is likely to experience a warmer climate with fewer extreme cold days and increasing number and duration of heat days. Winter will be drier with spring and summer featuring increased rainfall and storms. Bushfire weather will also be intensified with an increase in drought periods and water shortages.

Climate change modelling for Ku-ring-gai shows no new risks are likely to emerge however existing weather related risks will likely intensify. The following are significant risks for Ku-ring-gai:

- Bush fires
- Storms
- Droughts
- Extreme heat

Council has outlined an adaptation strategy which lists the vulnerabilities, resilience and adaptation options for each of these risks. There is a level of acceptance with associated risks, however increasing frequencies will see a decline in these levels.

Bush fire

	Option	Primary Responsibility	Secondary Responsibility	Score	Priority	Comments
Council adaptation	Increase percentage of existing and new homes compliant with AS3959	Council	NSW RFS	20	High	Improves resilience of existing housing stock
	Conduct community and agency education program	Council	NSW RFS	19		Raises awareness of bush fire safety
	Invest in R&D Projects, eg. selective weeding, identification of sections of corridor that can be cleared in an emergency, fast decomposing bacteria to reduce fuel - carbon sequestration, or mechanical removal, pre-curing process prior to hazard reduction burns in APZs for hotter burns support natives plants	Council	NSW National Parks	19		Research into more efficient and effective means of bush fire management
	Build and operate new RFS	NSW RFS	Council	18		Provides greater number of emergency volunteers
	Planning private land e.g. increase minimum lot sizes and/or setbacks to bushland in bushfire prone areas, extending area of Level 1 construction, restrict type of development	Council	State Government	17		Improves resilience of new housing
	Identify and support residents requiring property maintenance assistance in high risk areas	Council	Residents	16		Assists vulnerable community members
	Develop new community fire units	NSWFB	Council	15		Improve community self sufficiency and awareness
	Discount or rebate on fire resilient installations in homes	Council	NSW RFS	14		Provision of an incentive to improve resilience of existing housing stock
	Utilise water sensitive urban design	Council	State Government	9	Medium	Reduces weeds along the interface, therefore reducing fue loads
	Provision of safe refuge areas for people and pets	Council	NSW RFS	8		Provides a refuge in the case where evacuation is not an option
	Wildlife Protection - animal evacuation, notification of wildlife carers in post burn work, veterinary care capacity identified, habitat boxes to be made out of non-combustible material,	Council	WIRES, NSW National Parks	8		Provides protection to fauna
	Map areas of non fire tolerant vegetation communities, *phytophera* locations, wildlife refuges	Council	NSW National Parks	7		Protects vulnerable plant communities
	Increase static water supply volume e.g. tanks	Council	Residents	6	Low	Provides additional water sources for emergency services
	Rezone land to restrict development in high risk area	Council	State Government	6		Reduce the increase in dwellings within high risk areas
	Enforce fire retardant landscape design	Council	State Government	5		Improves resilience of new housing
	Fire danger signs	NSW RFS	Council	3		Provides the community with continuous updates regardin

Storms

	Option	Primary Responsibility	Secondary Responsibility	Score	Priority	Comments
Council adaptation	Relocate power and phone lines underground	Council	Energy Australia	25	High	Protects power lines from falling trees and debris. Assists to maintain continuous power supply during storm events
	Conduct community education program	Council	Emergency services	20		Improves community self reliance
	Discounts or rebates provided for storm resilient installations (eg, window shutters, corrugated roofing)	Council	Supplier	20		Provides greater protection to the internal environment of a building and reduces rain inundation
	SMS warning system		Council	18		Provides warning to allow for early response
	Undertake disaster risk assessments of key infrastructure	Council	Consultant	17		Provides greater protection to the internal environment of a building and reduces rain inundation
	Stabilisation works of known high erosion areas	Council	Contractor	16		Protects infrastructure and property in high erosion areas
	Replace roofing with storm resilient materials	Council	Contractor	16		Provides greater protection to the internal environment of a building and reduces rain inundation
	Revise and regulate planning controls which increase resilience of the built environment in storm events	Council	State Government	14		Provides greater protection to the internal environment of a building and reduces rain inundation
	Train staff in disaster management (ie, chainsaw operation)	Council	Education	14		Improves clean up response by Council
	Identify and manage vulnerable trees	Council	Contractor	12	Medium	Reduces the incidence of damage caused by falling trees
	Replace canopy trees with appropriate trees to withstand high velocity winds	Council	Contractor	8		Reduces the incidence of damage caused by falling trees
	Maintain Local Emergency Operation Centre for the provision of logistical support	Council	Emergency Services	8		Allows for greater coordination at a storm event
	Install uninterrupted power supply (co-generation) at key Council facilities (ie. Chambers, Depot, Community centres/meals on wheels)	Council	Contractor	7		Allows for continued operation of key Council facilities throughout power failure events
	Provide welfare and resource information to residents and businesses affected by storms	Council	SES	7		Assists affected community members to access available services
	Review, update and increase awareness of the DISPLAN	Council	Emergency services	5	Low	Provides relevant and up to date procedures in managing the logistics of emergency events
	Assess and reinforce vulnerable infrastructure (ie bridges)	Council	Consultant	5		Protects infrastructure in high risk areas
	Upgrade road structure and materials to improve resilience	Council	Contractor	5		Protects road surfaces to withstand greater water velocities
	Increase capacity of stormwater infrastructure	Council	Contractor	5		Reduces flooding of downstream properties
	Provide mobile welfare support (eg, Meals on Wheels)	Council	State Government	4		Provides food and other services to vulnerable and less mobile community members

Drought

	Option	Primary Responsibility	Secondary Responsibility	Score	Priority	Comments
Council adaptation	Undertake community education campaigns	Sydney Water	Council	18	High	Increases education and awareness on actions to reduce water consumption
	Stormwater harvesting for Council facilities	Council	Supplier	17		Provides additional water source for Council facilities and improves resilience of turf sites
	Monitor water consumption for leaks and anomalies	Council	Sydney Water	15		Water wastage is detected early
	Install sewer mining/stormwater harvesting for communal use	Council	Developers	14		Provides additional water source for communal use
	Use flexible materials for paths	Council	Contractor	13		Reduces damage to infrastructure through soil shrinking during drought
	Fix leaking taps	Council	Contractor	12	Medium	Water wastage is reduced
	Install synthetic play surfaces	Council	Sports groups	12		No water required to maintain them, and greater use of the sites can be employed
	Install sealed toilet cisterns to prevent leakage	Council	Contractor	11		Water wastage is reduced
	Install drought tolerant landscaping at Council facilities	Council	Contractor	11		Reduces drought stress of plants through better plant selection
	Install shade structures for pools	Council	Contractor	10		Reduces evaporation
	Install subsurface irrigation where required	Council	Contractor	10		Provides a watering system which reduces evaporation
	Rainwater tanks on all facilities	Council	Contractor	9		Provides alternate water source to facilities
	Install dual flush toilets	Council	Contractor	9		Water wastage is reduced
	Promote and provide rebates for water saving installations	Council	Sydney Water	9		Provide incentives to residents to improve their drought resilience
	Use pervious paving materials	Council	Contractor	9		Assists in ground water recharging
	Install aerators / flow restrictors on taps	Council	Contractor	8		Water wastage is reduced
	Waterless printing and paper products	Council	Suppliers	7		Water wastage is reduced
	Sewer / leachate mining for Council facilities	Council	Contractor	6	Low	Provides additional water source for Council facilities and improves resilience of turf sites
	Install backwash recycling at pool	Council	Contractor	5		Water wastage is reduced
	Sister city support with rural drought affected communities	Council	Residents	5		Provide support to a rural town affected by drought
	Enforce planning controls for water efficiency	Council	State Government	0		Water wastage is reduced in new developments

Bush fires

Bush fires presents a serious threat to the LGA as it is surrounded by three national parks. Council has in place a Bushfire Risk Management Plan and focus is placed on life safety and evacuation out of bush fire prone areas. The following are Council and community adaptation options devised from current LGA vulnerabilities:

- Increase percentage of existing and new homes compliant with AS3959
- Conduct community and agency education program
- Invest in Research and Development projects such as identifying sections of corridor that can be cleared in an emergency
- Build and operate new Rural Fire Services
- Planning private land such as increasing minimum lot sizes and/or setbacks to bushland in bushfire prone areas
- Identify and support residents requiring property maintenance assistance in high risk areas
- Develop new community fire units
- Discount or rebate on fire resilient installations in homes
- Utilise water sensitive urban design
- Community members to install and maintain privately owned fire fighting equipment and to monitor fire warning protocols and be aware of appropriate action

Storms

Residents within the LGA are also vulnerable to impacts from storm events with the extensive tree canopy and intensifying stormwater flows causing costly damage to homes, businesses and infrastructure. The following are Council and community adaptation options devised from current LGA vulnerabilities:

- Relocate power and phone lines underground
- Conduct community education program
- Discount or rebate provided for storm resilient installations
- SMS warning system
- Undertake disaster risk assessments of key infrastructure
- Stabilisation works of known high erosion areas
- Replace roofing with storm resilient materials
- Revise and regulate planning controls which increase resilience of the built environment in storm events
- Train staff in disaster management
- Replace canopy trees with appropriate trees to withstand high velocity winds
- Maintain Local Emergency Operation Centre for the provision of logistical support
- Volunteering in community programs (SES, RFS)

Droughts and Extreme Heat

Vulnerability to water shortages is a pressing concern due to the high level consumption of water per person within the LGA. Pressure will continue to intensify with the projected population increase. Further more, extreme heat is another concern particularly as the probability of energy infrastructure failing to meet peak demand is very likely. The following are Council and community adaptation options devised from current LGA vulnerabilities:

- Undertake community education campaigns
- Stormwater harvesting for Council facilities
- Monitor water consumption for leaks and anomalies
- Install sewer mining/stormwater harvesting for communal use
- Residents should install a rainwater tank and connect to toilet and laundry
- Ensure that OH&S addresses working outdoor in extreme heat conditions
- Install and operate co-generation systems to feed power to the grid in times of peak demand
- Invest in low energy technology to offset Price increases of fossil fuel derived power
- Discounts and rebates for passive solar design principles to reduce dependence on mechanical heating and cooling
- Plant more trees in streets, parks and public domain areas
- Develop a ‘House Buddy’ program to assist neighbourhoods to monitor vulnerable residents in time of extreme risks

10.11 Ku-ring-gai Community Facilities Strategy, 2014



The Ku-ring-gai Community Facilities Strategy provides a framework for the future provision of community facilities that deliver to a network and meets the needs of the community.

A principle objective of the strategy is to maintain a network hierarchy with:
- Sub regional facilities serving a larger LGA
- District facilities serving a catchment
- Local facilities serving a neighbourhood

Studies undertaken show a trend in multi purpose spaces and community hubs where several facilities are co-located which promotes an active social engagement. This presents an opportunity for a consolidation of facilities within the LGA which are no longer fit for use as seen in Figure 3.

By 2031, Ku-ring-gai will see a population increase from 109,146 according to the 2011 census to 136,900 by 2031 as seen in Figure 4. To cater for this increase the following has been proposed:
- Community facilities: 1 sub regional (Gordon) and 3 district (Turramurra, St Ives, Lindfield) as seen in Figure 1
- Library facilities: 1 central library (Gordon) and 3 branches (Turramurra, St Ives, Lindfield) as seen in Figure 2



Figure 1: Proposed sub-regional and district facilities and catchments



Figure 2: Proposed library facilities and catchments



Figure 3: Proposed community facilities consolidation

Level	Source	2031 population
Low	Ku-ring-gai Council 2010 Contributions Plan	126,151
Medium	Mid-point between low and high	136,900
High	Department of Planning and Infrastructure (2013), NSW in the Future: Preliminary 2013 Population Projections	147,650

Figure 4: LGA population projections

Hierarchy level	Population served
Sub-regional	100,000 and over
District	20,000-50,000
Local	10,000-20,000
Neighbourhood	2,000-10,000

Figure 5: Proposed facility hierarchy

10.12 Lindfield Community Facilities Study Report, 2014

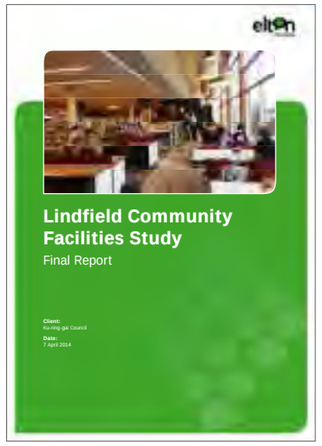




Figure 1: Option 1 - Library on Tryon Road and community centre on Woodford Lane



Figure 2: Option 2 (preferred) - Library and community centre co-located on Woodford Lane site

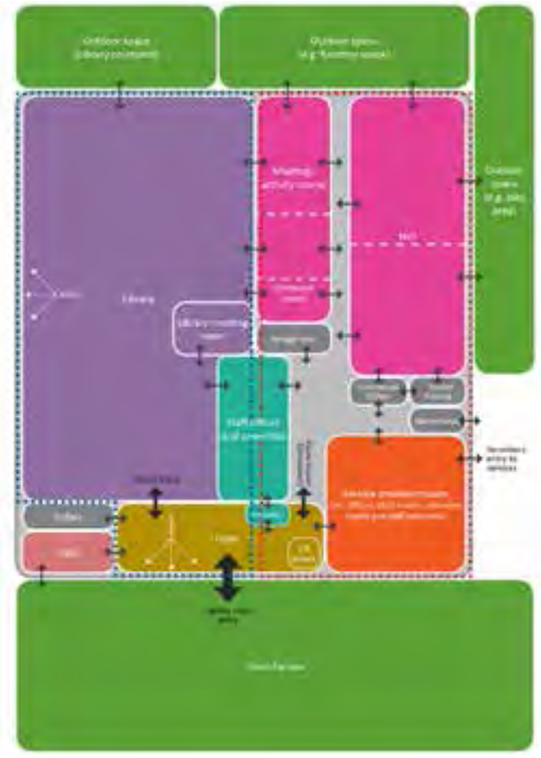


Figure 5: Proposed library layout

The report aims to provide a vision and recommendations to guide Council in the planning, design and delivery of new community facilities in Lindfield. Design principles to consider for the community centre include:

- Central to catchment and transport and equitable access
- Location of facility to promote visibility and accessibility
- Clustering and co-location
- Flexible with multiple uses serving identified social needs
- Financial and environmental sustainability
- Contribute to the public domain and sense of place
- Be near open space for activities and events

Lindfield will provide the following facilities:

- A community centre serving Lindfield, East Lindfield, Roseville, Roseville Chase, Gordon, Killara and East Killara
- A district library serving Lindfield, East Lindfield, Roseville and Roseville Chase

The report undertook an options analysis on two development sites shown in Figures 1-4 with Option 2 being the preferred option as the facilities are co-located.

Figure 8 shows the 2031 projected facility catchment to be at 50,786m^2 with a proposed 60m^2 rate of provision. This equates to a required floor area of 3,047m^2 for the catchment. In deducting the floor areas of existing facilities, the recommended floor area for the community facility is 1,190m^2. The library according to standards set by the State Library of NSW in accordance to catchment population, should be at 1,265m^2 with a 39m^2 rate of provision per 1000 people.



Figure 3: Visualisation of Option 1



Figure 4: Visualisation of Option 2 (Courtesy: Support Lindfield)

Level	2031 projected LGA population	2031 projected community centre catchment population*
Low	126,151	46,798
Medium	136,900	50,786
High	147,650	54,773

Figure 6: Community centre catchment population

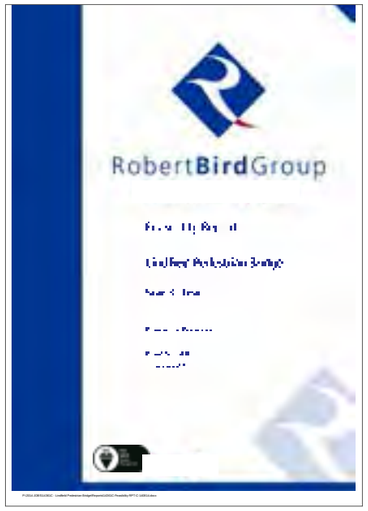
Level	2031 projected LGA population	2031 projected library catchment population*
Low	126,151	24,867
Medium	136,900	26,986
High	147,650	29,105

Figure 7: Library catchment population

	Floor area (square metres)
2031 projected catchment population	50,786
Proposed rate of provision for community centre (square metres per 1,000 people)	60
Required community centre floor area for catchment	**3,047**

Figure 8: Required floor area for community centre

10.13 Feasibility Report: Lindfield Pedestrian Bridge, 2014



The purpose of the report is to determine the feasibility of constructing a pedestrian bridge over Pacific Highway adjacent to Lindfield Station. With consideration into engineering, planning and heritage aspects, Robert Bird Group have determined that there is enough justification to proceed to the concept design stage.

There is a potential to link the bridge to Woodford Lane parking site if land acquisition of 316, 318, 320-322 Pacific Highway as shown in Figure 1 is successful.

Studies conducted show that 3000 pedestrians use the crossing per day on weekdays with 260 pedestrians per hour during peak hours which occur between 7.45am - 8.45am and 5.15pm - 6.15pm.

A total of 1250 pedestrians use the crossing on weekends with approximately 150 pedestrians per hour during its peak use which is between 9.30am-10.30am and 10.45am-11.45pm.

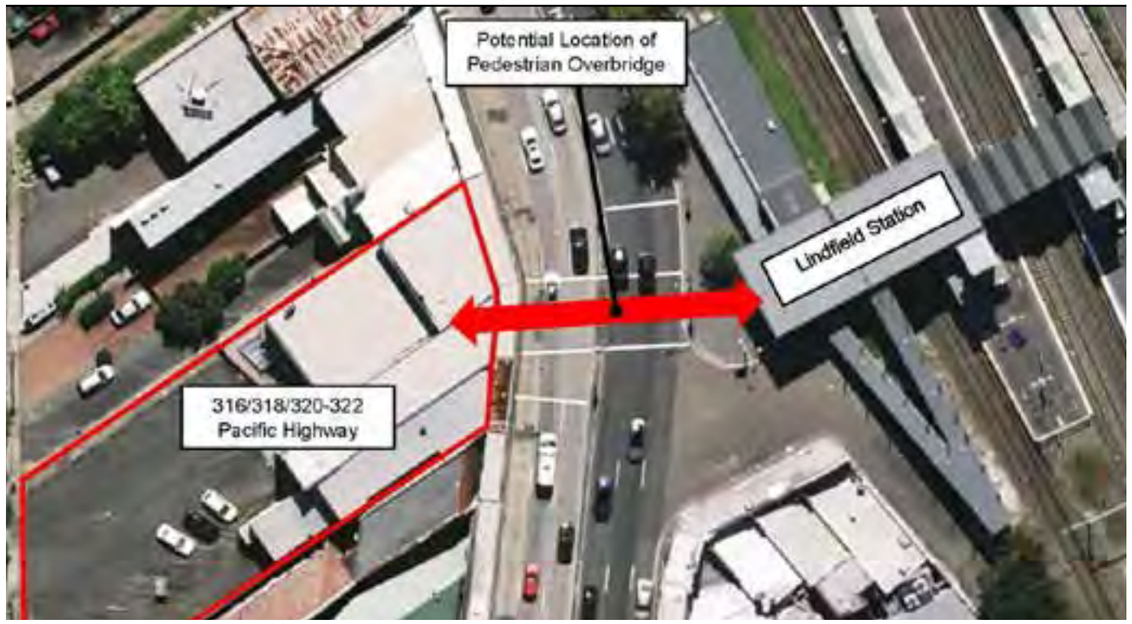


Figure 1: Potential pedestrian bridge link location

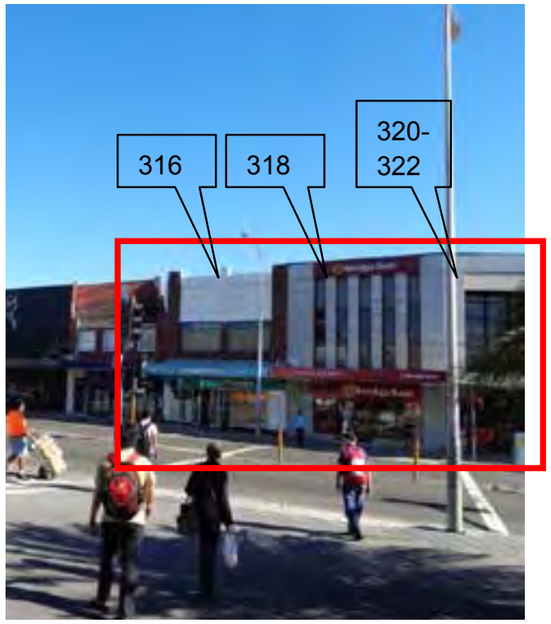


Figure 2: Potential pedestrian bridge link location



Figure 3: Proposed pedestrian bridge link



Figure 4: Proposed pedestrian bridge link



Figure 5: Proposed pedestrian bridge link

10.14 Transport Network Model Study: Lindfield Local Centre, 2013-14



Initial discussions to provide 240 commuter car parking spaces has resulted in a decision to undertake a master planning study for the site to allow Council to consolidate its existing community facilities and to provide a central development/community hub which would provide social and economic benefits. The objectives of the study is to:

- Determine an appropriate land use scale and mix for the development site
- Determine where best to locate the proposed commuter parking

The following opportunities and constraints have been identified for Lindfield:

- An adequate public transport infrastructure with up to 20 train services city bound during peak hour.
- High volumes of pedestrian activity during PM peak hour with long waiting periods which results in dangerous pedestrian activity
- Road intersections on Pacific Highway are operating at capacity as seen in Figure 1 and 2

PeopleTrans have undertaken studies into the feasibility of a traffic signal at Beaconsfield Parade and have specified TMM1C in Figure 4 to be the preferred option and illustrated in Figure 3. Additionally, Tryon Lane will be utilised as a 'kiss and ride' zone and Bent Street will be closed to traffic.

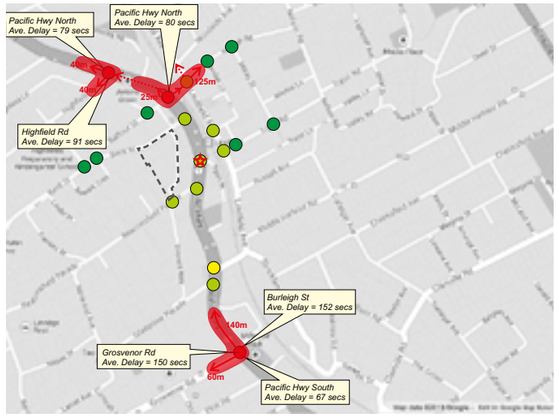


Figure 1: Weekday AM peak traffic level of service

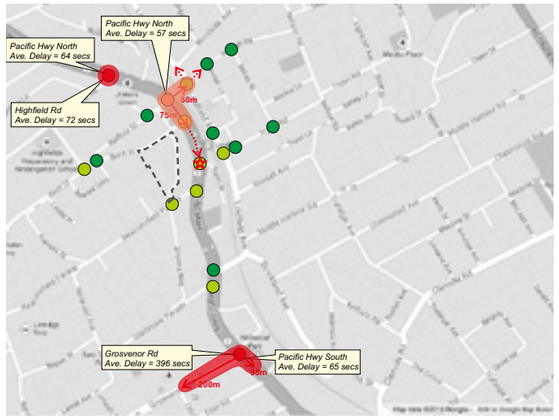


Figure 2: Weekday PM peak traffic level of service





Figure 3: Beaconsfield Parade preferred option

Traffic Management Option No.	Description/Key Element
TMM1	As described in Section 8.4
TMM1A	Traffic Signals at Beaconsfield Parade (No right turn in from Pacific Highway) Right turn achieved via G-Turn through Tryon Place
TMM1B	Traffic Signals at Beaconsfield Parade (No right turn in from Pacific Highway/No left out of Beaconsfield Parade onto Pacific Highway)/Bent Lane & Woodford Lane one way/Access to Pacific Highway maintained via Bent Street between Bent Lane & Pacific Highway
TMM1C	Traffic Signals at Beaconsfield Parade (No right turn in from Pacific Highway)/Bent Lane & Woodford Lane one way/Bent Street closed between Bent Lane & Pacific Highway
TMM1D	TMM1C with minor changes to the location of the pedestrian crossings of the Pacific Highway at Tryon Place and Beaconsfield Parade as a result of a pedestrian overbridge.

Figure 4: Beaconsfield Parade traffic options

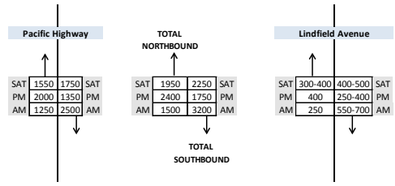


Figure 5: Vehicular survey

Source: Lindfield Local Centre: Transport Network Model Study, 2013-14, PeopleTrans

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PART 14R

14R References

14R.3 Lindfield Library Site Masterplan

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Lindfield, NSW 2070

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13 November 2015 | Version 02

SJB Architects

Project
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Urban Design Report
259-271 Pacific Highway,
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5 Appendix 37

Introduction

Overview of the regional, urban and local context to provide an initial understanding of the site.

1.1 Background

SJB has been appointed by Ku-ring-gai Council to provide a concept design for the Lindfield Library Precinct located at 259-271 Pacific Highway, Lindfield, owned by Ku-ring-gai Council.

The purpose of this report is to provide an Urban Design Study to support a Planning Prorposal being submitted by the Ku-ring-gai Council for the site. The Planning Proposal seeks to amend the current LEP controls in relation to zoning, height and FSR. A summary of the existing and proposed controls is listed below:

Controls	Current	Proposed
Land zoning	B2 Local Centre	R4 High density residential
Height of buildings	17.5 m	23.5m
FSR	1.3:1	2.0:1

The site is located to the eastern side of the Pacific Highway between Strickland Avenue and Beaconsfield Parade. At present, it is the location of the Lindfield Branch Library, self-contained residential units, Lindfield Community Centre, Lindfield Resource Centre, Ku-ring-gai Youth Development Services, Lindfield Community Centre tennis courts, carpark and access road. Studies undertaken by council have found that the library and associated facilities are out-dated and no longer fit for purpose. The library has been in operation on the site since 1954.

A study completed by Elton Consulting in 2013 recommended that the existing library and Seniors' Centre facilities be replaced with new facilities located on a new site on the western side of the highway. An independent project, the Lindfield Community Hub, which will incorporate these community facilities amongst other new uses currently forms a separate project for the Council.

In relocating the current uses for the site, it opens up the opportunity for new uses to be developed on the site which respond appropriately and provide the best urban outcome for Lindfield Local Centre. The analysis undertaken discusses the context of the site and provides justification for the uplift in controls to support the Planning Proposal.



Figure 01. Site Aerial (source NearMaps)

1.2 Methodology

Comprehensive analysis has been undertaken through site visits and desktop analysis, which led to a series of urban design principles, concept masterplan and three concept options.

As part of this analysis, the team has explored potential options for different uses including residential apartments, affordable housing, commercial uses and co-working spaces and childcare facilities.

These use options have been explored by JLL who have provided specialist advice in relation to the feasibility of such uses.

Council's adopted option is illustrated within this report and which responds most appppropriately to the site context.



Figure 02. Site Plan (source: Near Maps)

1.3 Planning Context

LEP Controls

The site is located within the Ku-ring-gai LGA and is subject to the Ku-ring-gai LEP (Local Centres) 2012. The relevant controls in relation to height, zoning and FSR are illustrated in the Figures 3 to 5.

Through our analysis, we have reviewed the controls of the sites which immediately surround the site and how these may affect development proposals on the subject site.

The Planning Proposal seeks to make the following amendments to the controls:

Controls	Current	Proposed
Land zoning	B2 Local Centre	R4 High density residential
Height of buildings	17.5 m	23.5m
FSR	1.3:1	2.0:1

The urban design justification for this proposal is provided in the following sections of this report.

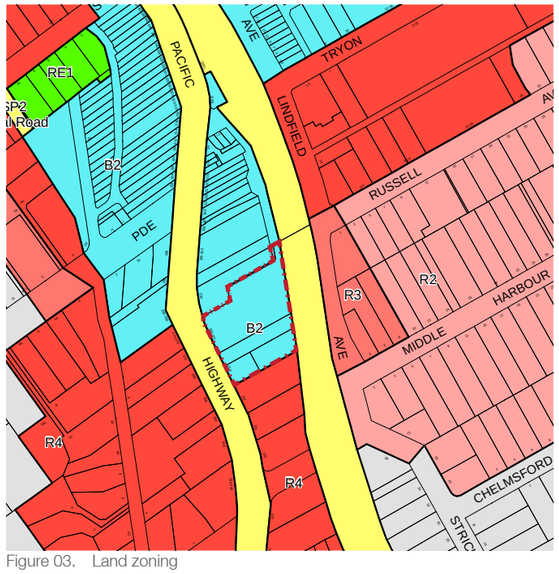


Figure 03. Land zoning

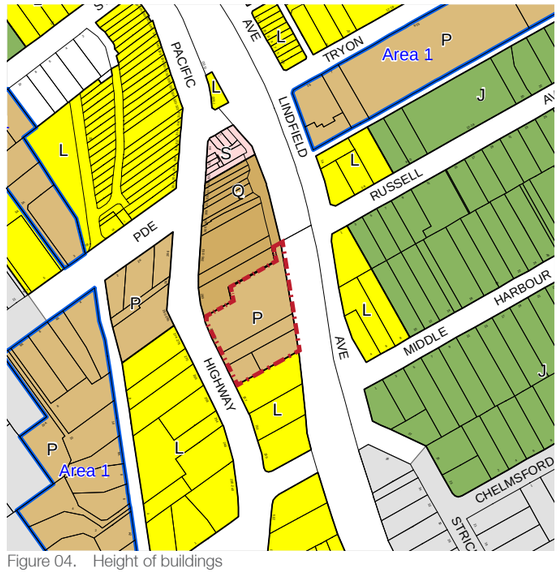


Figure 04. Height of buildings



Figure 05. FSR

B2	Local Centre
B4	Mixed Use
B5	Business Development
E2	Environmental Conservation
E3	Environmental Management
R2	Low Density Residential
R3	Medium Density Residential
R4	High Density Residential
RE1	Public Recreation
SP1	Special Activities
SP2	Infrastructure

J	9.5
L	11.5
N	14.5
P	17.5
Q	20.5
S	23.5
T	26.5
V	39.5

A1	0.2	T1	2.0
A2	0.3	T2	2.3
D	0.5	U1	2.5
J	0.8	U2	2.8
K	0.85	V	3.0
N	1.0	W	3.5
Q	1.3		
S1	1.6		
S2	1.8		

Area 5

1.2.1 Zoning

Land zoning is identified as B2 Local Centre. This zoning applies to the land immediately to the north of the site. To the south of the site and to the west (on the opposite side of the Pacific Highway, R4 High Density Residential use is identified.

1.2.2 Height of Buildings

The permissible height of the subject site is 17.5 metres (5 storeys). Immediately to the north of the site a height control of 20.5 metres (6 metres) is permissible. To the south and the east, a height control of 11.5 metres is permissible (3 storeys).

1.2.3 FSR

The FSR control applicable to the site is 1.3, with a special clause for Area 5. It should be noted that this clause does not apply to the site as it is exceeds 2,400 m^2.

To the north of the site, an FSR of 2.5 is applicable. To the south and the west, an FSR of 0.85 is applicable.

1.3 Planning Context

DCP Controls

The site is located within Lindfield Local Centre under Ku-ring-gai DCP 2012, identified on the adjacent figure. Within Volume B of the DCP, six urban precincts have been identified within the centre. The site is located directly adjacent to L3 -Tryon Place Mixed Use area, identified in Figure 06 to the right. The future character of Tryon Place Mixed Use is described:

Precinct L3: Tryon Place Mixed Use Area

This precinct is located between the Pacific Highway and the railway corridor directly adjoining the entry forecourt of the Lindfield train station at Tryon Place. Currently the precinct is somewhat isolated from other parts of the centre by the highway and rail line.
v) The area is planned to become a mixed use precinct with retail and commercial uses on the lower floors and residential apartments on the upper floors. A high quality landmark building will define the corner of Tryon Place and the Pacific Highway. The area has a high visual prominence from the rail and road and is in an important location adjoining the rail station.
vi) A new network of lanes will be created through the redevelopment process. The lanes will provide improved vehicle and service access to the area. Tryon Place will be closed to traffic (upon the completion of the new lane system) and will become a vibrant and highly visible pedestrian square for community activities such as markets.

Key aspects of proposed upgrades include:
1. Improvements to Tryon Lane with new footpaths and carparking;
2. A new town square at Tryon Place to co-incide with its location to the station.

In addition to this, the Lindfield Transport Network Study 2014 proposes an extension of Tryon Lane through the subject site to connect with the Pacific Highway. This will enable enhanced circulation within the centre as a location for kiss-and-ride associated with the rail station.

The subject site, being located directly to the south of this precinct and located between R4 residential uses forms a key transition point along the Pacific Highway corridor and in relation to the station and has an important role within the centre.

Lindfield Local Centre Precincts

The precincts, as identified in the Ku-ring-gai DCP include:

1. Balfour Street Retail Area
2. Pacific Highway Retail Area
3. Tryon Place Mixed Use Area
4. Tryon Road and Lindfield Avenue
5. Lindfield Community Hub
6. Buildings in R4 Zones

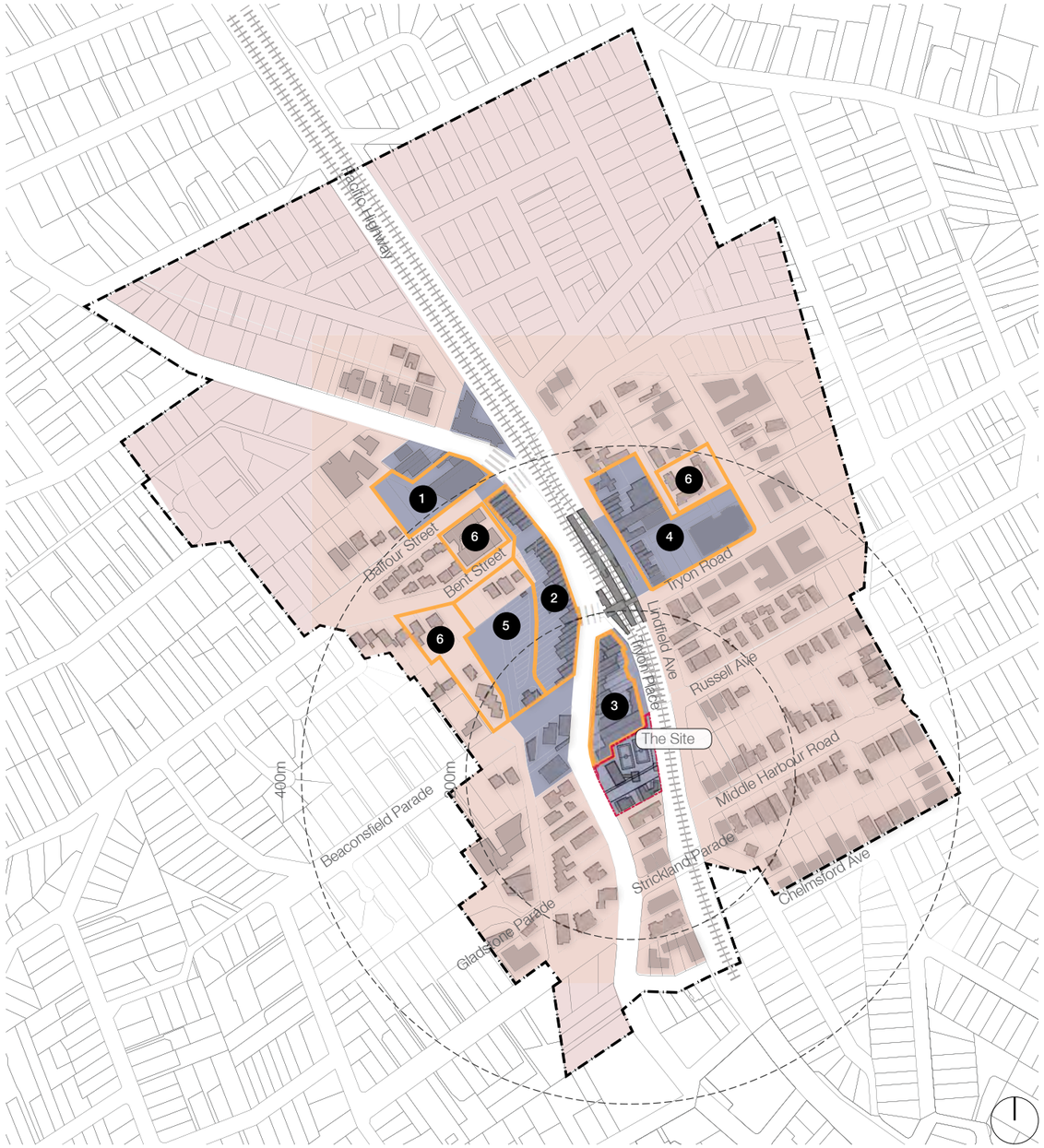


Figure 06. Lindfield Local Centre

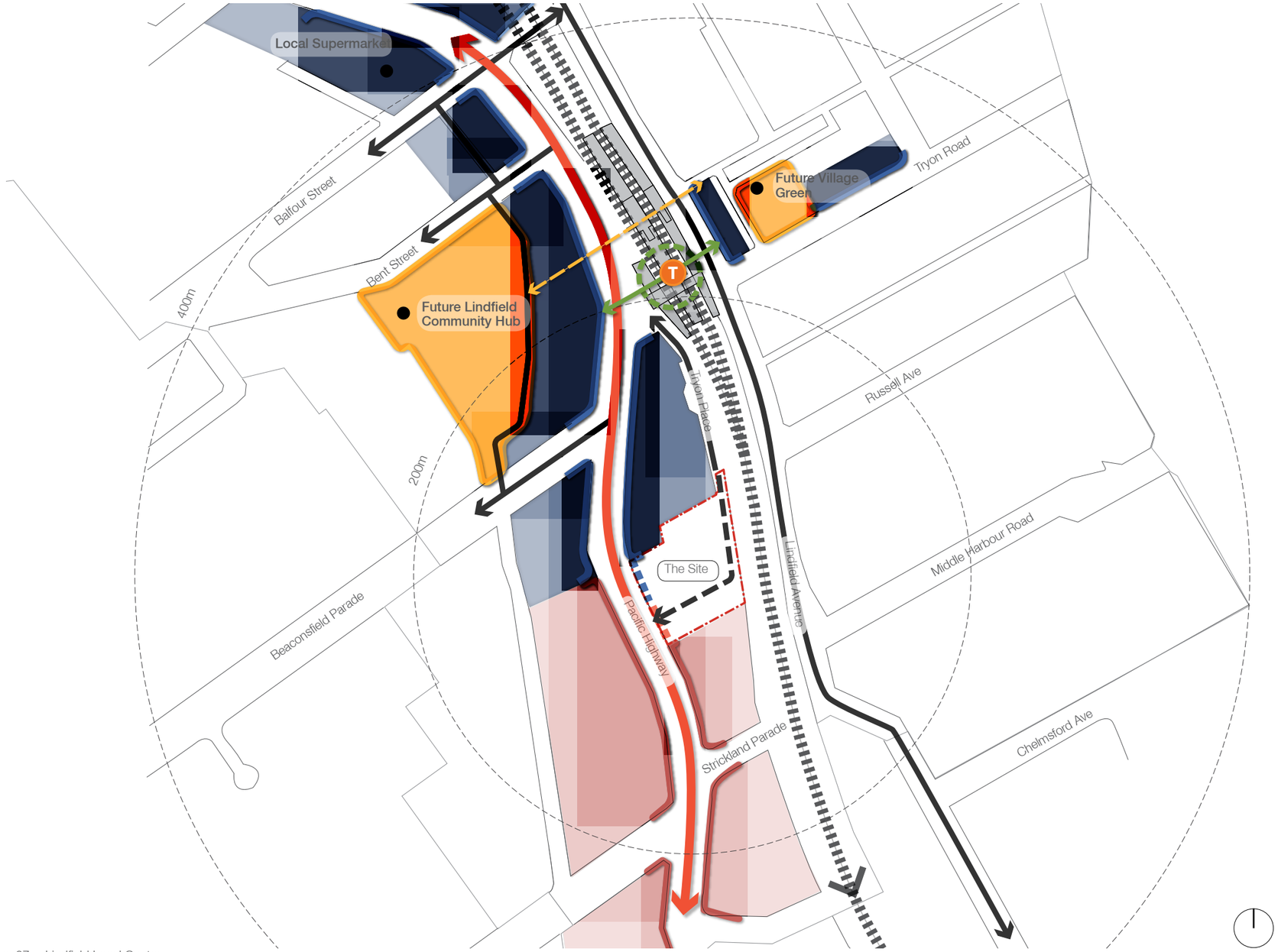
1.4 Local Centre Context

The site is located within the Lindfield Local Centre at the block situated between the Pacific Highway and the railway line.

The site is highly accessible, situtated directly to the south of the mixed use commercial strip of the eastern side of the Pacific Highway and within 200 metres of the Lindfield Station.

Within the context of the local centre and surrounding uses, the site forms a key transition site with established community uses sitting between existing commercial and residential uses.

The proposed Lindfield Community Hub and the Village Green also form an integral part of this Local Centre.



Legend

- Site
- Commercial Frontage
- Residential Frontage
- Proposed Commercial Frontage
- Proposed Residential Frontage\
- Proposed Site Link
- Arterial Road
- Primary Road
- Lindfield Local Centre
- Rail Line
- Pedestrian Link
- Future Development
- Possible Pedestrian Link
- Train Station

Figure 07. Lindfield Local Centre

1.5 Regional Context

Hierarchy of Local Centres within Ku-ring-gai

Lindfield is one of eight suburbs which are located within Ku-ring-gai LGA and located along the main Pacfiic Highway and Railway corridor.

A clear hiearchy exists amongst each of the suburbs and its local centre, evident through growth over the decades. The centres as established can be grouped into broad categories based on the size and amenity offered by their local centre. Alongside this is a broad review of the permissible controls within the centres of each and how this does not always align with the size of the centre. This is analysed very broadly:

1. Largest Centres

Gordon:
FSR: 3.0:1, 2.5:1 and 2:0:1
Height: 23.5m, 26.5m and 39.5m

2. Mid size Centres

Turramurra:
FSR: 2.5:1
Height: 17.5m

Lindfield:
FSR: 3.0:1, 2.5:1and 1.3:1
Height: 26.5m, 23.5m and 20.5m

3. Small Centres

Pymble:
FSR:2.3:1 and 1.3:1
Height: 23.5m and 17.5m

Roseville:
FSR: up to 2:1
Height:up to 20.5m

Wahroonga:
FSR: 1:0:1
Height: 14.5m

4. Smallest suburbs

Killara: no local centre
FSR: 1:0:1
Height: 14.5m
Warrawee: no local centre

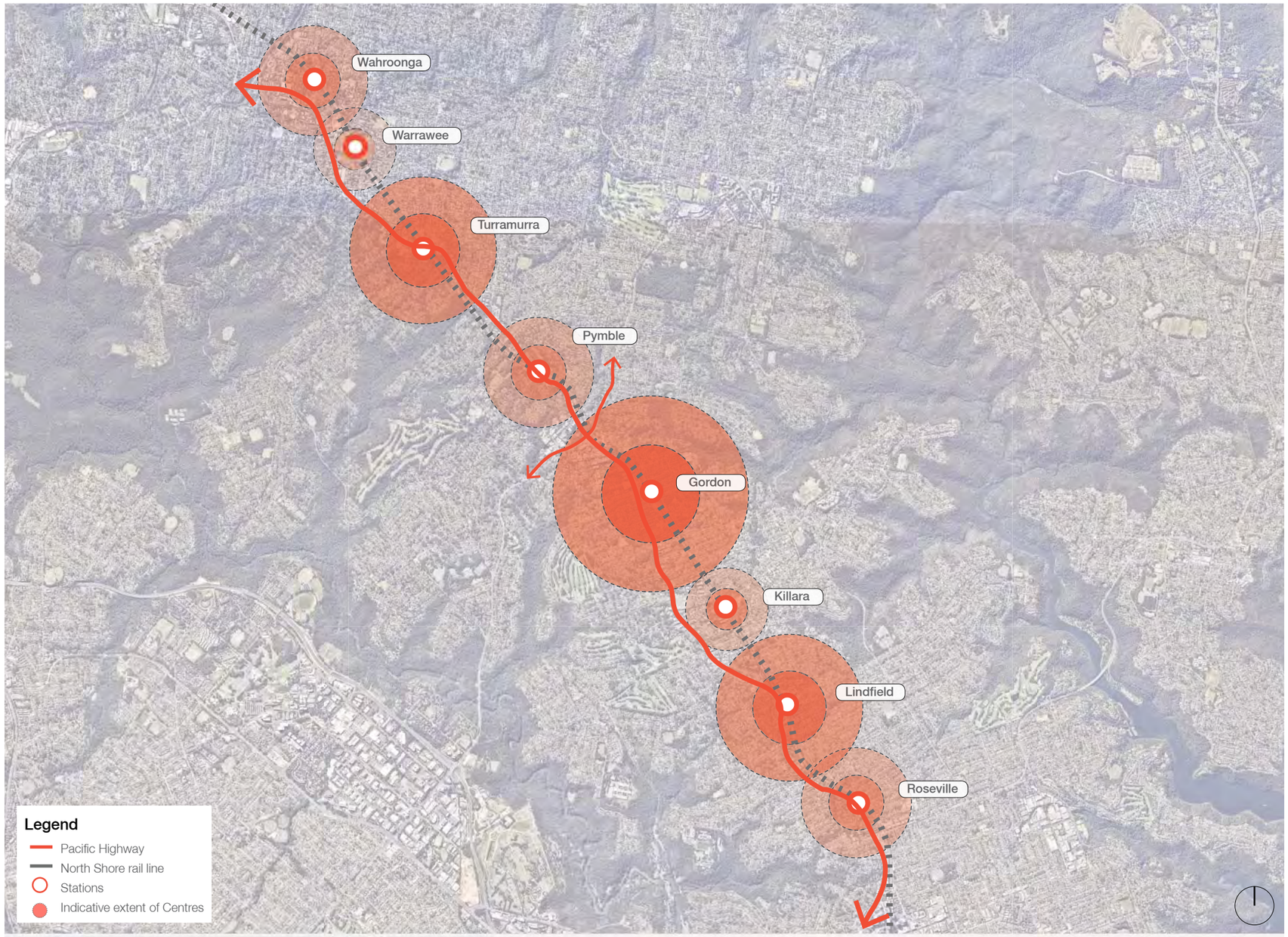


Figure 08. Hierarchy of Local Centres within Ku-ring-gai

1.6 Regional Context

The site has a strategic and important location within the context of this part of Ku-ring-gai LGA. Lindfield is located between Roseville and Killara, which are predominantly residential suburbs focused around small centres.

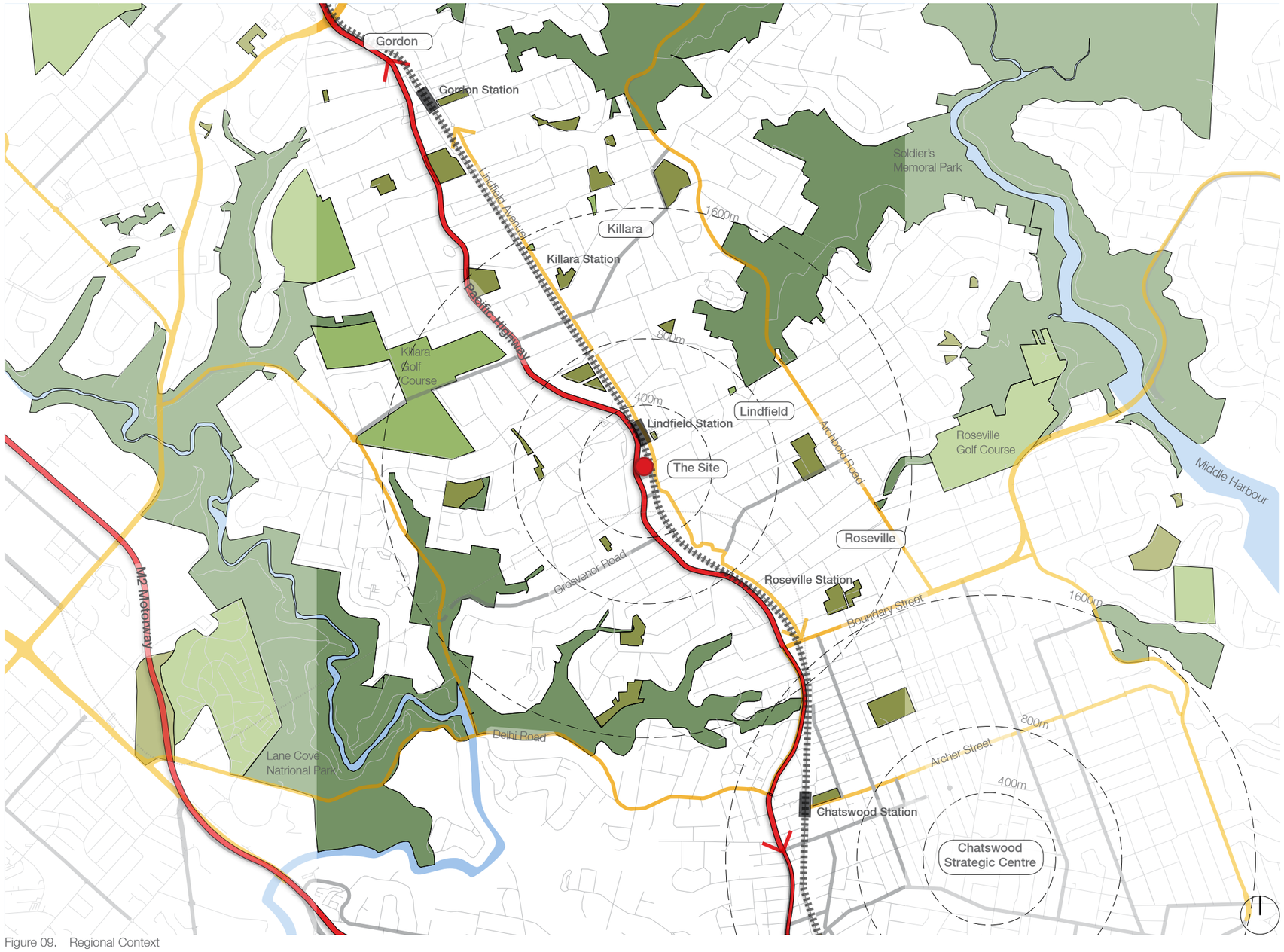
The Pacific Highway forms the major road corridor running through the North Shore, linking the suburbs with the city and Hornsby.

The railway line forms the other key infrastructure corridor which runs for the majority alongside the Pacific Highway.

The suburb of Lindfield and the adjacent suburbs are predominantly residential, characterised by large lots with established houses. The local centres of these suburbs have developed along the highway and around the railway line.

Within close proximity is the open amenity of Lane Cove National Park and Middle Harbour.

Chatswood, which is identified as a Strategic Centre under the Plan for Growing Sydney is located less than 2 kilometres from the site.



Legend

- Site
- Arterial Road
- Primary Road
- Secondary Road
- Neighbourhood Park
- Recreational Open Space
- Regional Park

Figure 09. Regional Context

Site Analysis

Exploring the existing urban conditions and contexts, to assist in developing an appropriate urban response.

2.1 Local Analysis

2.3.1 Movement

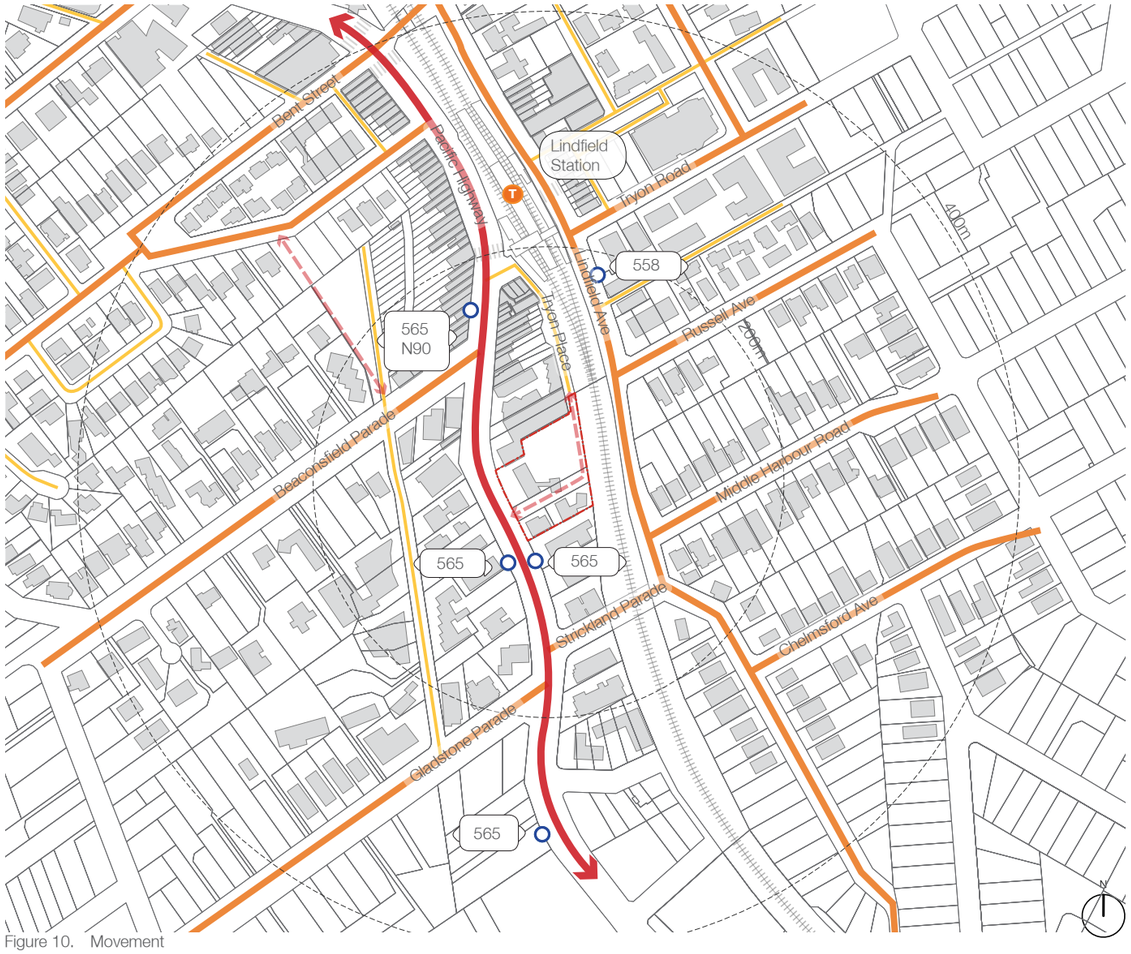


Figure 10. Movement

Legend

- Site
- Arterial Road
- Primary Road
- Secondary Road
- Proposed Road
- Bus stop
- Train station

Key points

- Within 200 metres of Lindfield station.
- Located on the Pacific Highway, the main arterial route connecting the CBD with Hornsby and the north.
- Bus routes 565 and 558 run along the highway and Lindfield Avenue connecting Lindfield with Chatswood, UTS Lindfield, Macquarie Centre and Macquarie University.

2.3.2 Open Space



Figure 11. Open Space

Legend

- Site
- Recreational Space
- Future Recreational Space

Key points

- Limited amount of green open space located within the 400 metre catchment of the site.
- The propsed Community Hub and the Village Green projects will provide new public open space for the wider Lindfield community.

2.3 Local Analysis

2.3.3 Building Use



Figure 12. Building Use

Legend

- Site
- Sports and recreation
- Local retail
- Commercial
- Community
- Residential

Key points

- The site currently incorporates community facilities.
- The site is within close proximity to the retail and commercial facilities of Lindfield Centre which are focused along the Highway.

2.3.4 Existing Building Heights



Figure 13. Building Height

Legend

- Site
- 1-2 Storeys
- 2-4 Storeys
- 5 Storeys

Key points

- The existing surrounding heights are predominantly 1-2 storeys.

2.2 Site Characteristics

The site has a total area of 5,848.6m$^{2.}$ and is bounded by an existing car showroom to the north (289-293 Pacific Highway), the North Shore rail line to the east, a residential flat buildng to the south at 257 and the Pacific Highway to the west.

The key site characteristics are identified on the following page.



Legend

Site

Figure 14. Regional Context

2.4 Site Characteristics



Figure 23. 01 View of the Library from the Pacific Highway



Figure 15. 02 View of the Ku-ring-gai Centre for Community



Figure 16. 03 View of the Ku-ring-gai Centre for Community



Figure 17. 04 View of the well located outside the library



Figure 24. 05 View looking east down access road of the site



Figure 18. 06 View of the self-contained units looking south



Figure 19. 07 View looking east towards the Community Centre and self-contained units



Figure 20. 08 View looking west towards the rear of the library & KYOS



Figure 25. 09 View of the Community Centre looking east



Figure 21. 10 View looking north towards Tryon Place

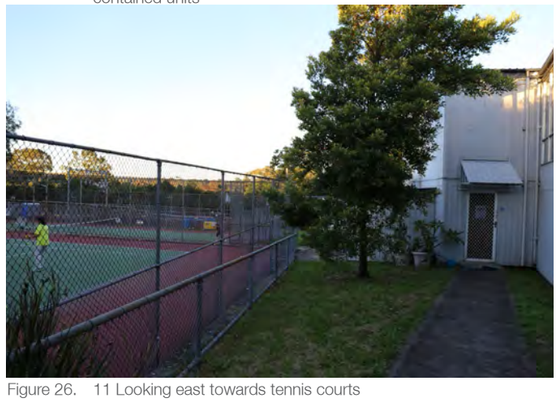


Figure 26. 11 Looking east towards tennis courts



Figure 22. 12 View along northern boundary

2.3 Context Characteristics

The following page provides an indication of the character of the surrounding area of Lindfield Local centre and the adjacent sites.

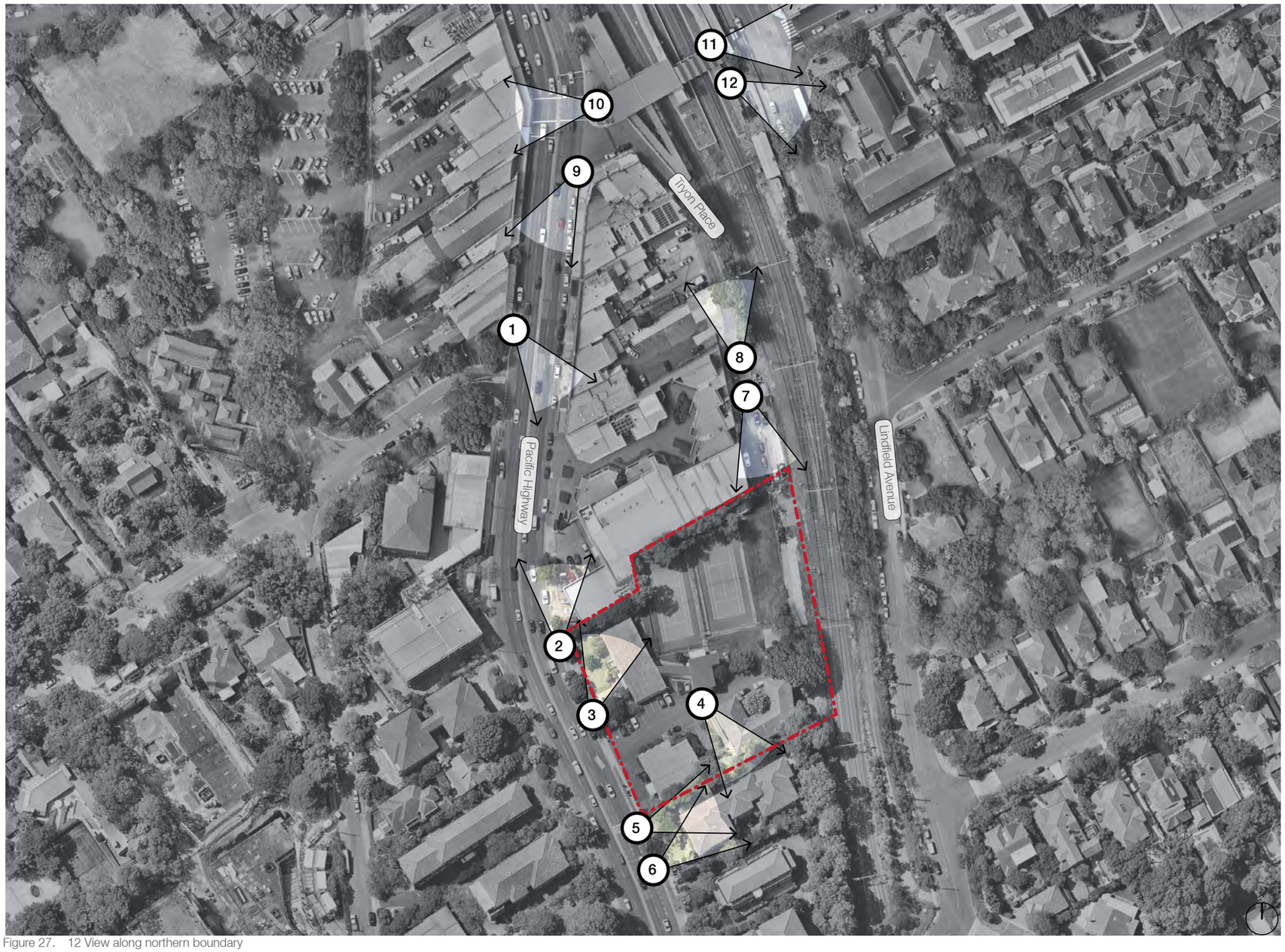


Figure 27. 12 View along northern boundary

2.5 Surrounding Context


Figure 36. 01 View looking south along the Pacific Highway



Figure 28. 02 Existing car dealership directly to the north

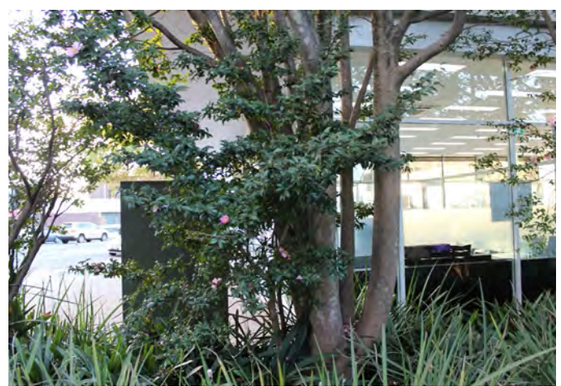


Figure 29. 03 Boundary condition with the car dealership to the north


Figure 30. 04 Existing residential flat building directly to the south


Figure 31. 05 Driveway to parking area of residential flat building to the south


Figure 32. 06 Front entry and address of residential flat building directly to the south



Figure 38. 07 Looking south along Tryon Place into the east edge of the site



Figure 39. 08 Looking north along Tryon Place towards Lindfield Station


Figure 37. 09 Local shops along the Pacific Highway looking south



Figure 33. 10 Local shops along the Pacific Highway looking west



Figure 34. 11 Local shops of Lindfield Avenue


Figure 35. 12 Local shops and St Albans Anglican Church along Lindfield Avenue

2.4 Existing Conditions

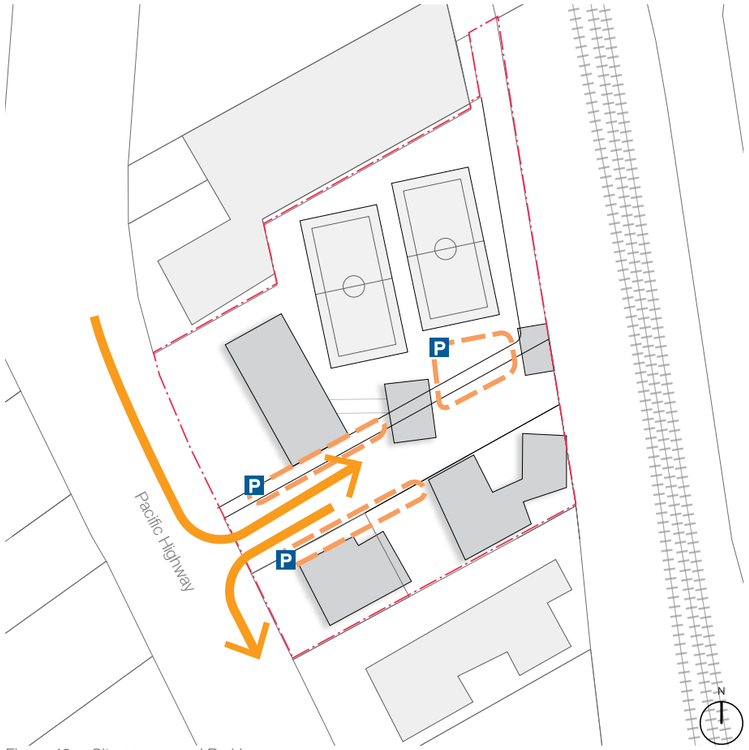


Figure 40. Site access and Parking

2.6.1 Site Access/Parking

The only access to the site is from the Pacific Highway travelling southbound.

Legend

- Site
- Vehicular Entry & Exit
- Parking



Figure 41. Archaeology

2.6.2 Archaeology

An extant well is located on the site directly in front of the library. This is not identified as a heritage item under Ku-ring-gai LEP but is of local significance. Godden Mackay Loggan have undertaken a preliminary assessment of the significance of the well, which is outlined in their report Lindfield Library Site - Historical Archaeological Assessment (June 2015)

Legend

- Site
- Extant Well (Status under investigatoin)



Figure 42. Trees

2.6.3 Trees

There are numerous trees on the site. At this stage, these have been located from aerial mapping and no detail arborist survey or report has been undertaken.

Legend

- Site
- Trees

2.6 Existing Conditions



Figure 43. Existing Buildings

2.6.4 Buildings

Existing buildings on the site include the;-

a. Lindfield Branch library;
b. the Lindfield Community Centre;
c. Lindfield Seniors Resource Centre
d. Ku-ring-gai Youth Development Service
e. Self-contained residential units (former Arrunga Aged Care) - now vacated
f. Lindfield Community Centre tennis courts

Legend

Site
Existing Buildings



Figure 44. Setbacks

2.6.5 Setbacks

The Pacific Highway forms the primary frontage to the site. The library and Community Centre are set back at varying distances from the boundary. Within the site, other facilities are accessed from the primary access road which runs east-west.

Legend

Site
Frontages



Figure 45. Topography

2.6.6 Topography

There is a slope on the site running downwards from the Pacific Highway to the railway line. A detailed survey has not been undertaken at this stage and contours indicate the topography.

Legend

Site
Slope Gradient

N

2.5 Constraints & Opportunities



Figure 46. Constraints



Figure 47. Opportunities

2.7.1 Constraints

1. Traffic noise from the Pacific Highway;
2. Existing well to the front of the library building;
3. Limited access point from the Pacific Highway;
4. Existing trees on the site;
5. Setback control of 6 metres from the Ku-ring-ai Council DCP
6. Adjoining residential buildings with habitable rooms and balconies facing north towards the site;
7. Rail noise from the rail line to the east.
8. Existing building abutting northern boundary.

Legend

- Site
- Vehicular Entry
- Existing Buildings
- Heritage Well
- Site Setback
- Frontages
- Noise

2.7.2 Opportunities

1. Strengthen the existing street frontage to the Pacific Highway;
2. New street connecting the Pacific Highway with Tryon Place;
3. Active frontage to the rear lane of Tryon Place;
4. Existing trees on the site create a buffer between subject site and the adjoinining sites with infrastructure and residential flat buildings;
5. Stepped built form with the site's topography;
6. Potential future development of the adjoining site to the north (289-293 Pacific Highway)

Legend

- Site
- Through Site Link
- Slope Gradient
- Exisiting Buildings
- Potential Adjoining Site Massing
- Proposed Landscaping
- Frontage

3

Urban Design Concepts

Design principles, response and a concept master-plan for the site.

3.1 Urban Design Principles

The following design principles provide the basis for the concept design and the evolution of the masterplan options. We will revisit these principles throughout the design process to ensure thery are reflected in the outcomes.

Connectivity



Increase the movement and connectivity through the site, with the introduction of clear and identifiable through-site link. This link should allow easy navigation through the streetscape and designed in a way to prioritise pedestrians.

Vehicular access should be designed for the ease of access to both the site and the station without disrupting pedestrian activity.

Liveability



In order to create diversity across the site, housing choice should be present to create a difference and variety amongst the residential component of the scheme. This has the benefit of ensuring that the site does not become monotonous in terms of built form, and also allows housing choice which acknowledges different household/family structures, socio-economic backgrounds and levels of affordability.

A variety of well-designed dwellings are to be integrated to accommodate different household configurations.

Culture and Place



The scheme should respond to and acknowledge the established character of culture and place. The site has an important history in the urban and cultural development of Lindfield and the wider North Shore.

A historic well and other potential archaeological remains, which is located on the western side of the site near the Pacific Highway, is associated with an early landowner - Thomas Coleman and the dairy which he owned and ran there. Acknowledgement of this through interpretation is important in recognising this history.

3.1 Urban Design Principles

Community



The scheme should acknowledge and respond to the community uses which have been located on the site since the 1950s to the present day.

Whilst some functions of the site are to be relocated to the new Lindfield Community Hub site on the other side of the Pacific Highway, there is the opportunity to incorporate some uses which maintain the legacy of community and acknowledge the importance of the site to the local community.

Activation & Accessibility



The site is located to the southern periphery of the Lindfield commercial strip focused around Lindfield Station and the Pacific Highway.

The mixed use zoning of the site allows for non-residential uses, which will facilitate the activation of spaces and streetscapes created within the development. These non-residential uses, which could include commercial and community uses will increase general activity and accessibility of the site through usage by the wider community.

Integration with Local Centre



The site has a very good proximity to the Lindfield Local Centre, focused around Lindfield Train Station. This includes an established centre of services and amenities, and integration with this existing amenity should be retained.

This is achieved through improved access to the centre and an appropriate mix and transition of uses across the site which relate sympathetically to the existing uses already found in the centre.

Amenity



Generous levels of amenity should be provided to the development, both to residential uses and all other uses to be considered. This includes open space - common and private open space, streetscape functionality, deep soil, solar access and daylight.

3.2 Urban Design Response

Building Uses

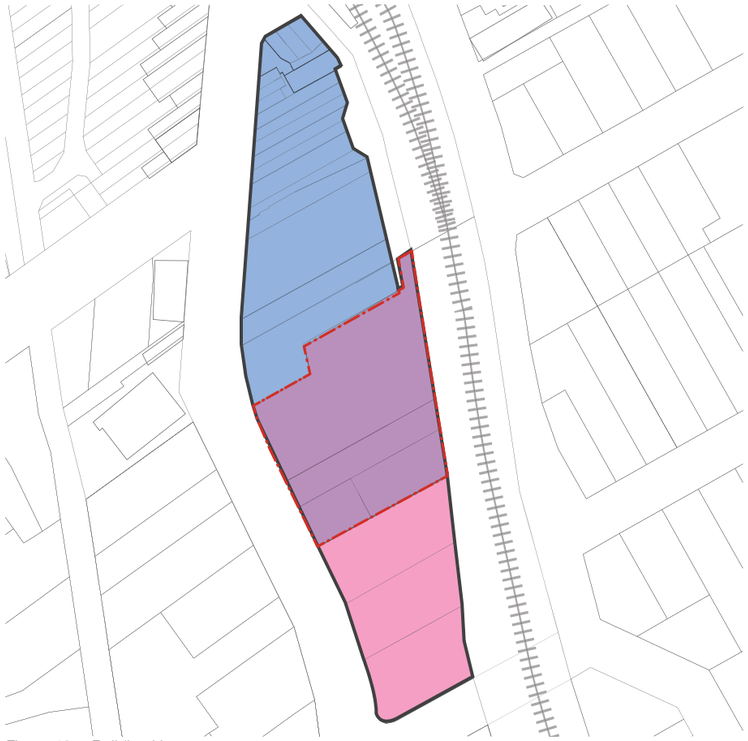


Figure 48. Building Uses

Mixed uses are located to the north of the site responding to the Local Centre function, which include commercial and retail uses. Purely residential uses are located to the south of the site.

Urban Grain

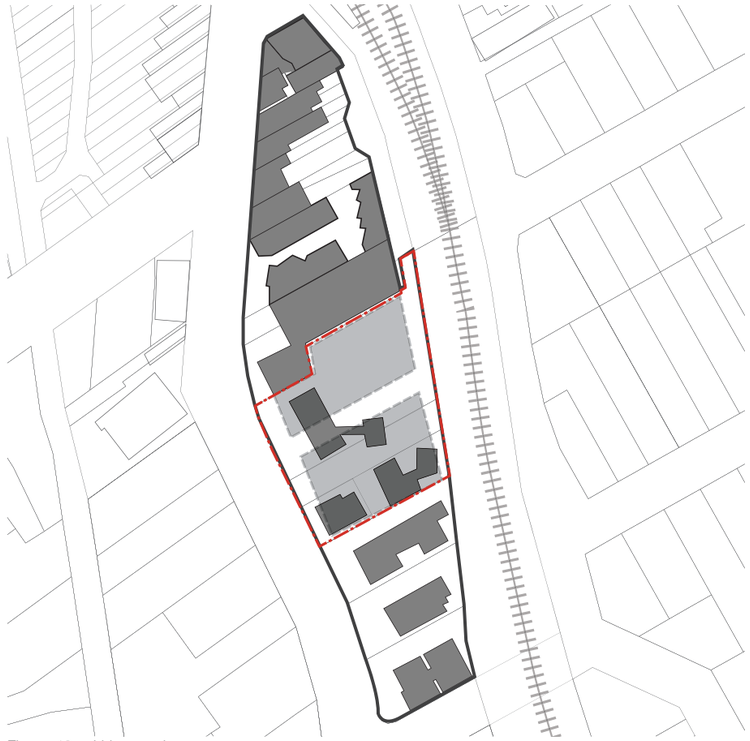


Figure 49. Urban grain

The existing urban grain of the site and its surrounding context reflects the range of land uses.

The site's response is to provide a transition in grain between the two - incorporating larger footprints which are articulated through their architecture to provide a transition between the traditional fine grain of the centre and the existing residential to the south.

Building Height



Figure 50. Height

Building heights to the north of the site have traditionally been low rise shop-fronts. The aspiration to increase height with a maximum height of 23.5 metres (7 storeys) reflects the importance of the Local Centre, the proximity to the station, and the benefit of increasing density within transport and local centre catchments. Variation in building height is desireable throughout this precinct and may be pursued by a DCP control for the 6 storeys (20.5 metres) along the Pacific Highway

To the south, the heights are predominantly to be retained at a maximum of 11.5 metres (3 storeys).

The design response is to provide heights which sit between these proposed maximum and minimum of the block.

3.3 Masterplan Concept

The following concept integrates possible development of the site at 283 Pacific Highway to provide a holistic response to this part of Lindfield Local Centre.

1. Through-site connection aligns with the subject site's northern boundary, removing the constraints associated with building interfaces along the Pacific Highway and Tryon Place frontages;
2. Open space is split into two key areas; a public space that straddles the through-site link, and a private amenity space (potentially with deep soil) at the southern boundary of the site;
3. Ground floor commercial is focused at the northern edge of the subject site, immediately to the south of the through-site link;
4. Integration with the town centre's character is focused at the northern extent of the Pacific Highway frontage;
5. Deep soil landscape setbacks along eastern/southern boundaries.

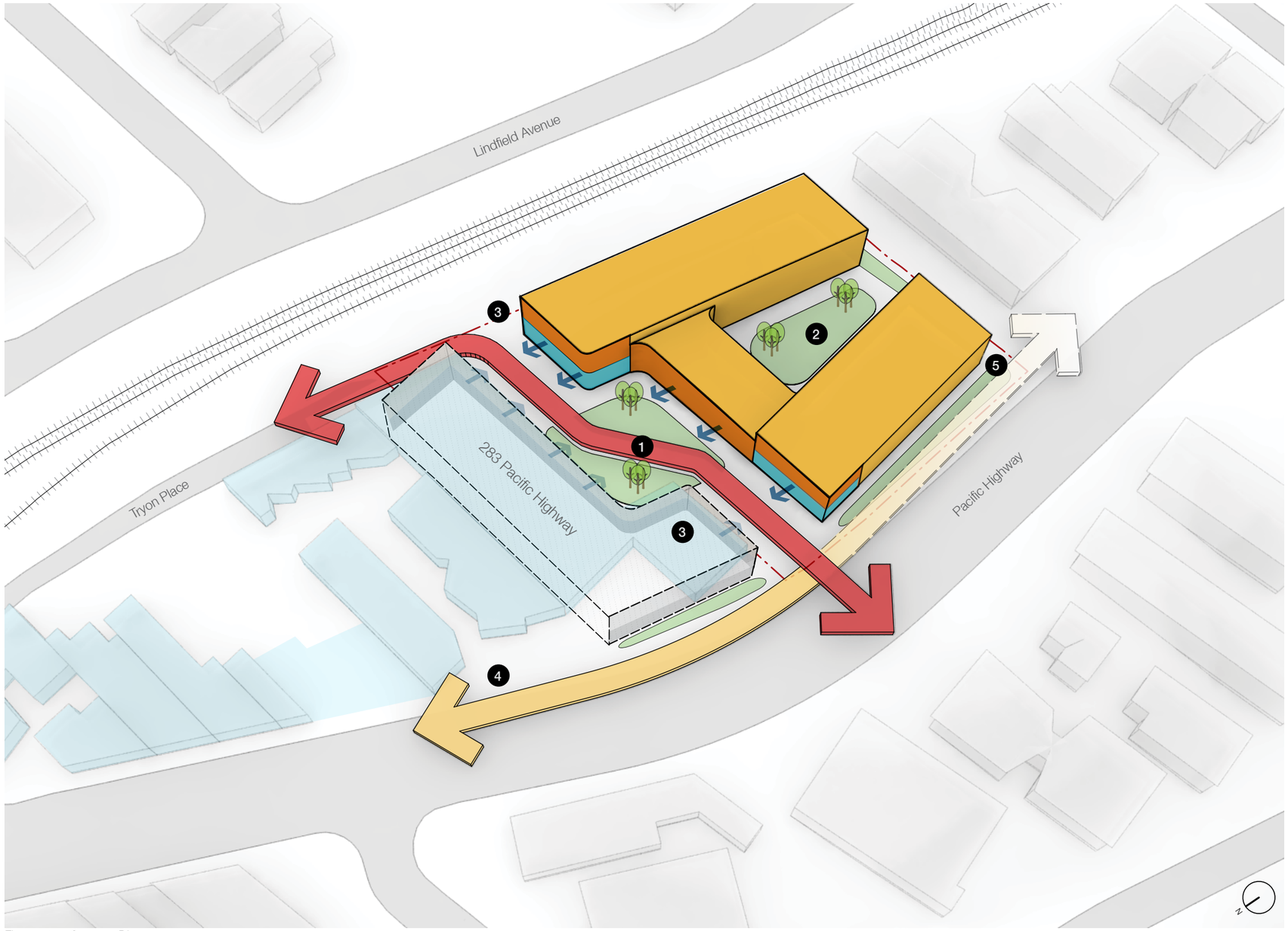


Figure 51. Concept Diagram

3.4 Masterplan Parameters

Activity and Connection

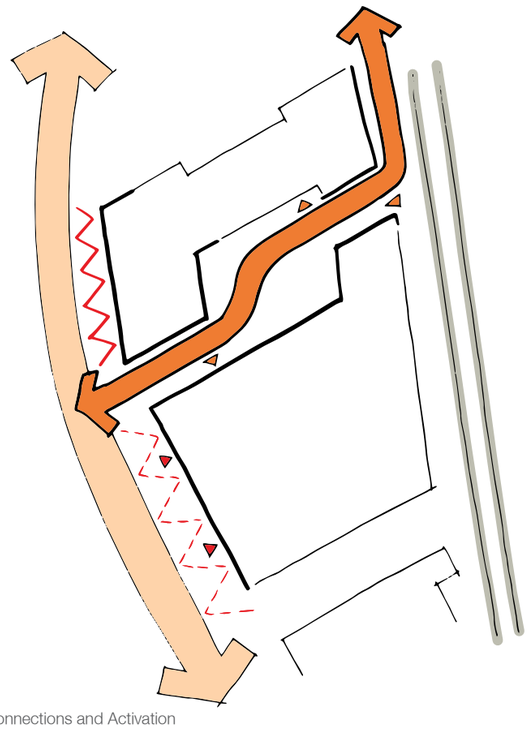


Figure 52. Connections and Activation

The through-site link aligns with the site's northern boundary, weaving through a public open space towards Tryon Place. Activation of the Pacific Highway frontage can be limited to the adjoining property (no. 283). Pedestrian access to the buildings is taken from the Pacific Highway frontage and from the through-site link.

Open Space

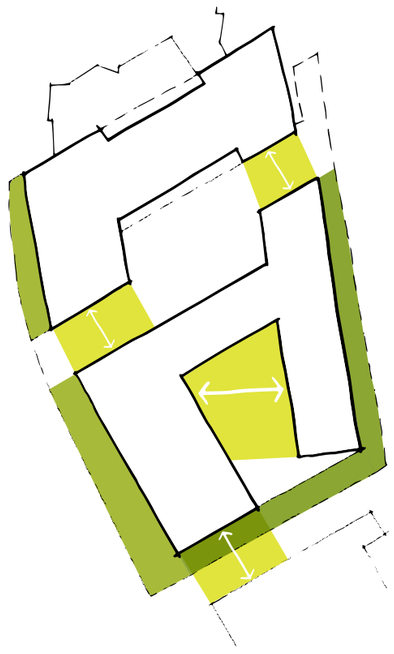


Figure 53. Open Spaces

The realignment of the through-site link removes the potential conflicts of the building interfaces between the subject site and neighbouring 283 Pacific Highway.

The setback to the Pacific Highway frontage is a minimum of 6 metres adjacent to the town centre and increasing to 10 metres at the southern boundary in response to the surrounding residential grain. A minimum of 6 metres along the southern boundary allows for deep soil landscaping.

Building separation distances align with the requirement of the Council's DCP.

Built Form

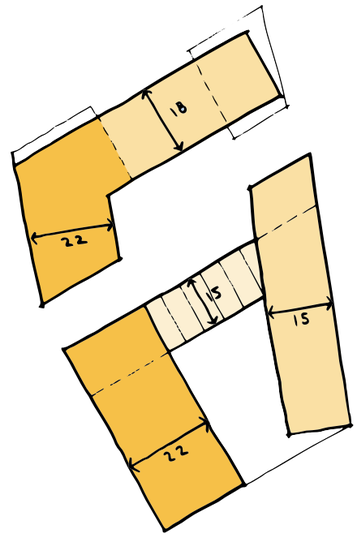


Figure 54. Built Form

A range of building lengths and depths are proposed in order to achieve the desired urban, amenity and development outcomes. The 22 metre blocks allows for double-loaded corridors and apartments that orientate to all frontages. The 18 metre deep blocks assume a single aspect apartment layout, typically oriented to maximise residential amenity.

3.5 Visualisation



Figure 55. Illustrative view of the proposed new street

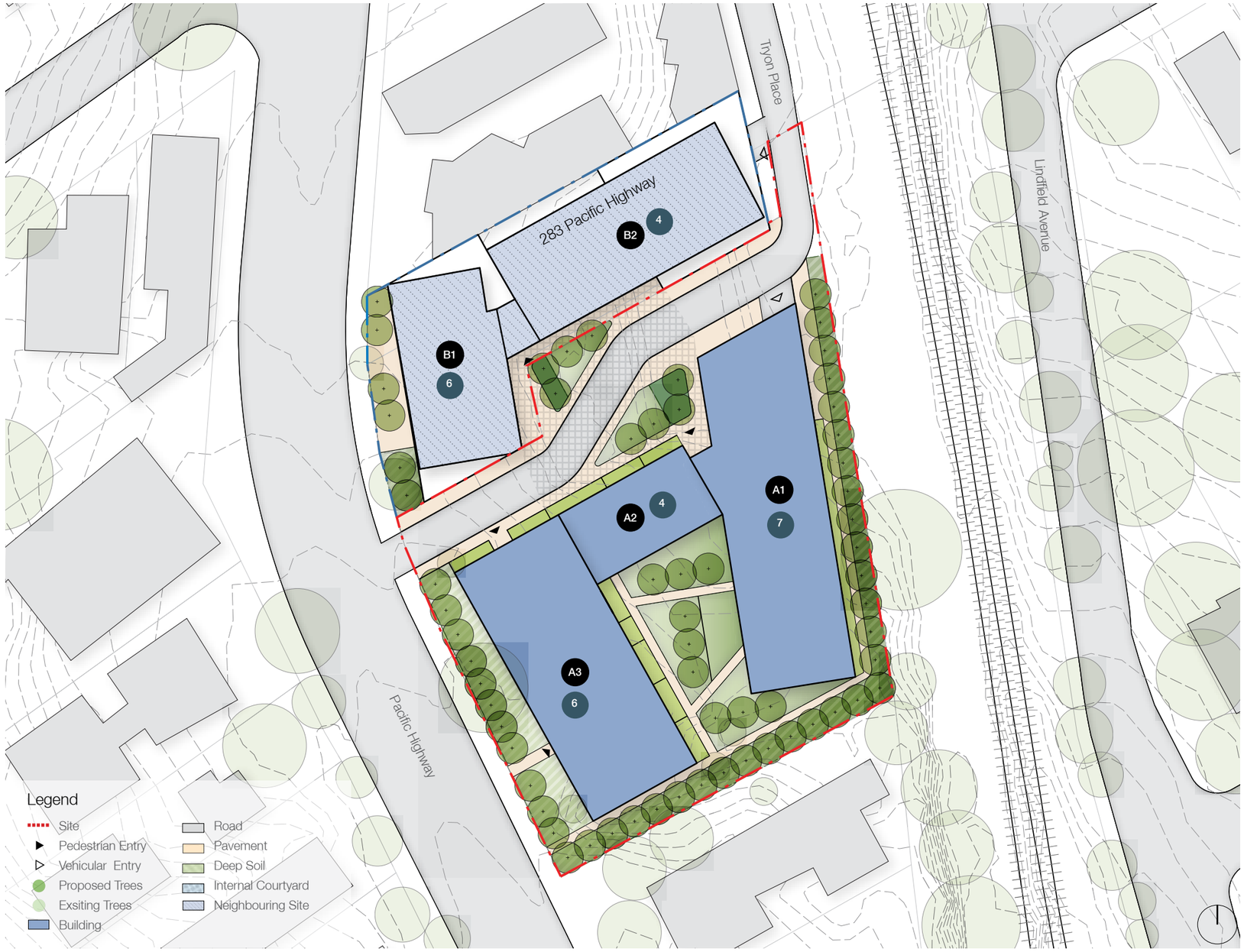
3.6 Illustrative Plan

Lindfield Library Site Precinct 259-271 Pacific Highway

Block	Storey (Total)	Land Use	GBA total (m^2)	GFA (m^2)	NSA (m^2)	Dwellings (units)
A1	7	Commercial	300	270	230	-
		Residential	7,160	5,585	4,747	59
A2	4	Commercial	-	-	-	-
		Residential	1,480	1,154	981	12
A3	6	Commercial	-	-	-	-
		Residential	6,000	4,680	3,978	50
		Total	**14,940**	**11,689**	**9,936**	**121**
		Site Area		**5,848.6**		
		FSR		**2.0:1**		
		Car Parking				**171**

283 Pacific Highway

Block	Storey (Total)	Land Use	GBA total (m^2)	GFA (m^2)	NSA (m^2)	Dwellings (units)
B1	6	Commercial	600	540	459	-
		Residential	3,400	2,652	2,254	28
B2	4	Commercial	920	828	704	-
		Residential	1,600	1,248	1,061	13
		Total	**6,520**	**5,268**	**4,478**	**41**
		Site Area		**2,105**		
		FSR		**2.5:1**		
		Car Parking				**88**

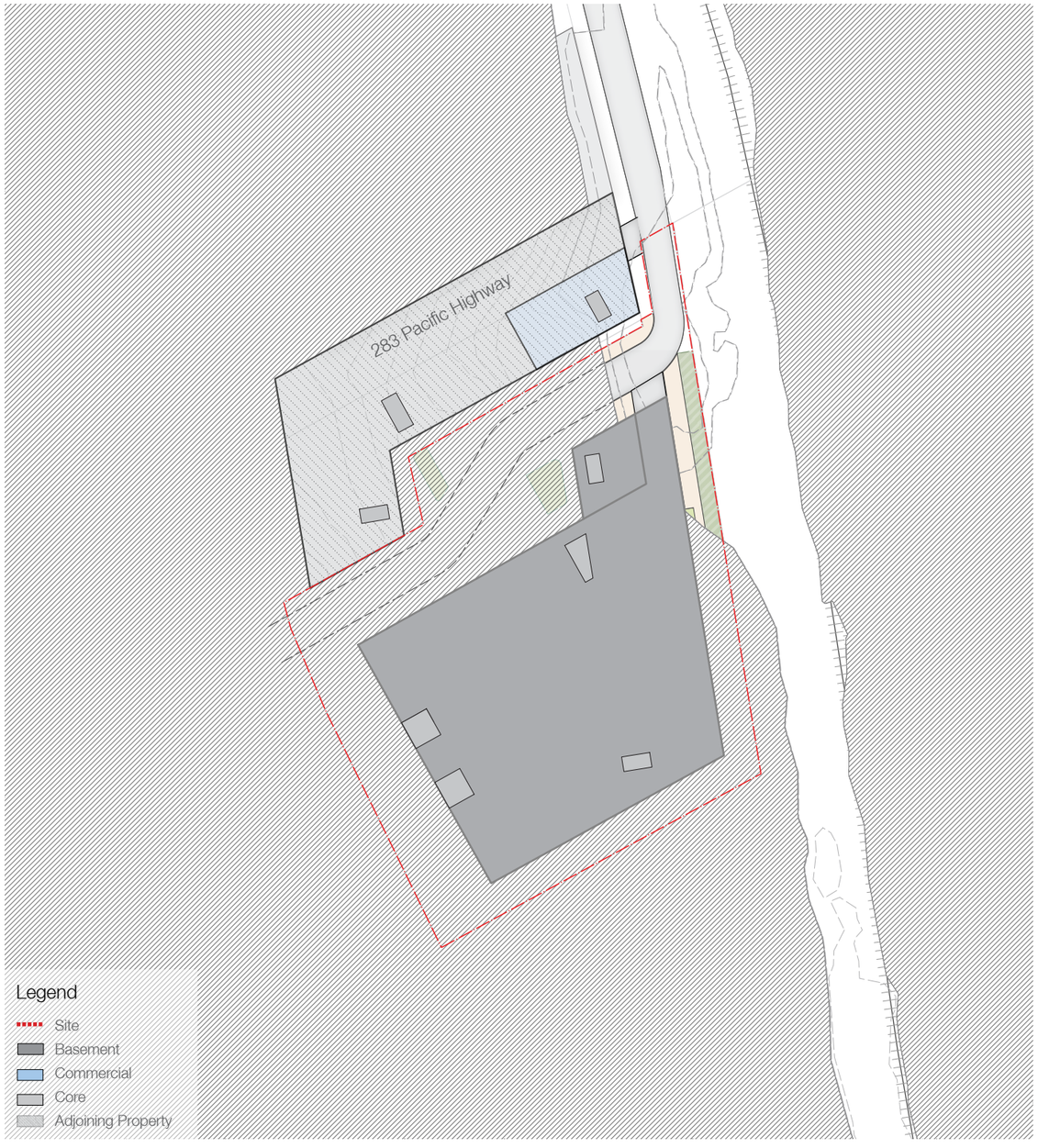


Notes
1. Apartments:GBA to GFA = 78%; GFA to NSA = 85%
2. Commercial: GBA to GFA = 90%; GFA to NSA =85%
3. Average unit size = 80m^2
4. Car Parking - Commercial = 1space/ 33m2-45m2 of GFA (40m2 Average)
5. Car Parking - Residential = Average of 1.19 spot/dwelling. Visitor spot 1 per 6 Dwelling
4. All areas are approximate and subject to further design development.

3.13 Ground Floor Plan

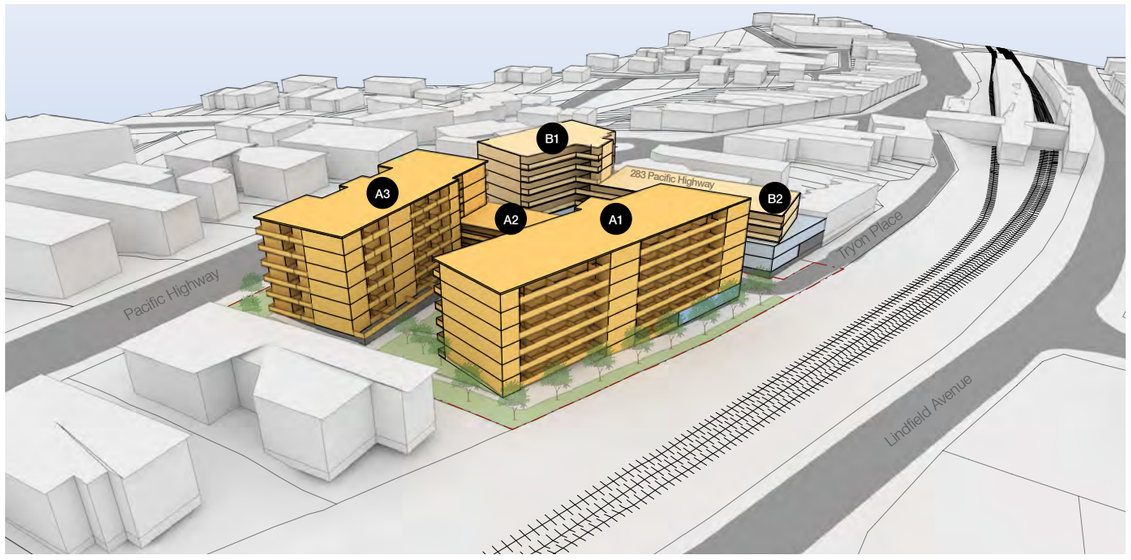


3.13 Basement and Typical Upper Plan

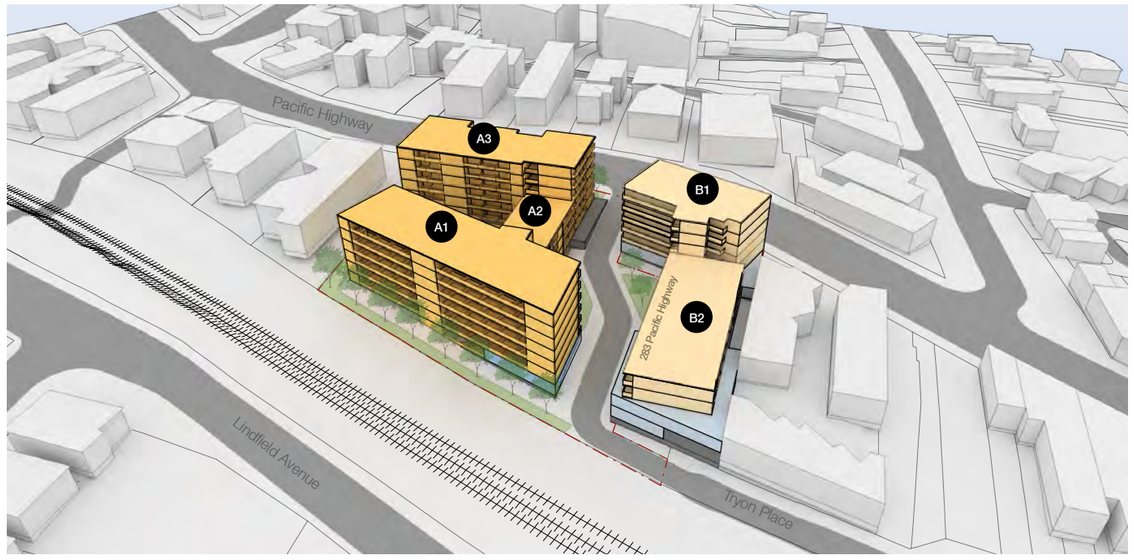




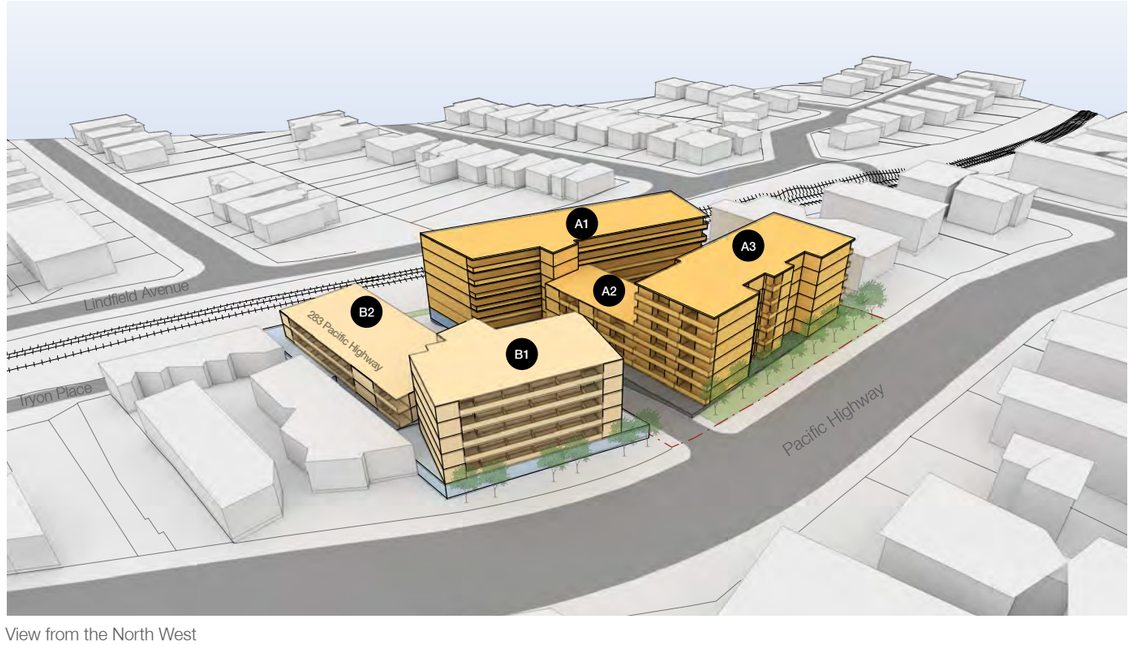
3.7 Massing



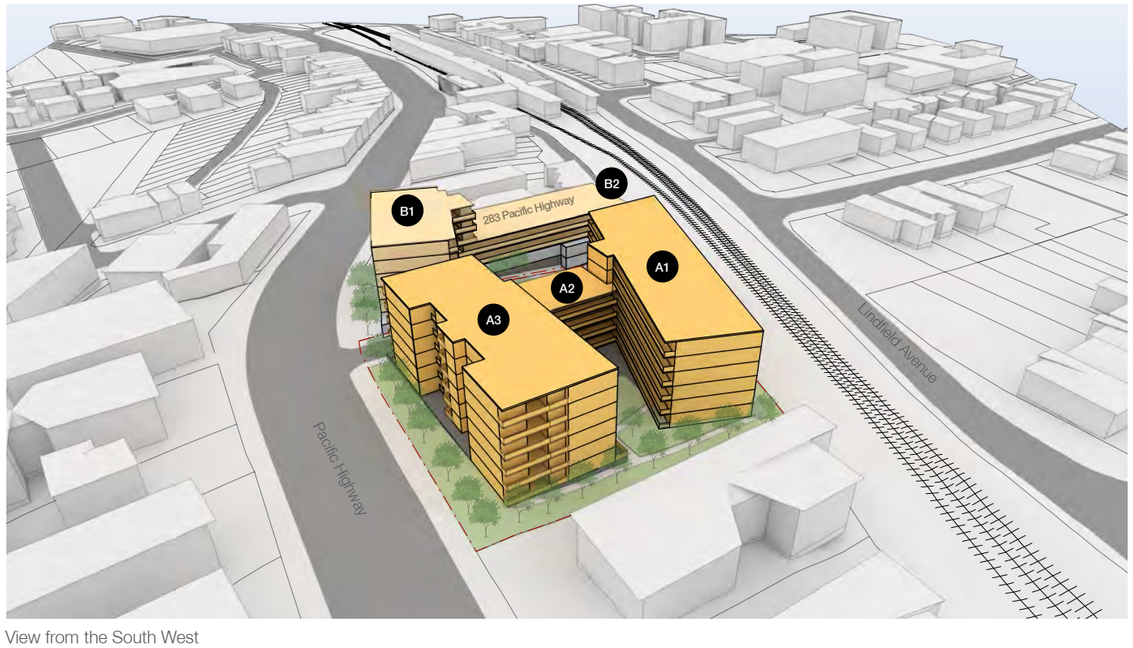
View from the South



View from the East



View from the North West

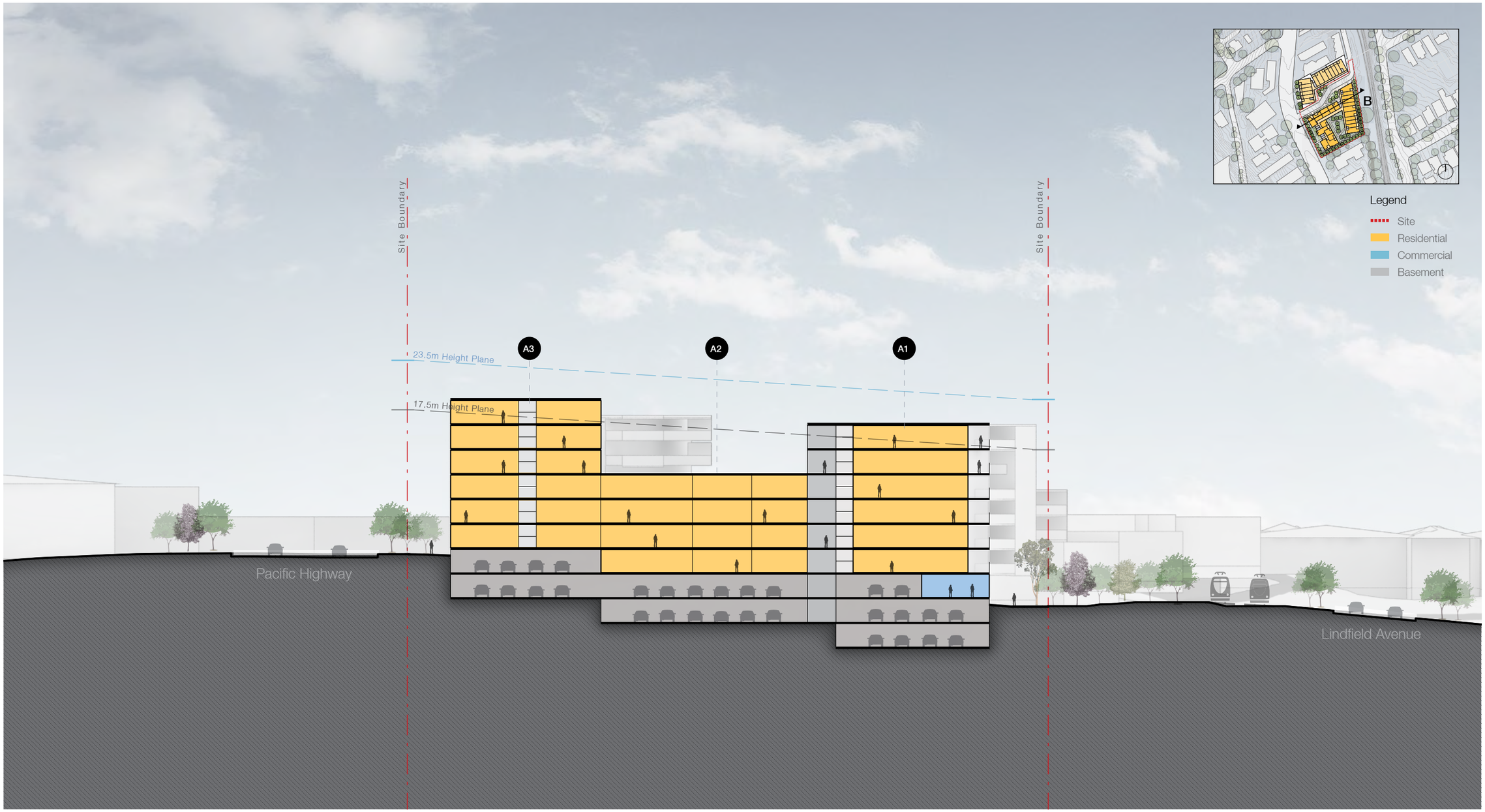


View from the South West

3.8 Section A


A
Legend
Site
Residential
Basement
Site Boundary
Site Boundary
A3
A1
23.5m Height Plane
17.5m Height Plane
Pacific Highway
Lindfield Avenue

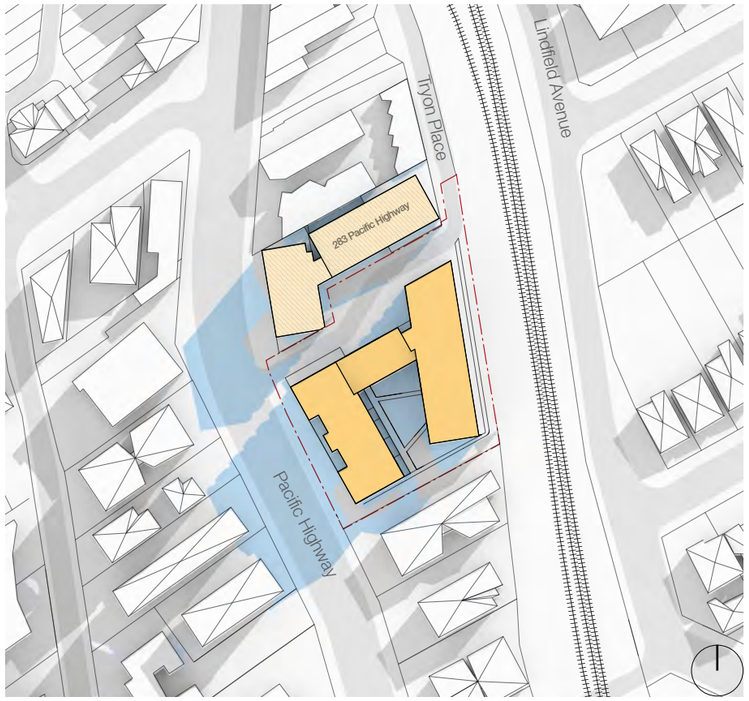
3.15.1 Section B



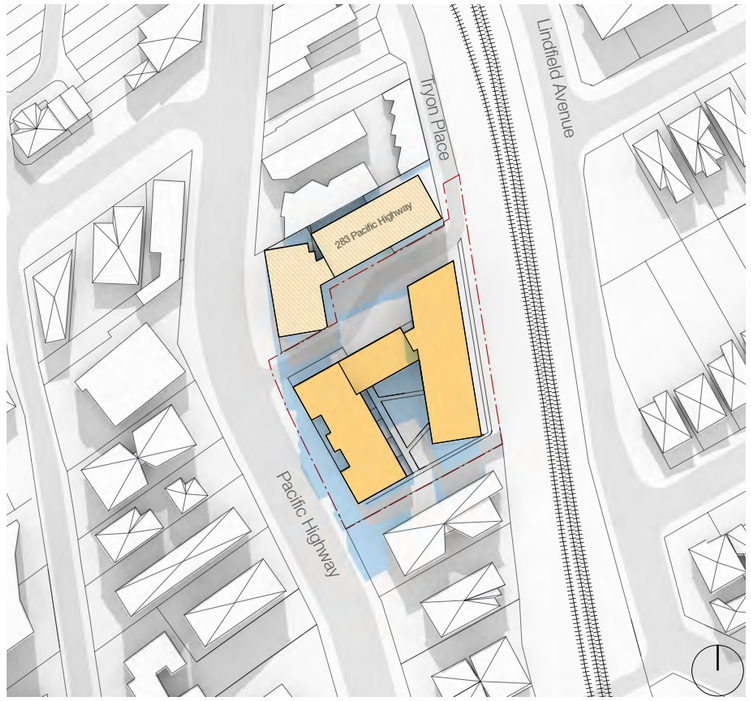
3.15.1 Section C



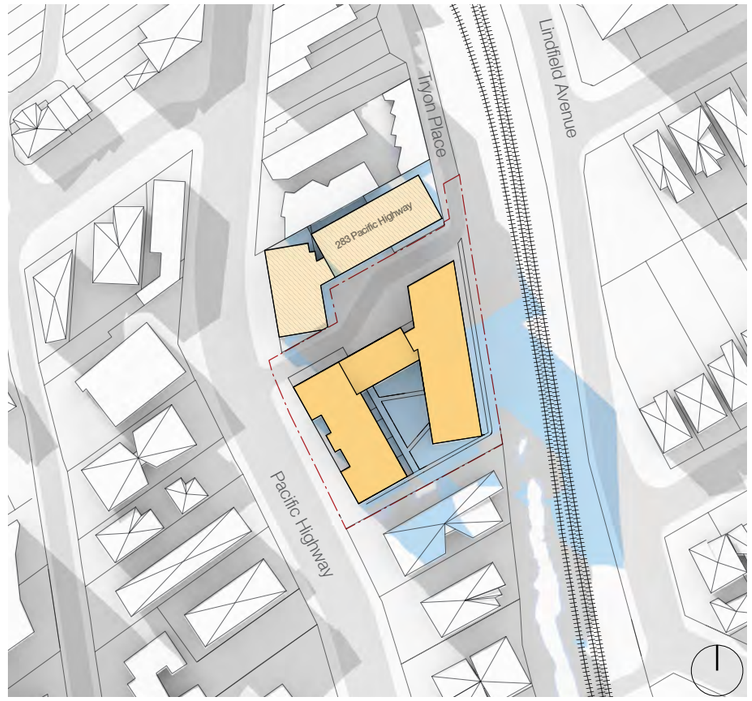
3.9 Shadow Analysis



21 June - 9 am



21 June - 12 pm



21 June - 3 pm

Legend

- Site
- Site Footprint
- Adjoining Site
- Proposed Shadow
- Exisiting Shadow

4

Conclusion

A conclusion and recommendation in response to the site.

4.1 Conclusion

Based on the urban analysis undertaken, this Urban Design report presents a concept masterplan for the site based on the following key parameters:

- Predominantly residential uses and the inclusion of a childcare centre which contributes commercial and community uses to the site;
- A range of heights with a maximum height of 23.5 metres;
- A maximum FSR of 2:1.

In addition, a new one-way street is proposed which is to extend from Tryon Place to the east to the Pacific Highway to the west.

The proposed changes to the LEP as outlined in the report and detailed in the Planning Proposal are considered appropriate and are outlined below:

Changes to Height and FSR

The site is located within 200 metres of Lindfield station and one of the key precincts of centre (Tryon Place Precinct). This proximity to transport and local centre amenity warrants an increase in population, which will be generated from the increase height to support higher densities living near these facilities. The inclusion of a new street to form part of improved connections to the stations, also further supports this argument.

The site is located on a block that incorporates a range of heights which respond to the Local Centre location and character. At the northern end of the block, closest to the station, the proposed maximum height is 23.5 metres (7 storeys), which forms a key gateway site. This height is proposed to the extend through to the subject site. To the south of the site, the height control is 11.5 metres (3 storeys). Therefore the site has a role to play in providing transition from the local centre to the residential areas to the south. . The proposed heights on the site have been organised in a way to take advantage of the topography and ensure impacts to the residential dwellings to the south are mitigated.

Changes to Land Use

The site is located within a transition zone. Mixed uses, including retail and commercial uses are located to the north of the site within the Tryon Place precinct, which fall under the B2 Local centre zoning. To the south of the site, full residential uses are incorporated under R4 high density residential use. The site has had community uses on it since the early 1960s, which has supported the has a transitioning role between land uses to the north and south.

The current zoning of the site is B2 Local Centre, which suggests an alignment with the patterns of development occurring directly to the north. However, the site is located on the edge of an exisitng mixed centre and is located just outside of the identified Tryon Place precinct.

The B2 zoning permits commercial, community and retail uses along with shop-top housing, and whilst the aspiration to incorporate these uses is intended and supported, the economic reality of providing a large amount of non-residential uses to the ground floor of development at this edge of centre location is questioned.

The existing community use of the library is to be relocated to the other side of the Pacific Highway within the new Lindfield Community Hub project. Along with community uses, this project incorporates retail, commercial residential uses.

Detailed analysis of the market for Lindfield reveavls that the subject site will not be able to support commercial uses which will be able to function independenlty of those new uses proposed on the Lindfield Community Hub project.

With this in mind, the project team has limited the amount of the non-residential uses on the site to respond to this advice. There is a high demand for childcare facilities in the area, on both sides of Lindfield Local Centre, and for this reason, a childcare facility has been proposed to be located within the scheme. It is located on the new street near Tryon Place and is considered to be an appropriate location close to the proposed kiss n'ride route for the station.

Recommendation

In conclusion, based on the analysis and argument presented, this Urban Design Study supports the Planning Proposal with the following changes to Ku-ring-gai LEP 2012.

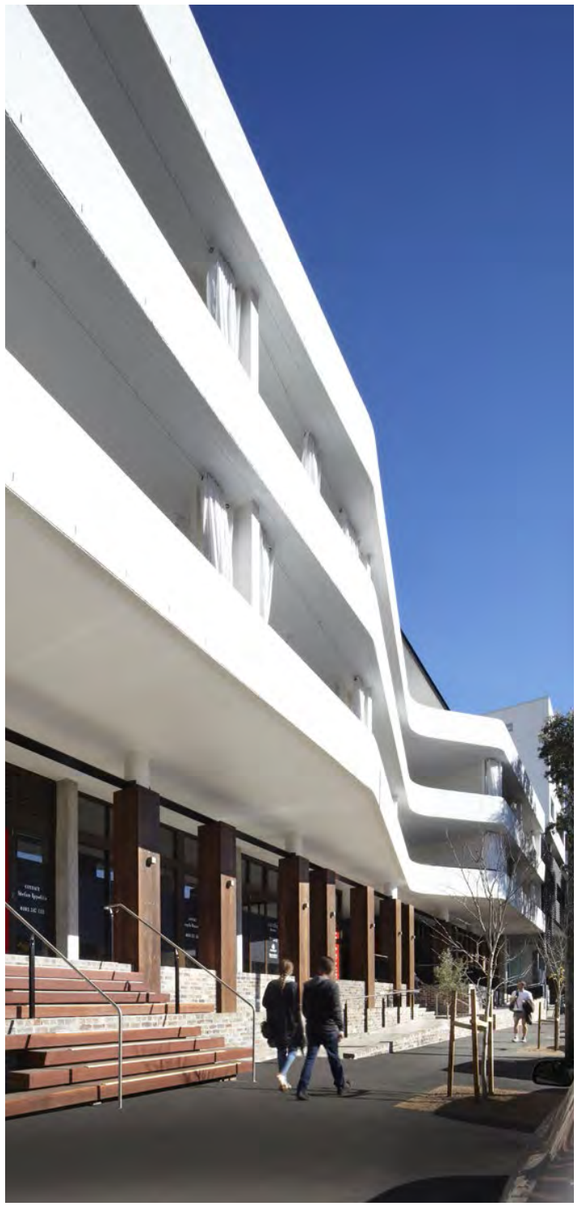
Controls	Current	Proposed
Land zoning	B2 Local Centre	R4 High density residential
Height of buildings	17.5 m	23.5m
FSR	1.3:1	2.0:1



Appendix

Study of projects that feature similar characteristics to those outlined in the masterplan options

A1 - Streets



Casba, Sydney



Erko Apartments, Sydney



Accordia, Cambridge

A2 - Spaces



Erko Apartments, Sydney



Gantry Apartments, Sydney

A3 - Mixed Use



St. Margarets, Sydney



Gantry Apartments, Sydney

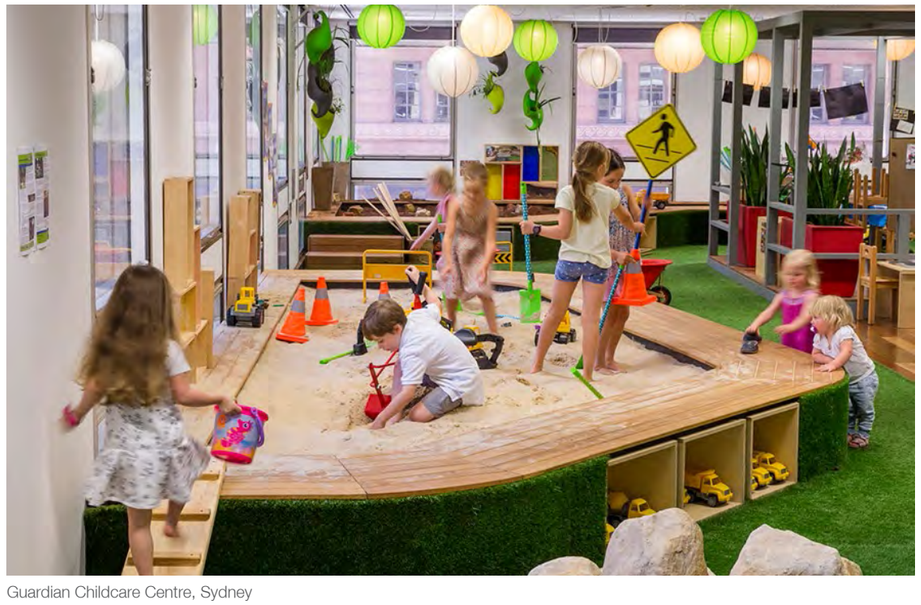


St. Margarets, Sydney

A4 - Childcare



Lodève, France



Guardian Childcare Centre, Sydney

A5 - Built Form



Erko Apartments, Sydney



Gantry Apartments, Sydney



North Eveleigh Affordable Housing, Sydney

SJB Architects

Contact Details
SJB Architects
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Surry Hills NSW 2010
Australia

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F: 61 2 9380 9922
architects@sjb.com.au
www.sjb.com.au

PART 14R

14R References

14R.4 Turramurra Community Hub Masterplan

REFERENCES



TURRAMURRA COMMUNITY HUB MASTERPLAN

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APPENDIX A - ARCHITECTURAL DRAWINGS

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1.0
DESIGN STATEMENT

The 12,300sqm Ray Street Precinct makes up roughly one fourth of the combined Turramurra Local Centre. The triangular site is the result of an orthogonally organised village centre that was at one point divided on a 45 degree angle by the North Shore rail line corridor. The site, however, abounds in assets. A train station, bus interchange, parking, library and supermarket have already resulted in an active village centre despite lack of quality public domain. The brief consists of a new library and community centre building, European scale public piazza, full-line supermarket, parklands, commuter parking and connections to existing rail network. The purpose of the feasibility study has been to determine how to self-fund the development by the provision of mixed use housing and retail tenancies.

Turramurra has experienced a mixed history with multi-residential projects, most failing to truly retain the area's well-known leafy, village character.

The project is an opportunity to create an exemplary village centre without compromising on intimacy of scale in the buildings and public spaces.

The strategy was to utilise the natural valley running across the site in order to partially bury the supermarket whilst still allowing outlook and viability. Parking also goes underground. This creates an accessible platform above with access to district views, tree canopy and sunlight throughout the day. The platform is the site for low scale housing and retail as well as a wide variety of crafted and specific public open spaces. The public spaces are designed to be differing in character including narrow laneways, streets, a european scale Piazza, heritage botanical gardens, linear park. These spaces collectively build a 'place' that will attract a lively community,

Building design focused on place-making through the creation of activated ground floor public space, human-scale residential units, a mixed use building and a landmark in a position of prominence on the Highway.

The urban design focused on separating large buildings into more singular building blocks to each be designed with a highly individual character.

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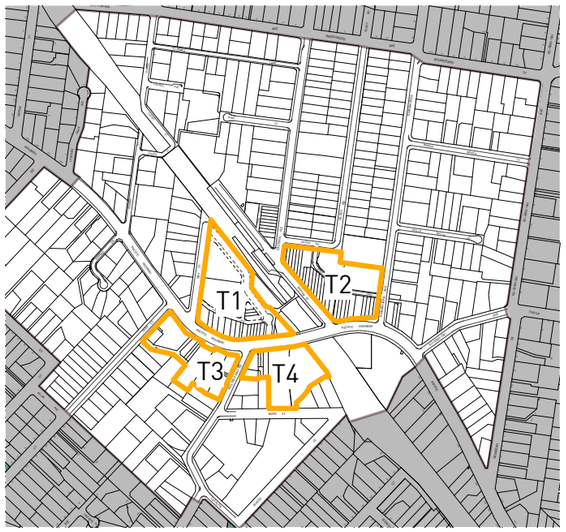
2.0
THE SITE AND ITS SURROUNDS



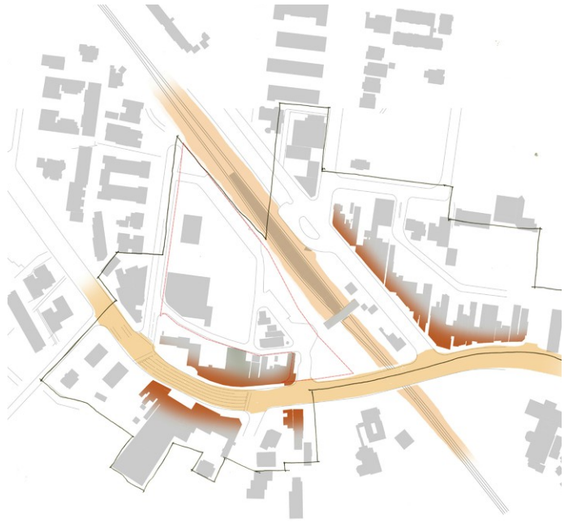
THE SITE AND SURROUNDS

Ku-Ring-Gai Council's centre hierarchy defines Turramurra as a 'Local Centre' characterised by 'a group of retail, office or business premises reinforcing appropriately scaled and integrated urban fabric'. The zoning controls within the LEP are consistent with this definition and hence the current controls have become the planning context for the Turramurra Community Hub Master Plan. The Local Centres DCP map depicts Turrumurra Local Centre as 4 precincts. While the master plan study has considered this broader context, the physical proposal is confined to precinct T1.



VISION DCP

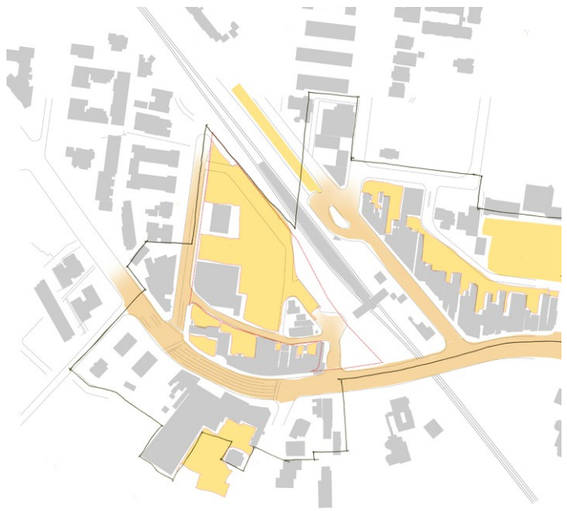
The focus of the Turramurra Community Hub Masterplan is only part of the larger 'town centre' of Turramurra. We will firstly consider the site in its larger context and the scope as the latest stage in a longer project to revitalise the town centre. The Sydney Metropolitan Plan earmarks Turramurra to retain its characteristics as a "group of retail, business or office premises reinforcing appropriately scaled and integrated urban fabric. For this reason the Masterplan will opt to retain the zoning controls set out in the LEP for height and FSR.



BARRIERS

The town centre is split into three parts by the Pacific Highway and the rail line. With limited opportunities to cross these barriers, the parts do not benefit from the whole.

These barriers are reinforced by inactive retail frontages. It is evident that the retail frontages facing the Pacific Highway are suffering from a lack of pedestrian amenity along this corridor.



PARKING AND TRAFFIC

This diagram is evidence of the space given over to the automobile. The vast majority of the town centre is dedicated to parking or road, which has resulted in an unattractive environment despite the services on offer. Although it is difficult to curb the vehicular activity on the Pacific Highway, understanding its effect and creating spaces removed from this will be important.

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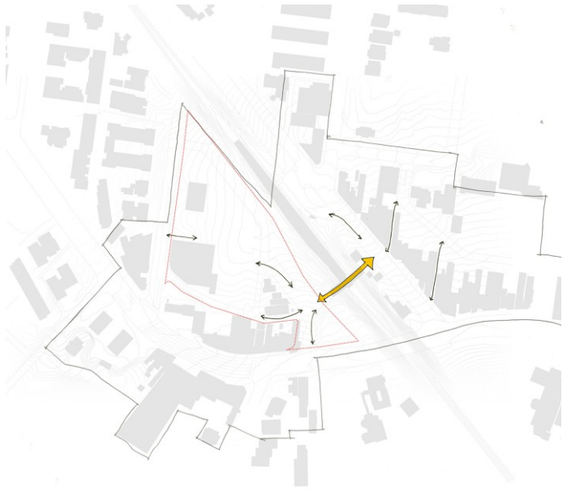
2.0
THE SITE AND ITS SURROUNDS



OPEN SPACE CONTEXT

The green, leafy character of Turramurra is renowned. The site is surrounded by important green spaces including the Look Out Community Gardens, the railway curtilage corridor and Cameron Park.

Generally Turramurra enjoys an abundance of biodiversity and significant mature trees that are interspersed in the built environment and contribute greatly to the amenity of the place.



CONNECTIONS

Two issues effect the free flow of pedestrians in the town centre - infrastructure and topography. Firstly the rail line and highway block the path of travel, secondly the approximate 5m drop across the site makes it inaccessible to some users. If the town centre is to function as a whole this needs to be addressed.



ASSETS

The Ray Street Precinct has potential to be the centrepiece of the town centre spatially as well as functionally. The site boasts a number of assets that an ideal town centre needs.

- Mass transport in the heritage railway station allows thousands of commuters to use the site every day
- The supermarket is one of the few in the upper north shore and has capacity to expand
- The Forbes Lane shop-top buildings hold potential for a fine grain retail spine. Replay Cafe is already taking advantage of this



LANDMARKS

The experience of Turrumurra is currently defined by the road and rail infrastructure with a lack of any signature landmarks buildings.

There is a great opportunity to capitalise upon the centre's location on the ridge line and the high number of people passing though the centre each day creating a landmark development as signature for a revitalised Local Centre.

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3.0
DESIGN PRINCIPLES



PLACE MAKING

Turrumurra Centre is largely characterised by its low scale pattern of development and the convergence of the Pacific Highway and Northern Rail Line.

The site has been isolated by both the road and the rail. It is primed to become a revitalised centre that capitalises upon its proximity to the rail station.

The following Design Principles would contribute to making Turramurra a recognisable, loved and sustainable place into the future.



RETAINING THE VILLAGE CHARACTER

Reinforcing the delightful village character of Turramurra will require design principles to be adhered to. Most of the masterplan will be new so this implies a sophisticated design with the constant ambition to respect human scale and the intimacy of spaces.



VIBRANT RETAIL MIX

A lively and healthy suite of ground floor retail spaces is a key part of place making. It is a great way to activate spaces, attract people, make a memorable and destinational user experience for the local community and visitor. The Turramurra Community Hub Masterplan already has the infrastructure to deliver enough people to meet retail demand in the area, however, the type and quality of these tenants will be influenced by a number of factors including building design, location and orientation.



A VARIETY OF PUBLIC URBAN SPACES

The brief requires generous public urban spaces to compliment the community and retail uses. It is vital however to consider a range of individual spatial types, scales and experiences. Larger open spaces are essential for events and more intimate public spaces are critical to people feeling a sense of ownership and comfort. A variety of spaces also attract a variety of tenants into ground floor retail spaces bringing a vibrancy to the place.

3.0
DESIGN PRINCIPLES



ACTIVE GREEN SPACE

Trees and green space are integral to the sense of place in Turramurra. The key will be to introduce a complementary green open space to the suite of already impressive gardens and parks on offer. The space also has the potential to connect the pre-existing green spaces surrounding the site to increase for biodiversity and assist with WSUD and acoustic effects of the train line.



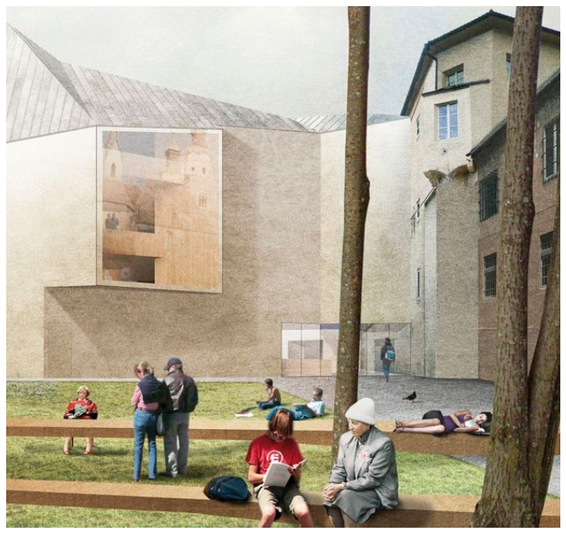
CONNECTING THE TOWN CENTRE

Accessibility is important for the ease of use for locals and visitors. The masterplan implements a decisive strategy that creates a level platform to traverse the site. The plan also considers a bridge proposal connection Ray Street and Rohini Street to make it easier for the northern catchment of Turramurra and Warrawee to access the site without having to pass through the Pacific Highway.



DENSITY DONE RIGHT

Some additional density will prime the public spaces and help provide surveillance while making the project financially sustainable. The site has the potential to support many families using the amenity of the railway station, supermarket, retail, community hub building and public open spaces. Considerations will be made for scale, overlooking and overshadowing.



A GREAT COMMUNITY BUILDING

The ‘Ku-ring-gai Community Facilities Strategy’ and the 'Turramurra Community Facilities Study' outline the requirement for a new library and community facility for Turramurra. The combination of these facilities into a building will undoubtedly become a beacon for the community on the site and act as a welcoming building.

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4.0
ARTIST'S IMPRESSION
CENTRAL PIAZZA



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View looking south along Forbes Arcade to Forbes Lane

Artists impression shows a likely scene in the main public Piazza at Turramurra. A social and vibrant space built to become a platform for gathering. The space is naturally the spatial epicentre of the masterplan and needs to fulfil the expectations set by the brief and the above design principles. Note the 'Centrepiece' buildings to the left of the frame. These have been retained in order to carry some of the familiar, village character into the new scheme. The entrance to the 'Lower Ground' Supermarket would exist to the right, with alfresco dining in the North-East facing cafes and restaurants on the ground floor.

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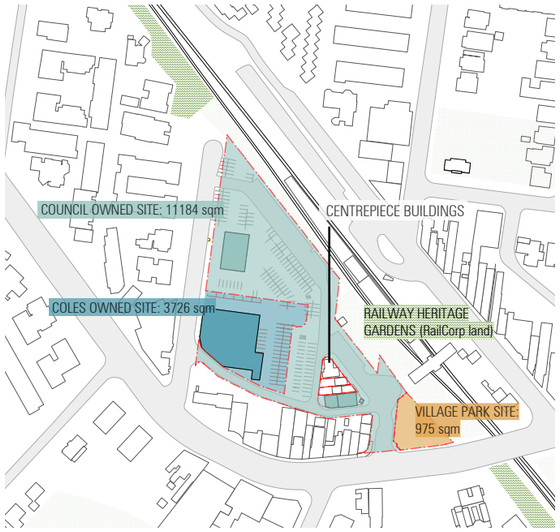
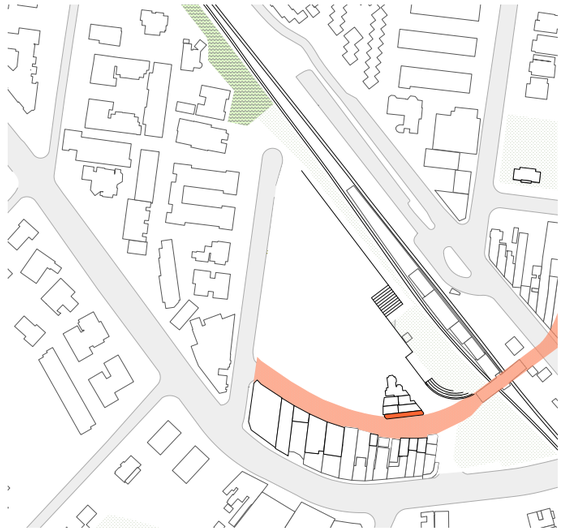
5.0
DESIGN CONCEPTS



1. THE NATURE OF THE SITE

The Ray Street Precinct is the focus of this masterplan. The roughly triangular space, including the Turramurra Village Park, is owned by Council except for the Coles supermarket site and 'centrepiece buildings'. The plan uses the whole site with the provision for a new supermarket.



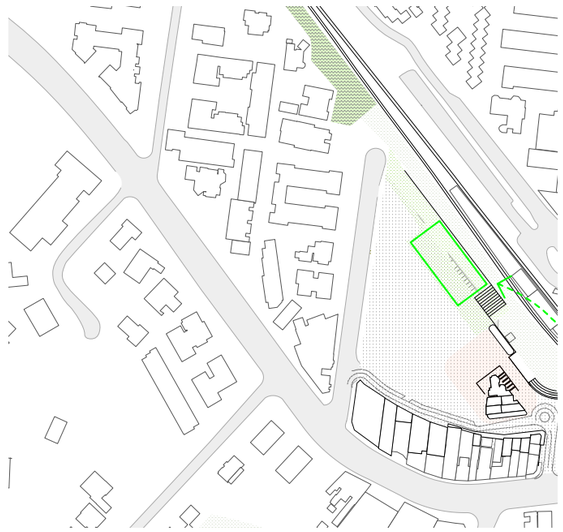
2. FORBES LANE "NAKED STREET"

Currently Forbes Lane is under-utilised as a loading zone. We imagine the existing Pacific Highway shops capitalising on the northern aspect towards a new 'Naked Street'; a shared space for vehicles and pedestrians. This is the backbone of the masterplan connecting seemlessly over the rail footbridge to Rohini St and beyond.



3. CENTRAL PIAZZA

The 'centrepiece' buildings will be retained to bring preexisting character into the new scheme. They form the central feature for a new Central Piazza that will host the public life of the Turramurra Community and feed off the activity of Forbes Lane. The Piazza is on grade with Forbes Lane, north-east facing and elevated above the natural ground to provide vistas over the district.



4. LINEAR PARK

The railway corridor has a number of established trees that provide character and amenity to the site whilst buffering noise from the trains. Also, the railway heritage gardens dovetail into the edge of the site and contain a botanical richness. By opening these gardens and extending the open space into an active park we benefit from these latent conditions and provide another great space for the community.

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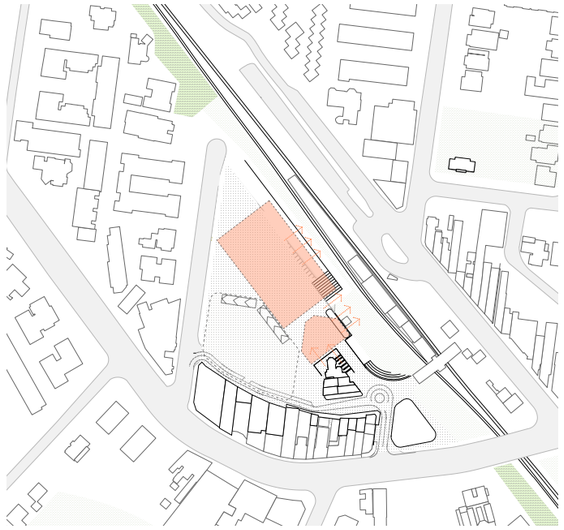
5.0
DESIGN CONCEPTS



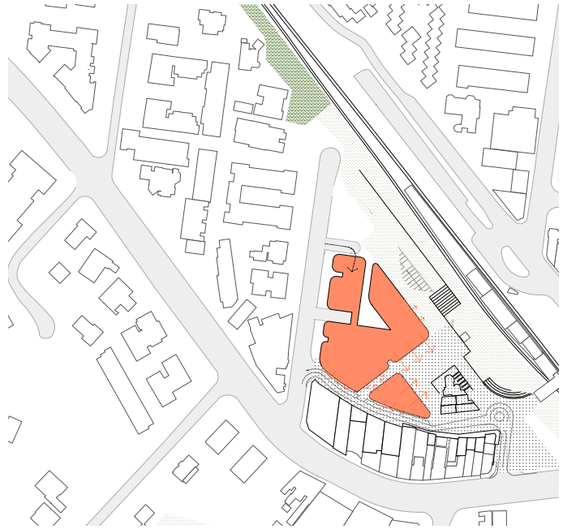
5. LOWER GROUND RETAIL

The main public space is elevated creating an accessible surface across the entire site. Below this platform we are able to fit our largest components of the brief. The new full line supermarket, trailing retail and parking fit comfortably and enjoy the north-eastern aspect across the rail corridor and heritage railway gardens. We are able to replace public parking spaces as well as provide enough for the supermarket.



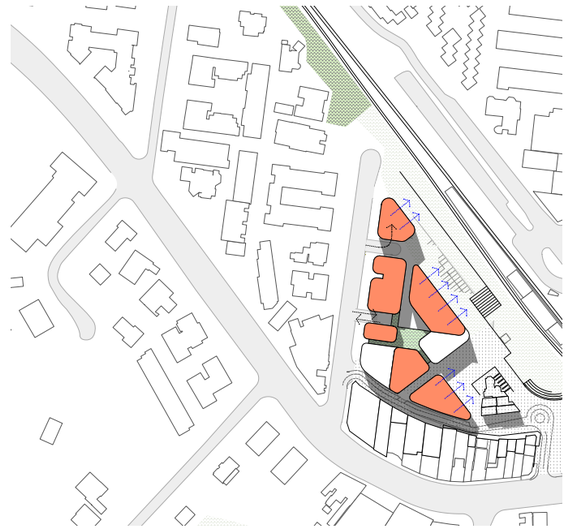
6. LANDMARK SITE

The Village Park has long been under utilised, suffering from proximity to the highway and a sloping site. By replacing and adding green open space within the site, the Village Park site can become the home of a new beacon for the locals, a site for a landmark building containing retail and residential units. The contemporary building will contribute to a sense of place for the town centre.



7. ACTIVATE THE PUBLIC SPACE

The new public spaces will be lined by exciting shops, cafes, restaurants and bars that will activate the public domain at street level and stimulate a local economy. This built form also acts to frame the public space and create a series of more intimate, individual spaces associated with the more dominant central piazza, Forbes Lane and park.



8. RESIDENTIAL DWELLINGS AND THE COMMUNITY HUB

Residential dwellings and the Community Hub Building form the final component of the built form. They are 3, 4 and 5 storey volumes that are positioned so they do not overshadow the active public spaces. Key considerations are also the scale and rhythm of the established buildings on Ray Street and the orientation of the apartments to achieve amenity and views.

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5.0
DESIGN CONCEPTS



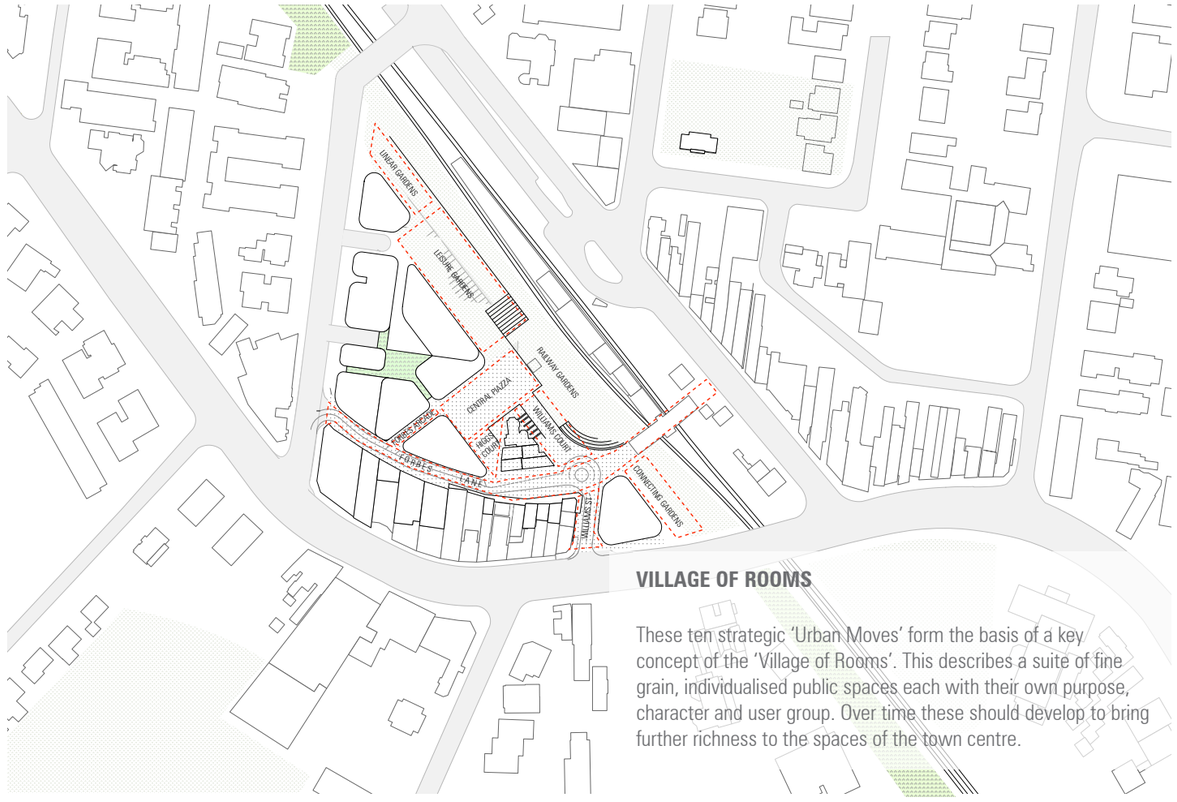
9. STAGING

The redevelopment is proposed in two stages to ensure a supermarket can operate continuously throughout and the development can be financially sound.



10. RAY STREET BRIDGE

The final infrastructural element of the scheme is the Ray Street Bridge. This is an opportunity to connect the northern catchment of Turramurra to the site without the necessity of travelling via the Pacific Highway.
Currently the primary access to the scheme is through the Pacific Highway and Ray Street with a secondary entry through Williams St into a one-way loop along Forbes Lane.



VILLAGE OF ROOMS

These ten strategic 'Urban Moves' form the basis of a key concept of the 'Village of Rooms'. This describes a suite of fine grain, individualised public spaces each with their own purpose, character and user group. Over time these should develop to bring further richness to the spaces of the town centre.

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6.0
LANDSCAPE MASTERPLAN

01 LINEAR GARDENS
02 LEISURE GARDENS
03 GRAND STEPS
04 CENTRAL PIAZZA
05 FORBES ARCADE
06 HIGGS COURT
07 LOWER CAFE COURT
08 ALFRESCO DINING CURTILAGE
09 WILLIAMS COURT
10 CONNECTING GARDENS
11 MIXED USE BUILDING
12 COMMUNITY HUB BUILDING
13 CENTREPIECE BUILDINGS
14 SUPERMARKET ENTRY
15 RESIDENTIAL COURTYARD
16 BASEMENT PARKING ENTRY
17 LOADING ENTRY
18 RESIDENTIAL BUILDING



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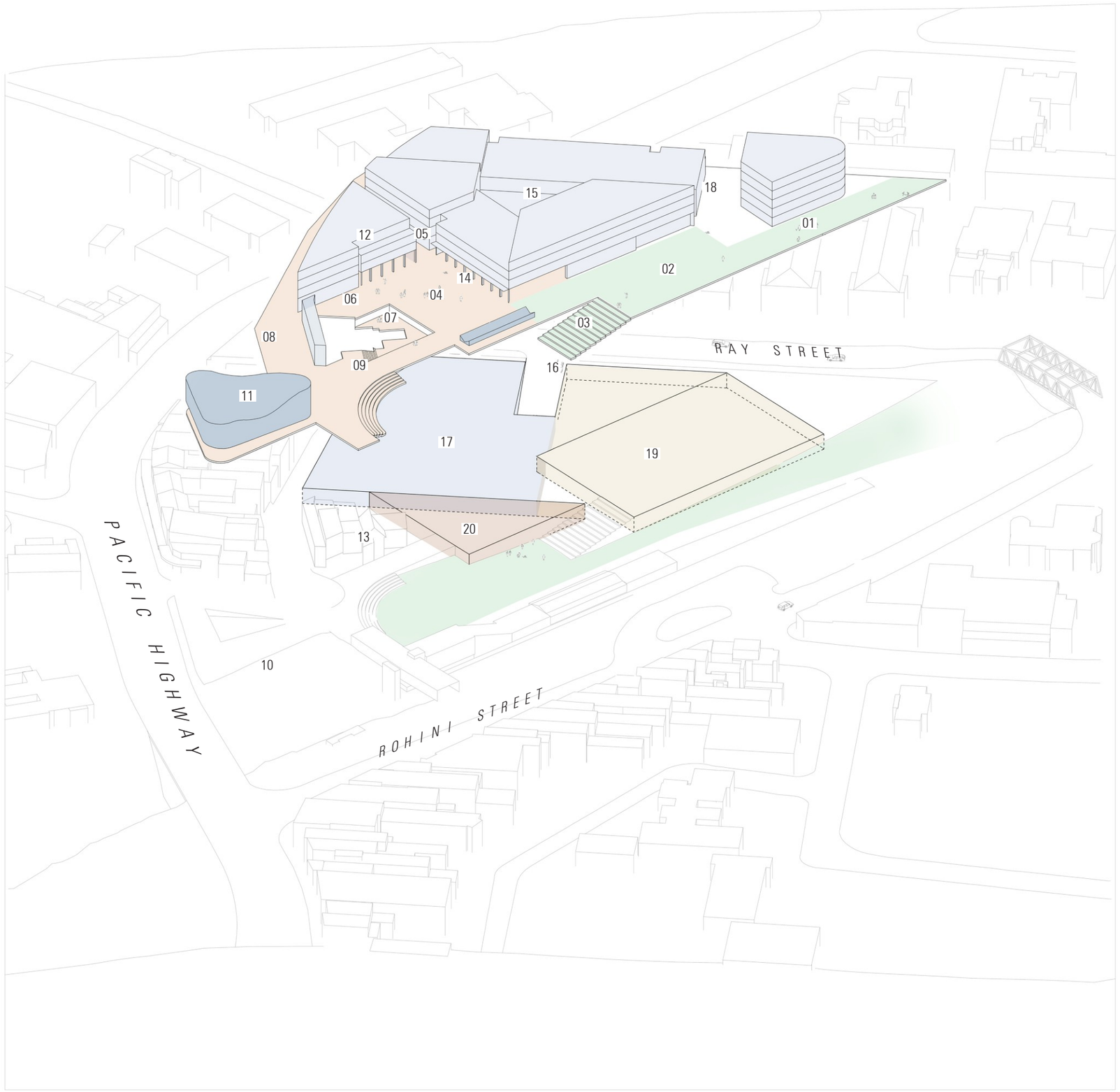
7.0
KEY SPACES AXONOMETRIC DIAGRAM & AREA SCHEDULE

01 LINEAR GARDENS
02 LEISURE GARDENS
03 GRAND STEPS
04 CENTRAL PIAZZA
05 FORBES ARCADE
06 HIGGS COURT
07 LOWER CAFE COURT
08 ALFRESCO DINING CURTILAGE
09 WILLIAMS COURT
10 CONNECTING GARDENS
11 MIXED USE BUILDING
12 COMMUNITY HUB BUILDING
13 CENTREPIECE BUILDINGS
14 SUPERMARKET ENTRY
15 RESIDENTIAL COURTYARD
16 BASEMENT PARKING ENTRY
17 PARKING
18 LOADING ENTRY
19 SUPERMARKET
20 LOWER GROUND RETAIL



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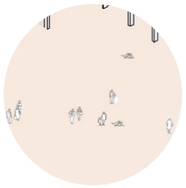
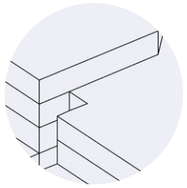
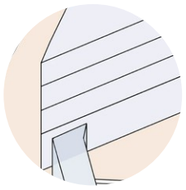


Public Open Space

Central Piazza	2300 sqm
Forbes Lane	1690 sqm

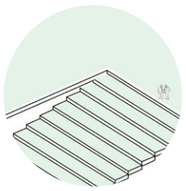


Residential 20485 sqm (GFA)



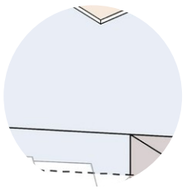
Public Buildings

Library	1750 sqm
Community Centre	1500 sqm
Multi-purpose Pavilion	90 sqm
Pop-Up Gallery	133 sqm



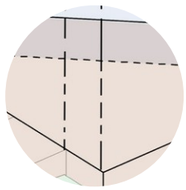
Green Open Space

Linear Park	2090 sqm
Railway Gardens	1190 sqm

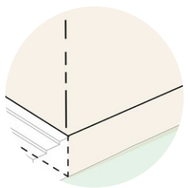


Parking Spaces

Public	131
New Residential	200
Supermarket	160



Retail 2316 sqm



Supermarket 4000 sqm

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7.0
KEY SPACES
DETAILED DESCRIPTIONS





CENTRAL PIAZZA

Central Piazza is a platform for community exchange and large events. At 41m x 25m the space is large enough to hold around 700 people standing comfortably. The space will be an active and safe place throughout the day with passive surveillance of apartment residents, supermarket shoppers, restaurant goers, and commuters.

The space has four active edges, each with a different purpose. To the North-West is the entrance to the Lower Ground supermarket, retail and car parking activated a fresh food retailer. To the South-West is the alfresco dining zone with cafes and restaurants enjoying the morning to afternoon sun and district vistas. To the South-East are the Centrepiece buildings, including a stunning pitched roof building that has a first floor that will address the Piazza whilst its Ground Floor will address an intimate courtyard to the Lower Ground retail shops. To the North-East is public Multipurpose Pavilion, a flexible building like a permanent marquee and can be used in a variety of ways depending on the use in the square.





GREEN OPEN SPACES

Turramurra is blessed with great green open spaces. The suite of gardens this Masterplan delivers will expand that again. A key opportunity is to formalise a new park utilising the mature trees and landscape curtilage along the rail corridor. However, there are a number of decisions to be made by the local community as to the purpose of these spaces:

1. Railway Gardens - This space is currently fenced-off, but will be open to the public for this Masterplan. It is a scenic and picturesque garden with a variety of species. It is a largely sedentary space that will act as an outlook for the supermarket and Lower Ground retail.
2. Connecting Gardens - This space will be closely associated with the mixed use building facility. The space will need to be designed to minimise traffic noise from the pacific highway, however it should a great way to connect to the station and be a pleasant place to enjoy a book or newspaper whilst enjoying vista over the railway gardens.
3. Linear Gardens - This space crucially connects the Leisure Gardens to the Ray St bridge and has the potential to link to linear green spaces and bicycle paths as far as Warrawee Station.
4. Leisure Gardens - This space 26m x 55m space is big enough to host three basketball courts.

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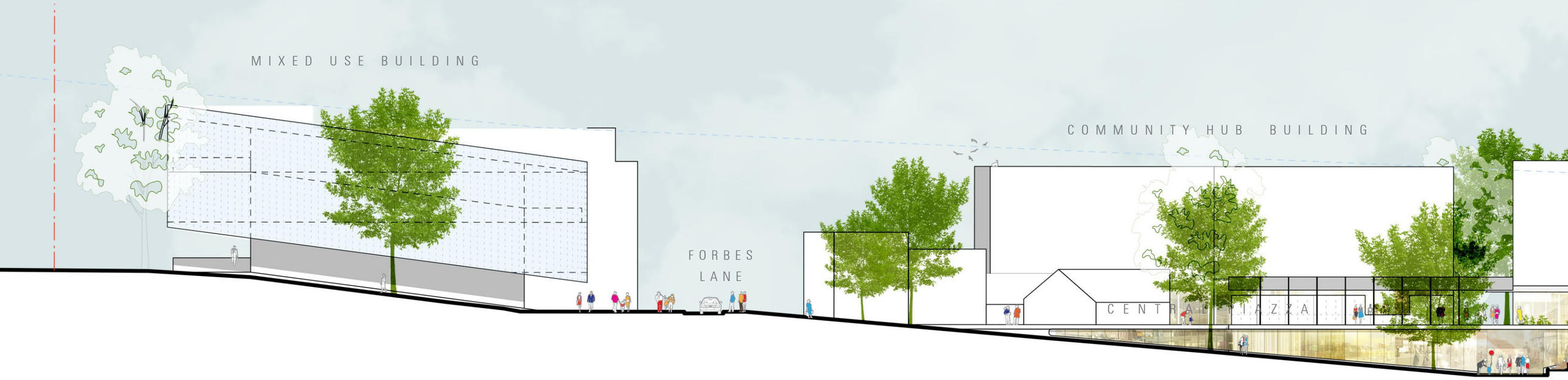
8.0
SITE SECTIONS



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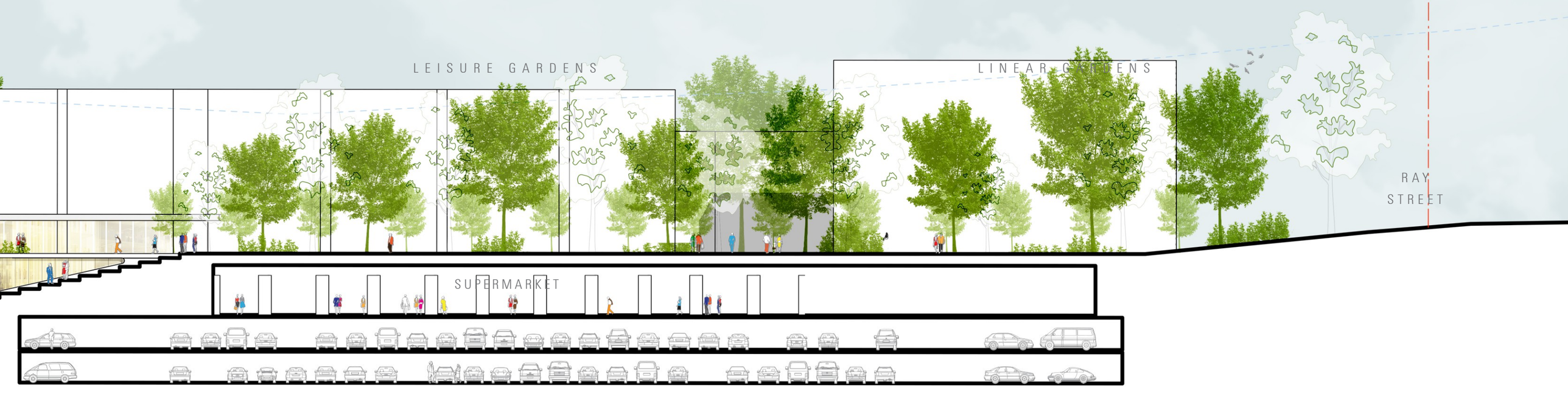

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8.0
SITE SECTIONS



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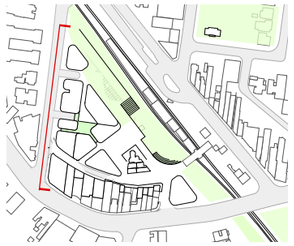



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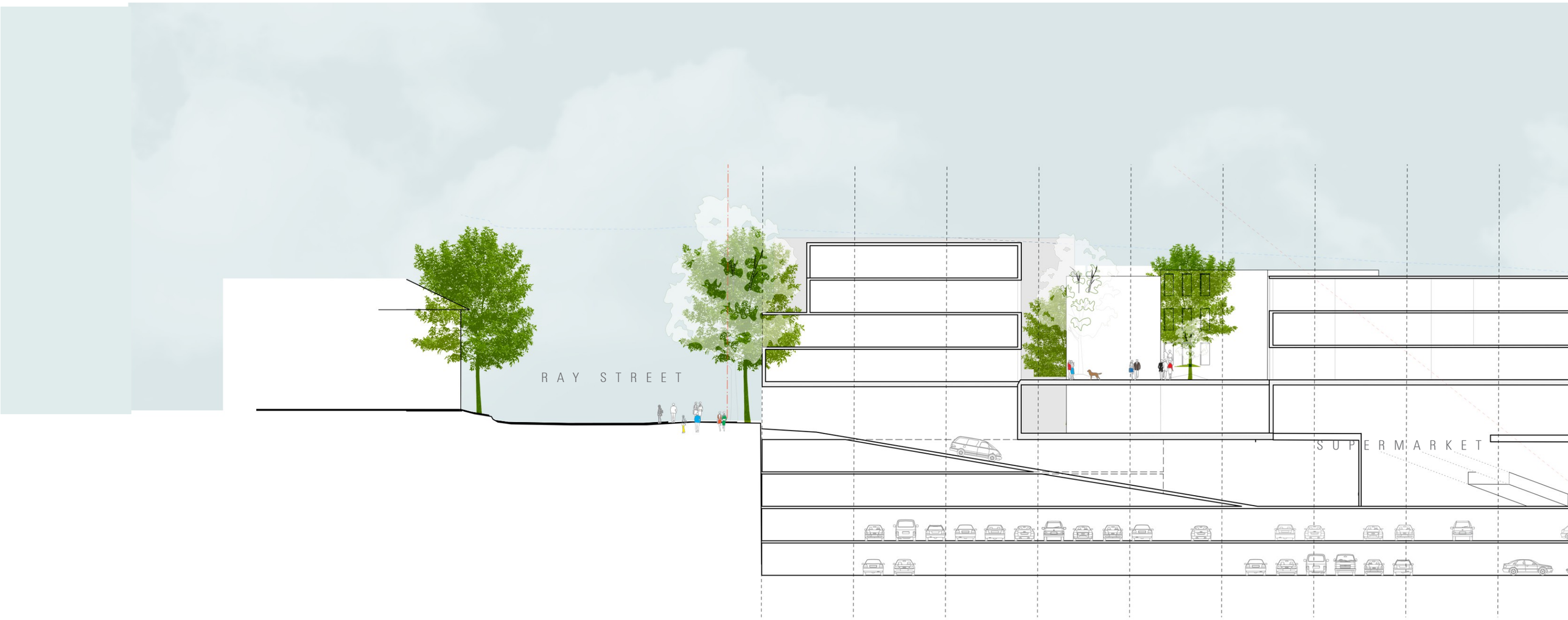
8.0
SITE SECTIONS



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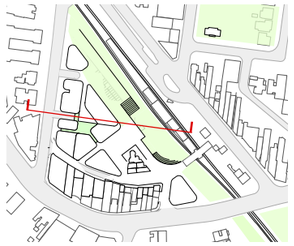



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9.0
ARTIST'S IMPRESSIONS MASTERPLAN



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Turramurra Community Hub Masterplan

An aerial perspective showing the scheme in its entirety. The generous open spaces and greenery sit above a conveniently located full line supermarket and parking.



9.0
ARTIST'S IMPRESSIONS
FORBES LANE SHARED WAY



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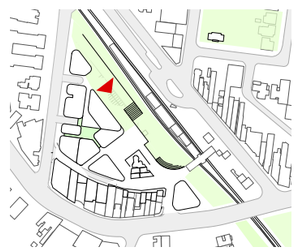
Forbes Lane

This perspective looking north-east towards the station entrance imagines a weekend flower market in which the lane is closed to traffic and open to a public event. Note the new public buildings in the two storey pop-up community gallery and mixed use building.



9.0
ARTIST'S IMPRESSIONS
LEISURE GARDENS & GRAND STEPS



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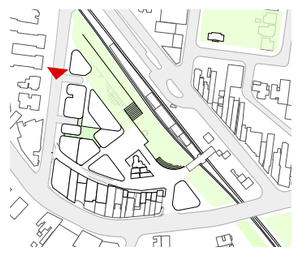
Leisure Gardens & Grand Steps

A perspective image showing the Leisure Park looking towards the mixed use, landmark building. The tree lined park is pictured as an open flexible space but has further potential for a variety of uses in the future.



9.0
ARTIST'S IMPRESSIONS
RAY STREET



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Ray Street

A revitalised Ray Street is characterised by low scale, residential building with a village scale, materiality and articulation. The street will facilitate the entry and egress of vehicles to the loading bay and underground carpark.



APPENDIX A
ARCHITECTURAL DRAWINGS



FIRST FLOOR PLAN

TURRAMURRA COMMUNITY HUB

0 10 50 SCALE 1:1000

DATE 09.11.2016 ISSUE F

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APPENDIX A
AF URA
DRAWING



UPPER GROUND FLOOR PLAN

TURRAMURRA COMMUNITY HUB
SKETCH RESPONSE TO COLES - OPTION 2

0 10 50

SCALE 1:1000

DATE 09.11.2016 ISSUE F

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APPENDIX A
ARCHITECTURAL DRAWINGS



LOWER GROUND FLOOR PLAN

TURRAMURRA COMMUNITY HUB

0 10 50 SCALE 1:1000

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APPENDIX A
ARCHITECTURAL DRAWINGS



BASEMENT ONE FLOOR PLAN

TURRAMURRA COMMUNITY HUB

0 10 50

SCALE 1:1000

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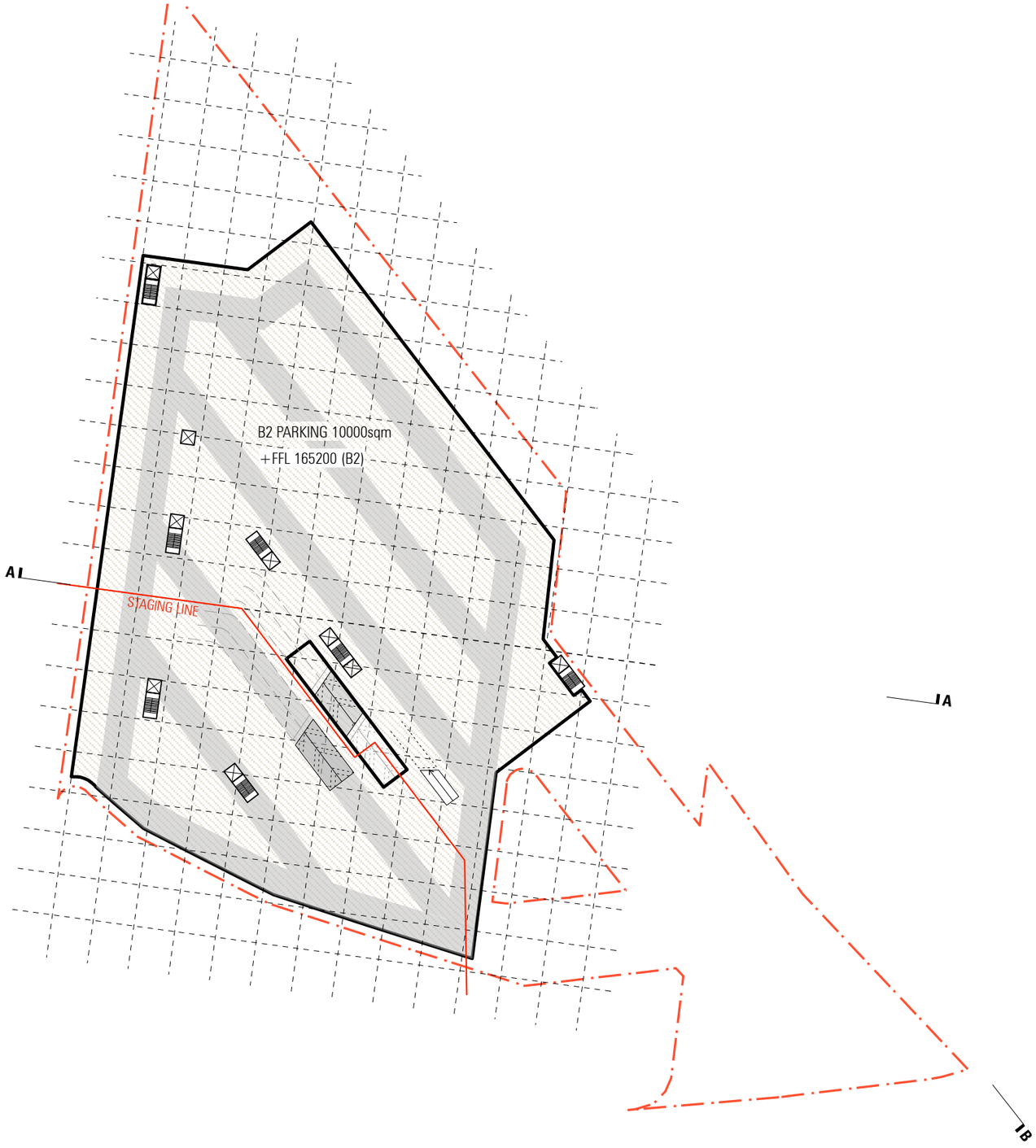
APPENDIX A
ARCHITECTURAL DRAWINGS



BASEMENT TWO FLOOR PLAN

TURRAMURRA COMMUNITY HUB

0 10 50

SCALE 1:1000

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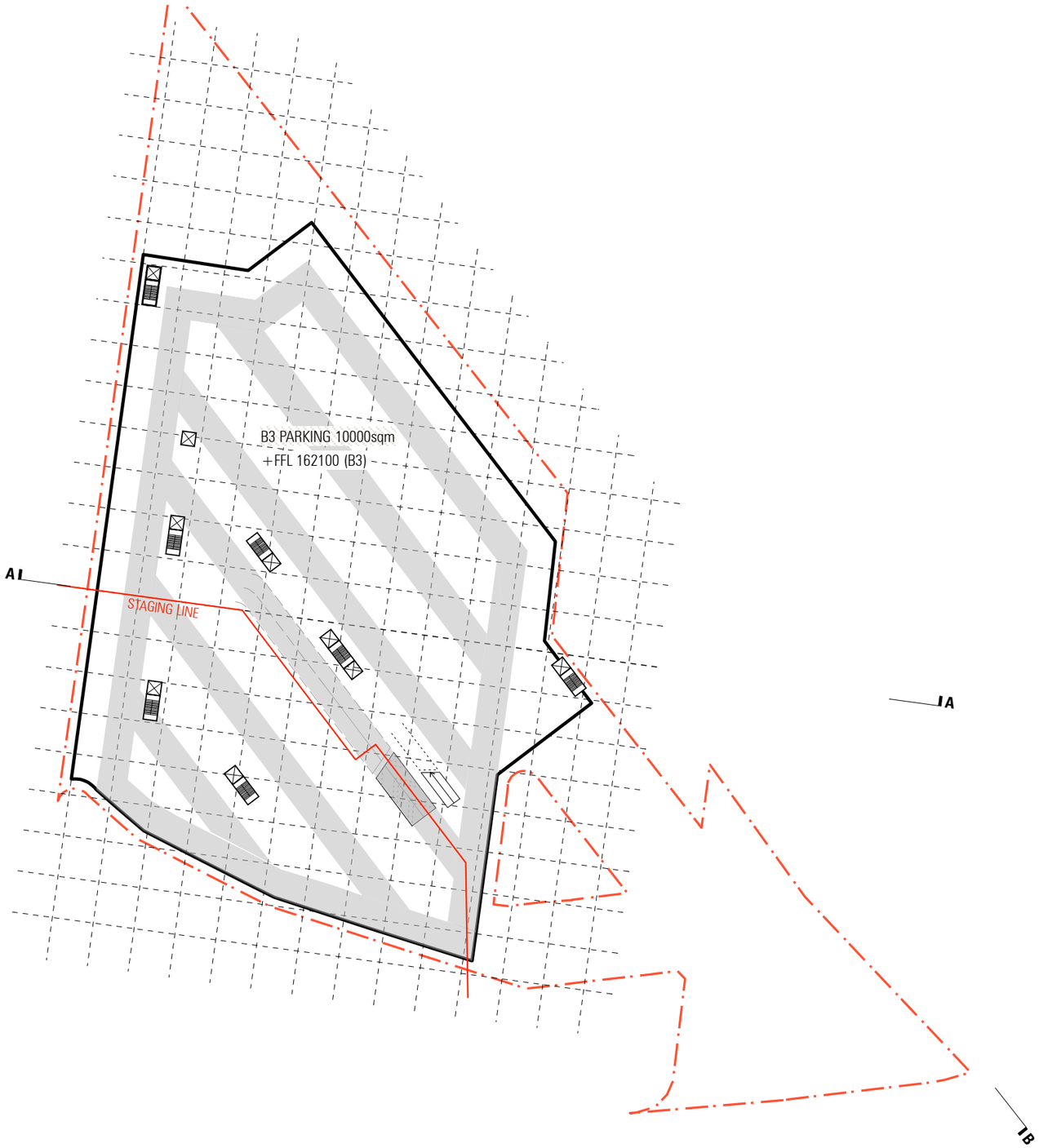
APPENDIX A
ARCHITECTURAL DRAWINGS



BASEMENT THREE FLOOR PLAN

TURRAMURRA COMMUNITY HUB

0 10 50

SCALE 1:1000

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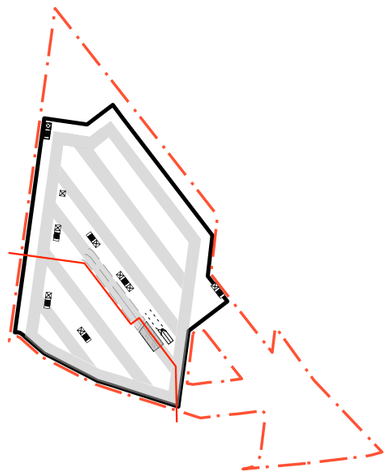
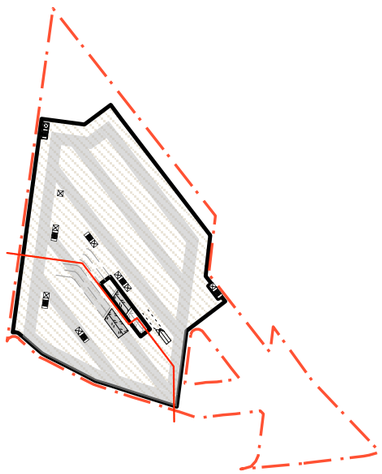
APPENDIX A
ARCHITECTURAL DRAWINGS

GRAND TOTAL RESIDENTIAL 22025sqm

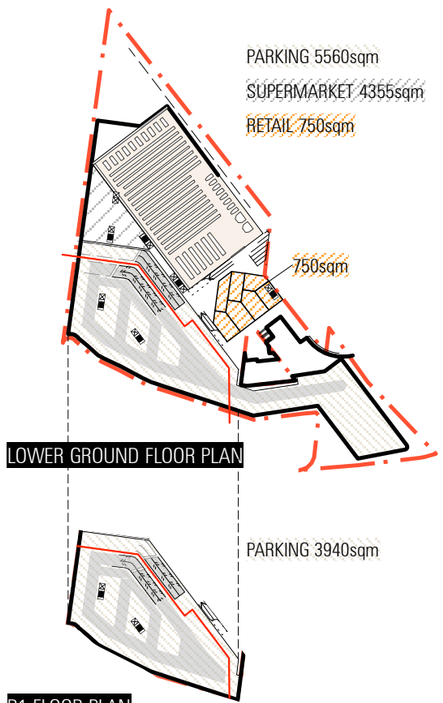
GRAND TOTAL COMMUNITY HUB 4150sqm



B3 FLOOR PLAN

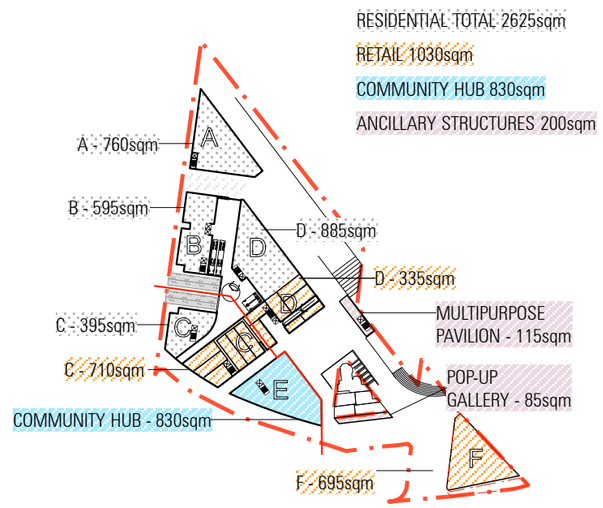


B2 FLOOR PLAN

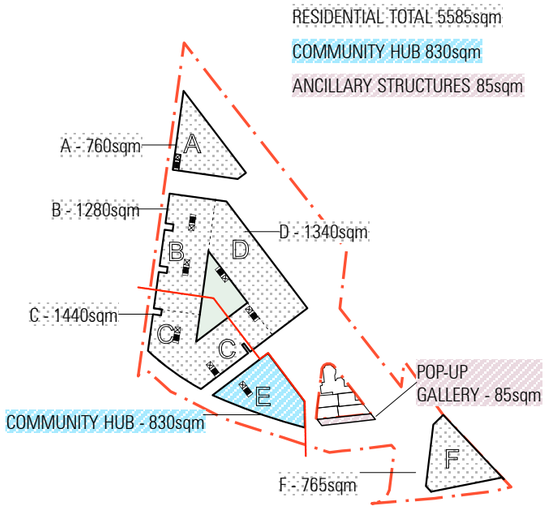


LOWER GROUND FLOOR PLAN

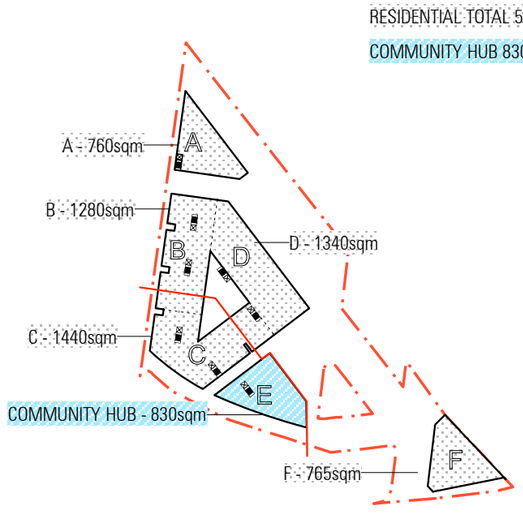
B1 FLOOR PLAN



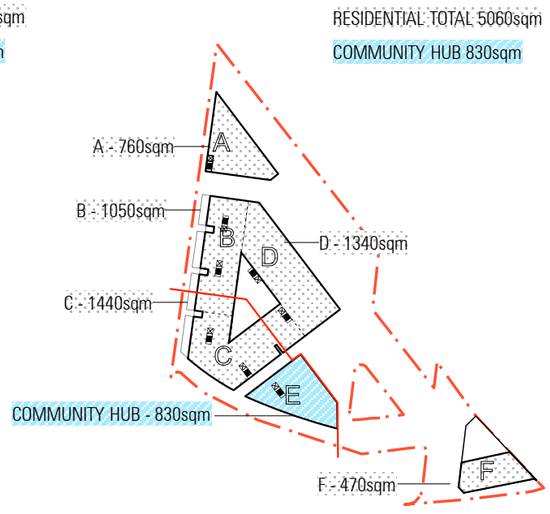
UPPER GROUND FLOOR PLAN



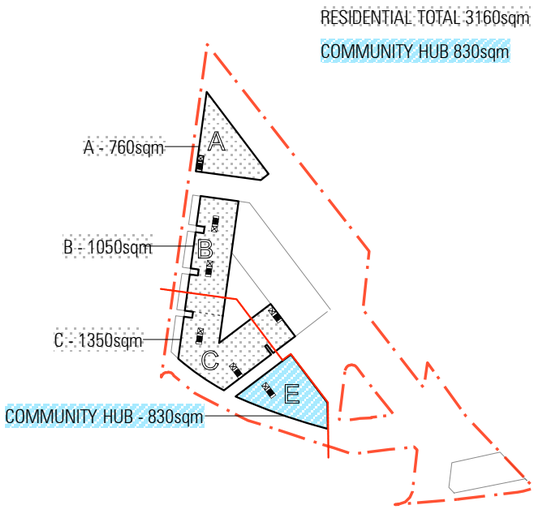
FIRST FLOOR PLAN



SECOND FLOOR PLAN



THIRD FLOOR PLAN



FOURTH FLOOR PLAN

GBA TOTALS

TURRAMURRA COMMUNITY HUB

SCALE 1:3000

DATE 09.11.2016 ISSUE F

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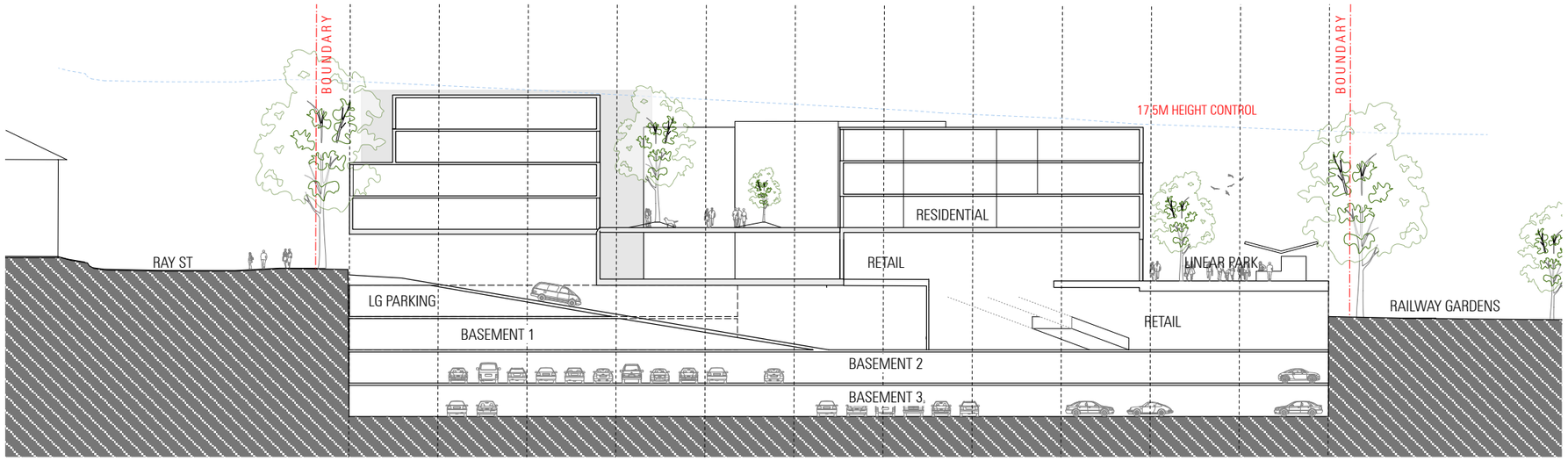
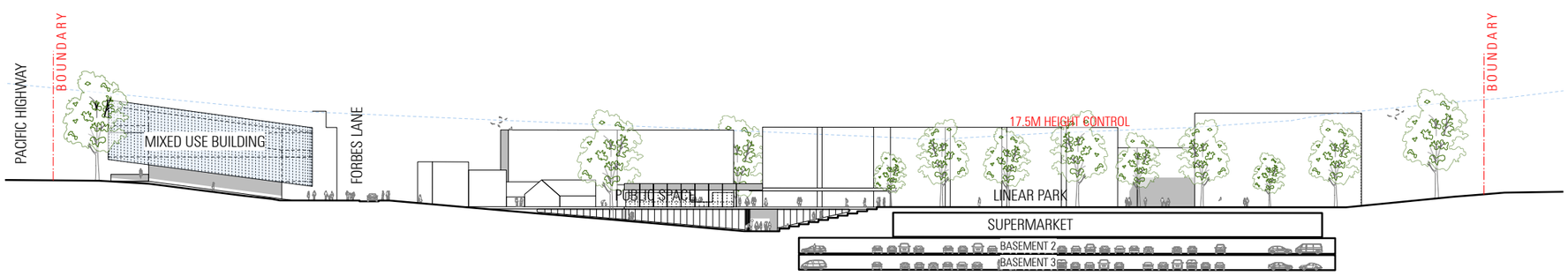
APPENDIX A
ARCHITECTURAL DRAWINGS



SECTION A - CARPARK ENTRY AND RESIDENTIAL BUILDING B - SCALE 1:500



SECTION B - THROUGH LINEAR PARK - SCALE 1:1000



SECTION B - THROUGH LINEAR PARK - SCALE 1:750

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PART 15

LAND CONTAMINATION

15.1 Land Contamination

LAND CONTAMINATION

15.1 LAND CONTAMINATION

Objectives

1 *To ensure that the site is suitable for the development.*

2 *To ensure that changes to land use will not increase the risk to public health or the biophysical environment.*

3 *To ensure sites are correctly remediated to a level appropriate to the future use.*

Controls

1 Refer to Council's *Contaminated Land Policy 2016* for a list of activities that may cause a site to be considered 'potentially contaminated land', and for requirements for development applications, rezoning and remediation works on contaminated land.

Note: State Environmental Planning Policy 55 - Remediation of Land, outlines provisions in relation to contamination and remediation to be considered.

Note: A site may be contaminated where an activity listed within Council's *Contaminated Land Policy 2016* has occurred on the site. Where identified this will be listed on the Section 149 Certificate and may or may not be a site registered on the NSW Environment Protection Authority contaminated land record.

PART 16

BUSHFIRE RISK

Introduction

16.1 Bushfire Risk Management

BUSHFIRE RISK

BUSHFIRE RISK

INTRODUCTION

This Part guides development on land identified on the Ku-ring-gai Bushfire Prone Land Map and/or to land identified on the Ku-ring-gai Bushfire Risk Evacuation Map. For other areas not identified as bush fire prone land but within 700m proximity of the aforementioned, the controls are recommended to reduce house loss primarily as a result from ember attack and house-to-house ignition. It provides guidance for development in these areas to meet the objectives in the KLEP (Local Centres) 2012.

An area that is likely to support a bushfire or be subject to bushfire attack is known as a bush fire prone area. Land that falls within or partially within a bushfire prone area is identified on Ku-ring-gai Council's Bush Fire Prone Land Map which consists of Bush Fire Prone Vegetation Category 1 or Category 2 and a vegetation buffer.

The objectives and controls in this Part, use a risk based approach to minimise direct and indirect risk to life and property, and seek the integration of risk management, urban development, heritage and ecological protection.

16.1 BUSHFIRE RISK MANAGEMENT

Further controls that may apply		
SECTION A **PART 3:** Land Consolidation and Subdivision	**SECTION B** **PART 17:** Riparian Lands **PART 18:** Biodiversity	

Objectives

1 *To minimise risk to life, property, heritage and natural values during a bushfire.*

2 *To avoid unsustainable social and economic costs to the community as a consequence of managing bushfire risk, now or under changes projected as a result of climate change.*

3 *To ensure bushfire protection is included early in the design process.*

4 *To ensure safe evacuation and emergency access in the event of bushfire.*

5 *To encourage good design and management of development on bushfire prone land.*

6 *To ensure development adjacent to urban bushland is sympathetic and safe.*

7 *To ensure that bushfire management measures are integrated with the protection of areas of environmental significance.*

Controls

Access, location and design

1 Any proposed development is to consider safe access for emergency services, and safe evacuation for users of the development.

2 Where possible, site access must be designed to enable fire trails, perimeter and access roads to be located between the urban development and the bushfire prone vegetation. These areas provide a defendable space, passive recreation and bushland views. Managed Asset Protection Zones (APZs) are to be located to the bushfire prone vegetation side of these access ways. See Figure 16.1-1.

3 Asset Protection Zones (APZs), access and perimeter roads are to be designed to minimise impact on habitat and / or significant vegetation.

4 Development is not to be located so as to require measures to manage bushfire risk by other landowners/managers.

5 Development is to be located and designed to minimise the need for bushfire hazard reduction, while protecting life and property.

6 Asset protection is to incorporate an inner protection area and an outer protection area determined by a bush fire risk assessment. See Figure 16.1-2 and 16.1-3.

7 Consideration is to be made to the impact of any bushfire management measures on ecological, riparian and heritage values of the site, and outline conditions proposed to mitigate these.

8 Measures such as increased construction standards, building shape and layout, siting in the landscape and improved access and water supplies are to be considered where this would reduce the need for removal of native vegetation or habitat. See Figure 16.1-4.

Note: Development on Bushfire Prone Land is to comply with the requirements of Planning for Bushfire Protection. Protection of life and property from bushfire is to be considered in the early design phase, to allow appropriate construction and design techniques to be incorporated with biodiversity and heritage management on the site.

Note: The Ku-ring-gai Bushfire Prone Land Map and Bushfire Evacuation Risk Map are available on council's website: www.kmc.nsw.gov.au.



Figure 16.1-2:
Managed Asset Protection Zone. Shrubs and trees in clumps.

Controls

Landscaping

9 APZs are not to overlap with Core Riparian Zones in Category 1 or 2 riparian lands. An APZ may be permitted within the Category 3 riparian lands only where there is no practical alternative.

10 APZs are to be designed to retain trees, shrubs or ground cover in clumps. Clumped areas are to be designed to create vertical separation between canopy and understorey layers and horizontal separation to reduce the rate of fire spread. See Figure 16.1-2 and 16.1-5.

11 To provide a wind/ ember break, vegetation with good barrier forming attributes and low flammability can be used within the APZ on the hazard side, but should not form linkages to any structures (within or adjoining the property) Figure 16.1-6.

12 Vegetation clumps are to be separated through the use of appropriate features that are non-combustible or have low combustibility, including natural elements wherever possible (eg. rock, lawn, pathways, swimming pools etc).

13 For plantings within an APZ, species with less flammable attributes are to be selected.

Note: Refer to Planning for Bushfire Protection, A5.3(b) (RFS, 2006) and Standards for Asset Protection Zones (www.rfs.nsw.gov.au) for more detail on appropriate landscaping techniques.

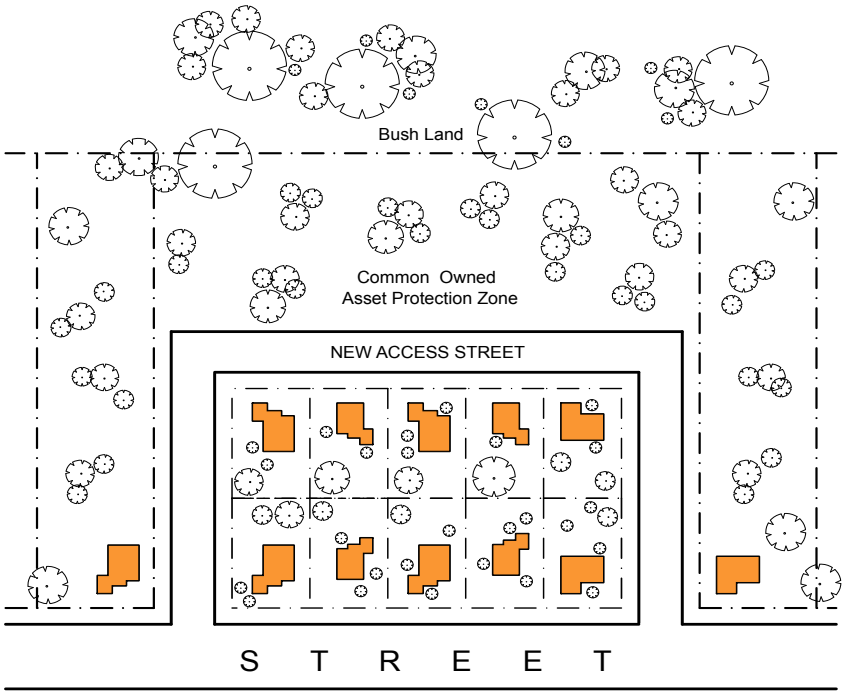

Figure 16.1-1
Subdivision of 10 lots, sharing access road between development and APZ.

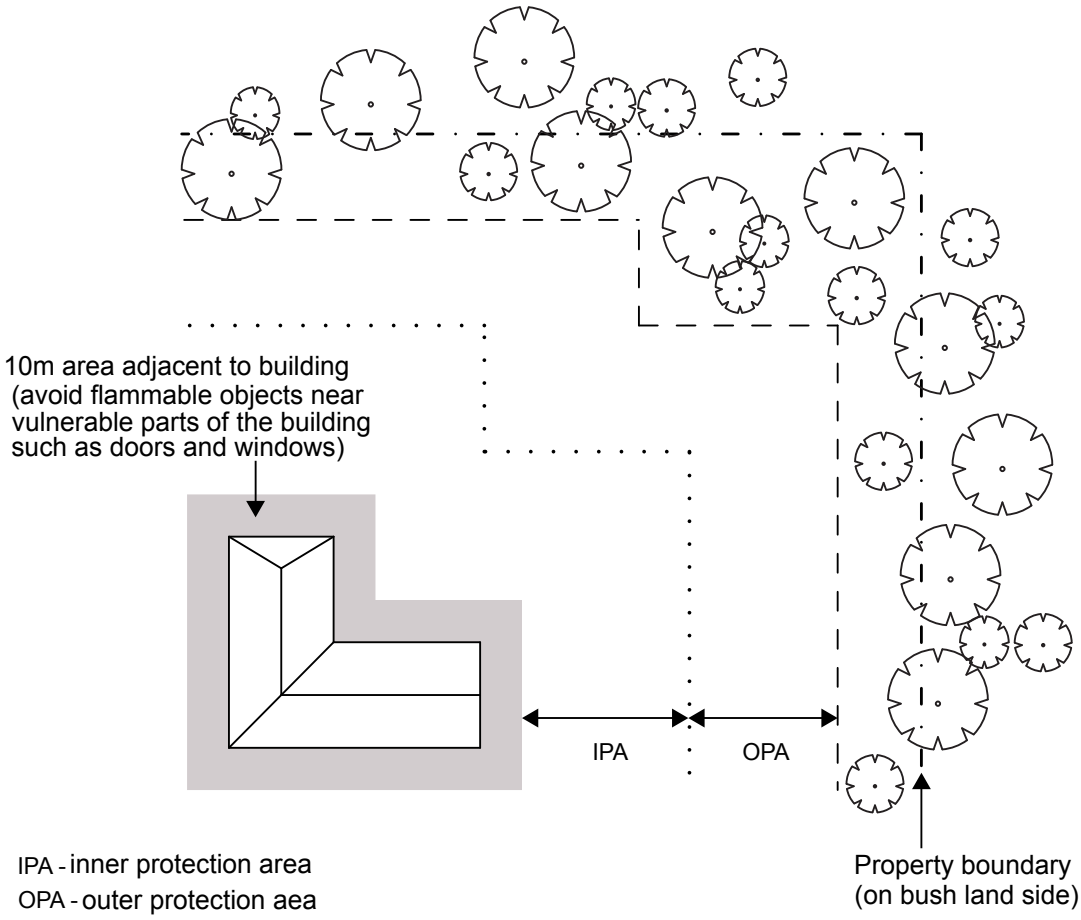

Figure 16.1-3: Asset Protection Zones should incorporate an Inner Protection Area (defendable space closest to the building) and an Outer Protection Area (reduced fuel to slow rate of spread and filter embers). The actual APZ width is to be determined through a bushfire risk assessment prior to lodging a DA.

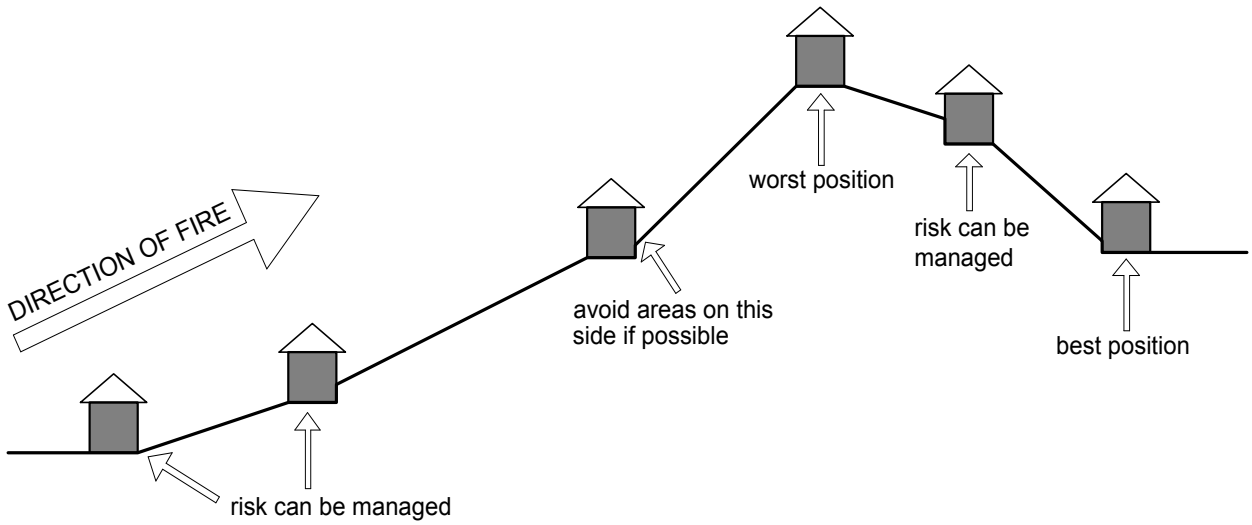

Figure 16.1-4: Example of building siting to reduce exposure risk to bushfire.

16.1 BUSHFIRE RISK MANAGEMENT (continued)

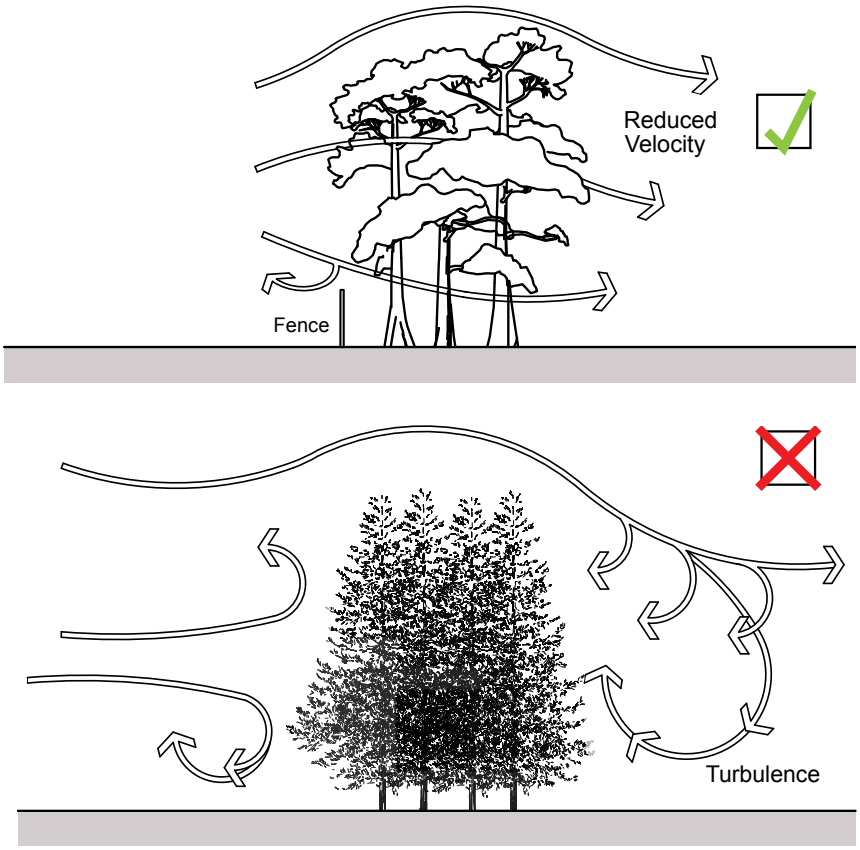

Figure 16.1-5: Appropriate windbreaks should reduce wind velocity and trap embers but not create turbulence.

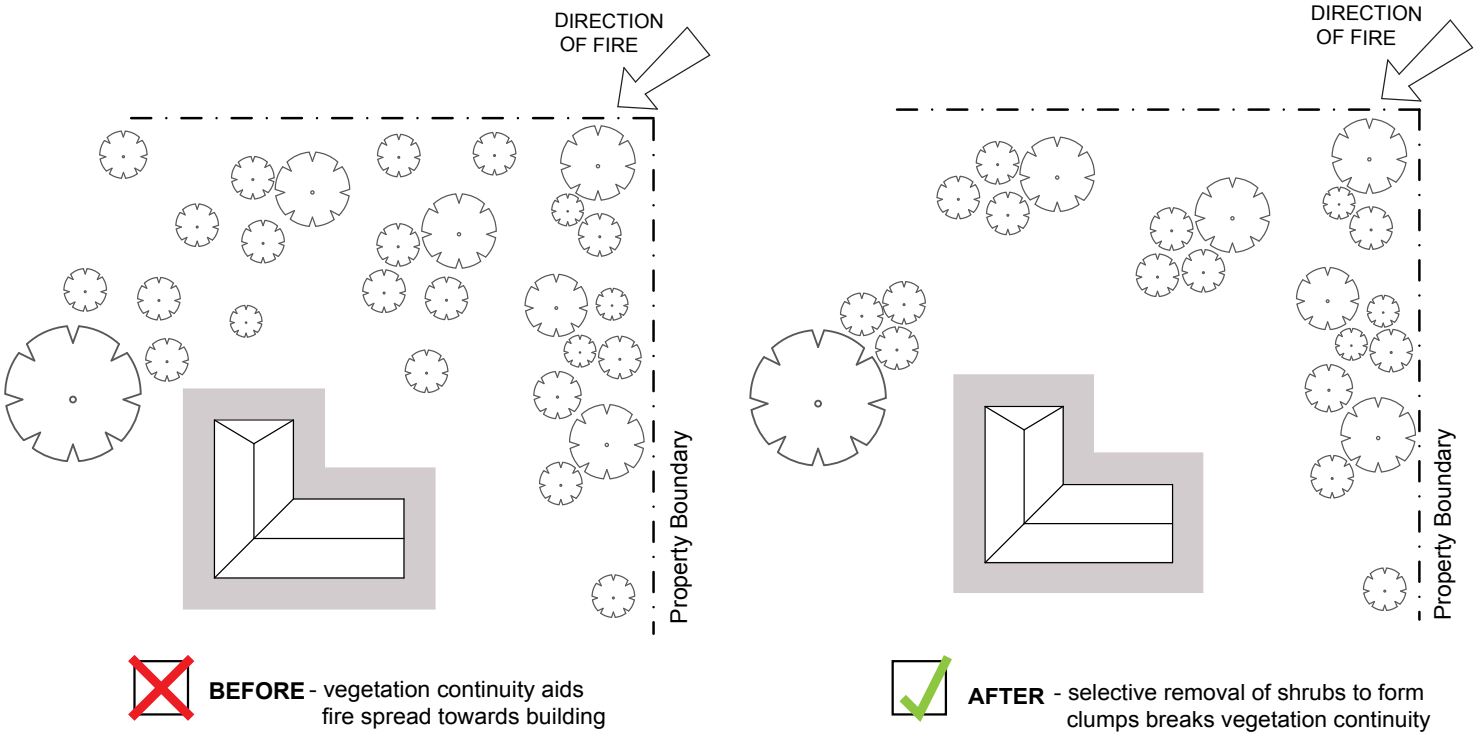

Figure 16.1-6: Managed APZ showing spacing of trees and shrubs in clumps.

PART 17

RIPARIAN LANDS

Introduction

17.1 General

17.2 Category 1 Environmental Corridor

17.3 Category 2 Terrestrial and Aquatic Habitat

17.4 Category 3 Bank Stability and Water Quality

17.5 Category 3A Watercourse Restoration

INTRODUCTION

Creeks, aquatic habitats and the associated riparian environments are important systems which support water quality; maintain habitat, connectivity and biodiversity; and contribute to the character, amenity and aesthetics of the local area.

The impact of urban stormwater management systems has led to accelerated erosion, increased localised flooding, significant sediment deposition, increased pollution and weed proliferation as well as loss of habitat and biodiversity. This in turn has altered the way the community uses and values the waterways. For example, many creeks are now unfit for swimming or other forms of recreation.

Within Ku-ring-gai these changes are apparent within the streams and riparian systems that still exist within the local government area (LGA). Outside the LGA the impacts can be seen in the receiving water bodies such as Sydney Harbour, the Hawkesbury River and local coastal beaches.

This Part guides development on land identified within the Natural Resource – Riparian Lands Map in the KLEP (Local Centres) 2012 (see clause 6.4) and supports the achievement of the aims and objectives within the LEP.

Further background on the riparian lands mapping is contained within the *Ku-ring-gai Biodiversity and Riparian Lands Study Version 5.*

Practical measures are provided to ensure multiple objectives are achieved without compromising planning, development, conservation and restoration needs.

This Part is set out as follows:

i) 17.1 of this Part provides general controls for development within all riparian land.

ii) 17.2 - 17.5 of this Part provide additional provisions for development within specific categories of riparian land as identified on the Natural Resource– Riparian Lands Map in the KLEP (Local Centres) 2012.

Both sections must be addressed when preparing development applications.

The following specific riparian categories are applicable:

i) Category 1 Riparian Land includes a 40m setback from the top of each bank which, together with the waterway, forms the core riparian zone (CRZ); and a buffer zone of a further 10m from the core riparian zone. Refer Figure 17.2-1.

ii) Category 2 Riparian Land includes a 20m setback from the top of each bank which, together with the waterway, forms the CRZ; and a buffer zone of a further 10m from the core riparian zone. Refer Figure 17.3-1.

iii) Category 3 Riparian Land includes a 10m setback from the top of each bank which, together with the waterway, forms the CRZ. Refer to Figure 17.4-1.

iv) Category 3a Riparian Land includes the area 10m on each side of a discontinuous or piped watercourse. Refer to Figure 17.5-1.

Note: Development within 'waterfront land' may be Integrated Development. Integrated Development requires consent from at least one public body other than Council. See www.water.nsw.gov.au for links to guidelines for controlled activities on waterfront land from NSW DPI Office of Water.

17.1 GENERAL

Further controls that may apply		
		SECTION C **PART 21.2 -** Landscape Design **PART 24D.5 -** Tennis Courts and other Sporting Surfaces **PART 24D.6 -** Fences

Objectives

1 *To maintain natural waterways and floodplain processes.*

2 *To protect natural features, functions and biodiversity within riparian land (including the waterway).*

3 *To manage edge effects appropriately at the riparian land/urban interface.*

4 *To maintain and enhance the viability of riparian vegetation and habitats.*

5 *To protect and enhance water quality and aquatic habitat within the waterway and downstream.*

6 *To improve the connectivity and continuity of riparian vegetation and habitat.*

7 *To re-instate where feasible the natural functions and characteristics of the core riparian zone including reconstruction of existing piped or channelised waterways and natural waterways.*

8 *To prevent further piping and channelisation of watercourses.*

9 *To integrate human access to waterways without compromising the protection of riparian processes.*

Controls

1 Subdivisions and amalgamations must provide for a development footprint outside the riparian land.

2 Subdivisions (via perimeter roads) must front onto riparian land.

3 The provision of service infrastructure including stormwater and sewerage within the core riparian zone (CRZ) must be minimised.

4 Despite the provisions of 17.2 to 17.5 of this Part, safety fences are permitted within the CRZ. Fences must be set back an appropriate distance from the top of the bank, and be of an open design to minimise barriers to flora, fauna and water.

5 Encroachments onto riparian land may be permitted. In determining whether an encroachment is acceptable, the following must be considered:

i) the location of existing hardstand structures to be retained within the riparian land;

ii) the scale of the development;

iii) the minimisation of any encroachment through the siting and design of the development;

iv) location above the 1% flood level;

v) enhancements proposed as part of the development such as offset areas;

vi) geomorphic and ecological values.

Note: Principal private open space should be provided for outside the CRZ.

Access

6 Opportunities for the community or residents to connect with and explore waterways are to be provided where appropriate.

7 Accessways must not compromise the integrity of riparian land. Walkways, tracks, cycleways and general access points may be established in the riparian land, where:

i) they are designed and constructed to ensure minimum impact on the riparian land; and

ii) they contribute to the management of edge effects or ongoing riparian maintenance.

8 Any access to the waterway must be located at strategic points where the ecological integrity of the existing riparian vegetation, stream bed and bank stability will not be compromised.

17.1 GENERAL (continued)

Controls

9 Crossings (ie. bridges) over natural waterbodies must maintain riparian connectivity; retain natural stream bed and bank profile; prevent scour and erosion of the stream bed or banks during storm events; not restrict bankfull or floodplain flows and not inhibit natural sediment transport. This is to be achieved by:

i) minimising the number of crossings;

ii) minimising the width of the crossing to allow for pedestrian access. Vehicle crossings will only be considered where required;

iii) establishing crossings at right angles to the flow rather than at an oblique angle; and

iv) minimising disturbance to existing native riparian vegetation.

Note: Refer to the NSW DPI Office of Water - Guidelines for Watercourse Crossings on Waterfront Land www.water.nsw.gov.au/ .

Design

10 Impervious surfaces within the CRZ must be minimised. Where feasible, reduce the existing building footprint and impermeable surfaces within riparian lands.

11 The development must be designed to ensure connectivity of vegetation, hydrological flows and fauna movement to, and within, the riparian land and waterway.

12 Riparian vegetation is to be retained and enhanced, where any works are proposed to be undertaken in the Core Riparian Zone a Vegetation Management Plan prepared by a suitably qualified person, is required

Note: Refer to the NSW DPI Office of Water - Guidelines for vegetation management plans on waterfront land www.water.nsw.gov.au

13 Planting of species listed in Council's Weed Management Policy will not be permitted within riparian lands.

14 Disturbance of soils within riparian land must be minimised, except where required for rehabilitation or remediation of the waterway.

Watercourse and flood processes

15 Watercourse and riparian land management must be integrated with flooding risk. Flood management studies must consider the impacts of rehabilitation and remediation of riparian land in the assessment of risk and in any proposed mitigation strategies.

16 No works shall be undertaken on or near a natural waterway or section of natural waterway that would cause straightening, significant relocation, widening, narrowing, piping or lining of the natural waterway.

17.1 GENERAL (continued)

Controls

17 No works shall be undertaken on or near an artificially modified waterway unless it involves maintenance of existing features or naturalisation or remediation to improve the condition of the waterway.

Note: Artificially modified waterways include those that have been modified by human activities such as relining with artificial materials and/or those that have been realigned (re-directed).

18 Stream bank stabilisation works should be by use of re-vegetation methods, or if necessary, be of a 'soft engineering' design.

19 All stormwater discharge is to be treated before it enters the waterway.

Note: Refer to Part 24 of this DCP for post- construction water quality standards.

20 Water quality and quantity treatments should not compromise the biodiversity objectives of this DCP or objectives of this Part.

Note: Council may require, as a condition of consent, that a restriction-on-use be placed over the riparian land. The terms of which do not permit any works or development including earthworks, construction, landscaping, removal of vegetation or changes to the waterway, without the written concurrence of Council.

21 Channel and bank stability within the CRZ is to be protected by avoiding the removal of natural stream structure, vegetation and woody debris, except where debris creates a flood hazard.

22 Development is to be designed to maintain or emulate a naturally functioning watercourse wherever possible.

23 Piped services through the CRZ must be avoided. Where necessary use non-destructive techniques such as direct drilling, where no part of the pipe is above ground or above the bed of the waterway. In exceptional circumstances piered crossings may be considered.

17.2 CATEGORY 1 ENVIRONMENTAL CORRIDOR

Further controls that may apply		
	SECTION B **PART 16 -** Bushfire Risk	**SECTION C** **PART 24D.3 -** Development Over or Adjacent to a Natural Waterbody, Open Channel or Drainage Depression

Objectives

1 *To provide a corridor for the movement of flora and fauna species between reserves and areas of remnant vegetation.*

2 *To preserve and enhance the viability, condition, connectivity and extent of native riparian vegetation and allow for adaption to climate change.*

3 *To protect and/or provide habitat for terrestrial and aquatic fauna.*

4 *To protect and/or provide bank and bed stability.*

5 *To contribute to improved water quality within the catchment.*

6 *To provide a riparian buffer to counter edge effects on the urban interface.*

7 *To provide for bushfire asset protection zones outside the core riparian zone.*

Controls

1 All parts of the development are to be located outside the core riparian zone (CRZ) of category 1 lands being 40m from the top of each bank.

2 All parts of the development are to be located outside the category 1 buffer, being 10m from the CRZ.

Note: Any variation to the prescribed distances in 17.2 (1&2) must be applied in line with the considerations in 18.1(5) of this Part.

3 Any Asset Protection Zone (APZ) proposed for bushfire management must be located outside the CRZ.

Note: Encroachments of APZs into the CRZ may be considered where existing hardstand development limits the ability to establish a riparian buffer or does not allow sufficient space to establish an APZ outside of the CRZ. Any such proposal must include submission of a vegetation management plan in line with section 17.1(12) of this Part.

4 An APZ is permitted in the buffer.

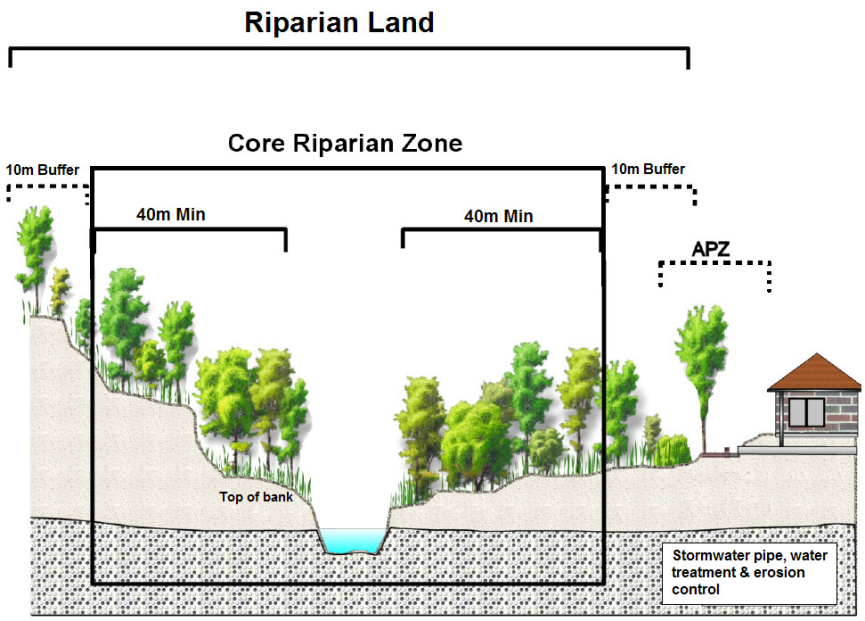

Figure 17.2-1:
Category 1 Riparian Land

17.2 CATEGORY 1 ENVIRONMENTAL CORRIDOR (continued)

Controls

Design

5 Where the riparian land within the CRZ or buffer has been disturbed or degraded, appropriate riparian vegetation is to be revegetated or rehabilitated. Local native vegetation assemblages, capable of supporting the long term ecological function of the riparian land, must be used.

6 Where practicable, protection, regeneration and rehabilitation of vegetation in the CRZ is to retain or achieve a density that would occur naturally.

Note: Practicability will be considered on merit. For instance, within existing asset protection zones on bushfire prone lands, the density and design of vegetated areas will need to meet the requirements for Asset Protection Zones under Planning for Bushfire Protection 2006 rather than the above controls.

7 Particular emphasis is to be given to the retention, regeneration or revegetation of the CRZ in key locations. Including:

i) where two or more watercourses join;

ii) sites with significant erosion;

iii) stormwater outlets.

8 Plantings within the CRZ are to consist of 100% locally native species.

9 Planting within sites that include land identified as Category 1 buffer is to consist of:

i) not less than 70% locally native tree species and 30% locally native understorey species;

ii) species that reflect the relevant vegetation communities within the area;

iii) a mix of groundcover shrubs and trees and is to exclude monocultures.

Note: Council may support a variation to 8) or 9) above if suitable justification is provided.

17.3 CATEGORY 2 TERRESTRIAL AND AQUATIC HABITAT

Further controls that may apply		
	SECTION B **PART 16 -** Bushfire Risk	**SECTION C** **PART 24D.3 -** Development Over or Adjacent to a Natural Waterbody, Open Channel or Drainage Depression

Objectives

1 *To preserve and enhance the viability, condition, connectivity and extent of native riparian vegetation and allow for adaption to climate change.*

2 *To protect and/or provide habitat for terrestrial and aquatic fauna.*

3 *To protect and/or provide bank and bed stability.*

4 *To contribute to improved water quality within the catchment.*

5 *To provide a riparian buffer to counter edge effects on the urban interface.*

6 *To provide for bushfire asset protection zones.*

Controls

1 All parts of the development are to be located outside the core riparian zone (CRZ) of category 2 lands being 20m from the top of each bank.

2 All parts of the development are to be located outside the Category 2 buffer, being 10m from the CRZ.

Note: Any variation of the prescribed distances in 18.3 (1&2) must be applied in line with the considerations in 18.1(5) of this Part.

3 Any Asset Protection Zone (APZ) proposed for bushfire management must be located outside the CRZ.

Note: Encroachments of APZs into the CRZ may be considered where existing hardstand development limits the ability to establish a riparian buffer or does not allow sufficient space to establish an APZ outside of the CRZ. Any such proposal must include submission of a vegetation management plan in line with section 18.1(12) of this Part.

4 An APZ is permitted in the buffer.

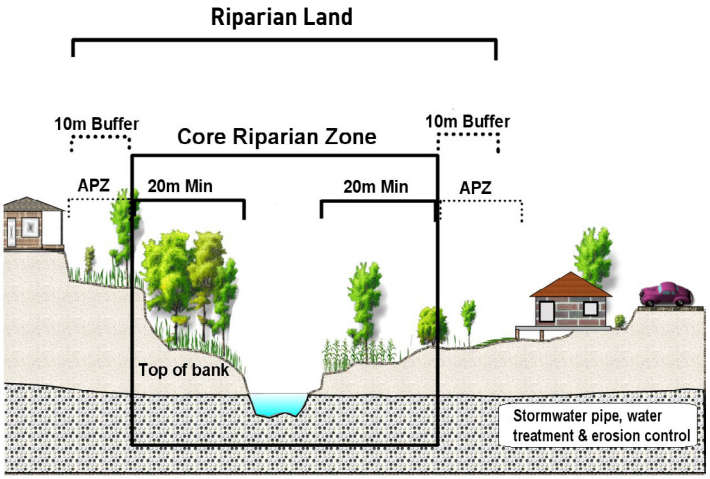

Figure: 18.3-1
Category 2 Riparian Land

17.3 CATEGORY 2 TERRESTRIAL AND AQUATIC HABITAT (continued)

Controls

Design

5 Where the riparian land within the CRZ or buffer has been disturbed or degraded, appropriate riparian vegetation is to be revegetated or rehabilitated. Local native vegetation assemblages, capable of supporting the long term ecological function of the riparian land, must be used.

6 Where practicable, protection, revegetation and remediation of vegetation in the CRZ is to retain or achieve a density that would occur naturally.

Note: Practicability will be considered on merit. For instance, within existing asset protection zones on bushfire prone lands, the density and design of vegetated areas will need to meet the requirements for Asset Protection Zones under Planning for Bushfire Protection 2006 rather than the above controls.

7 Particular emphasis is to be given to the retention, regeneration or revegetation of the CRZ in key locations. Including:

i) where two or more watercourses join;

ii) sites with significant erosion;

iii) stormwater outlets.

8 Plantings within the CRZ are to consist of 100% locally native species.

9 Planting within sites that include land identified as Category 2 buffer is to consist of:

i) not less than 70% locally native tree species and 30% locally native understorey species;

ii) species that reflect the relevant vegetation communities within the area;

iii) a mix of groundcover shrubs and trees and is to exclude monocultures.

Note: Council may support a variation to 8) or 9) above if suitable justification is provided.

17.4 CATEGORY 3 BANK STABILITY AND WATER QUALITY

Further controls that may apply		
	SECTION B **PART 16-** Bushfire Risk	**SECTION C** **PART 24D.3 -** Development Over or Adjacent to a Natural Waterbody, Open Channel or Drainage Depression

Objectives

1 *To protect and/or provide bank and bed stability.*

2 *To contribute to improved water quality within the catchment.*

Controls

1 All parts of the development are to be located outside the core riparian zone (CRZ) of Category 3 Riparian Land being 10m from the top of each bank.

2 An Asset Protection Zone (APZ) proposed for bushfire management is permitted within the CRZ, only where no practical alternative exists.

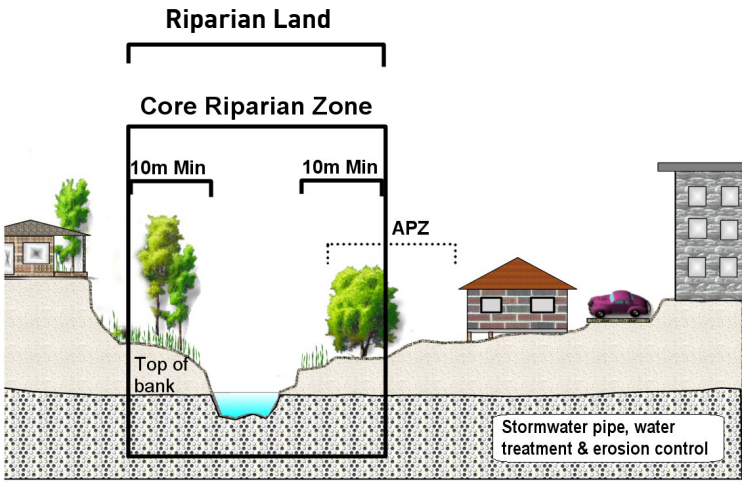

Figure: 17.4-1
Category 3 Riparian Land

17.4 CATEGORY 3 BANK STABILITY AND WATER QUALITY (continued)

Controls

Design

3 Where the CRZ has been disturbed or degraded, appropriate riparian vegetation is to be revegetated or rehabilitated. Locally native vegetation assemblages, capable of supporting the long term ecological function of the riparian land, must be used.

4 Protection, revegetation and rehabilitation of vegetation in the CRZ to is achieve a density that would occur naturally, except where the zone is within bushfire prone land.

5 Particular emphasis is to be given to the retention, regeneration or revegetation of the CRZ in key locations. Including:

i) where 2 or more watercourses join;

ii) sites with significant erosion;

iii) stormwater outlets.

6 Planting within the channel and within 2 metres of the top of the bank is to consist of 100% locally native species. Species are to reflect the relevant vegetation communities within the area. A mix of groundcover, shrubs and trees is to be provided.

7 Planting within Category 3 lands more than 2 metres from the top of the bank is to consist of:

i) not less than 70% locally native tree species and 30% locally native understorey species;

ii) species that reflect the relevant vegetation communities within the area;

iii) a mix of groundcover shrubs and trees and is to exclude monocultures.

Note: Council may support a variation to 6) or 7) above if suitable justification is provided.

17.5 CATEGORY 3A WATERCOURSE RESTORATION

Further controls that may apply		
	SECTION B **PART 16-** Bushfire Risk	**SECTION C** **PART 24D.3 -** Development Over or Adjacent to a Natural Waterbody, Open Channel or Drainage Depression **PART 24D.2** - Flood studies and the Flood Design Standard

Objectives

1 *To re-create the core riparian zone.*

2 *To emulate a naturally functioning watercourse, with associated riparian vegetation where possible.*

3 *To prevent development from compromising the ability to re-create the core riparian zone (including the watercourse) in the future.*

4 *To contribute to improved water quality within the catchment.*

Controls

1 All parts of the development are to be located outside the CRZ on Category 3a Riparian Land.

2 The CRZ is up to 10 metres from the centreline of the watercourse.

In determining an appropriate width for the CRZ in category 3a the following must be considered:

i) drainage characteristics including flooding;

Note: the core riparian zone for category 3a should at a minimum cover the extent of any overland flow path. Determining this may require a flood study to be undertaken. See Part 24D.2

ii) the location of the riparian land within the catchment;

Note: Land at the very top of the catchment may require a CRZ less than 10m wide.

iii) the presence of existing open watercourses up and down stream within the site or adjacent land;

iv) the type, condition and connectivity of existing vegetation;

v) the scale of the proposed development; and

vi) the location of existing development to be retained.

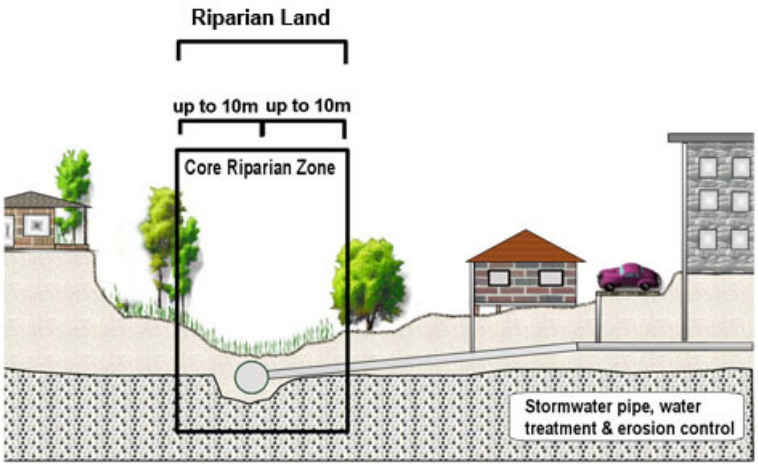

Figure 17.5-1:
Category 3a Riparian Land.

17.5 CATEGORY 3A WATERCOURSE RESTORATION (continued)

Controls

Access

3 Vehicular and pedestrian crossings over piped waterways must comply with the easement provisions in Part 24D.4.

Note: Where a watercourse is re-created the general access controls apply

Design

4 Piped or channelised re-instatement of the watercourse to a more natural form is to be undertaken where feasible. Feasibility of channel restoration is to be determined taking into consideration the factors outlined in the Controls in clause 17.5(2) of this Part.

Note: watercourse re-instatement is most likely to be feasible on larger developments where landscaping and drainage works are already significant and re-instatement of the watercourse can help achieve beneficial social and environmental outcomes

5 Where a watercourse is re-created the design controls for Category 3 apply.

Watercourse and flood processes

6 Piped waterways must comply with the flooding and easement provisions in Part 24D.4.

Note: Where a watercourse is re-created the Watercourse and Flood Process Controls from Part 16.1 apply.



Figure 17.5-2:
Partially restored watercourse in new residential development.



Figure 17.5-3:
Same partially restored watercourse a few months later.

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PART 18

BIODIVERSITY

Introduction

18.1 All Greenweb Categories

18.2 Category - Core Biodiversity Lands

18.3 Category - Support for Core Biodiversity Lands

18.4 Category - Landscape Remnant

18.5 Category - Biodiversity Corridors and Buffer Areas

18.6 Category - Canopy Remnant

18.7 No Net Loss of Biodiversity

18.8 Explanation of Greenweb Categories and Sub Categories

18R References

18R.1 Greenweb Maps (separate document)

INTRODUCTION

The urban forest, formal reserves and natural resources of Ku-ring-gai are fundamental elements of its character and support biodiversity of national, state, regional and local significance.

Greenweb (as shown on the Greenweb map - Part 18R.1) is Ku-ring-gai's Biodiversity mapping for the management of significant vegetation and habitat, biodiversity corridors and waterways throughout the LGA. The mapping facilitates a consistent and strategic approach to biodiversity management.

This includes lands mapped as 'areas of biodiversity significance' within the KLEP (Local Centres) 2012 (Clause 6.3 Biodiversity Protection), broken down into four categories:

i) Core Biodiversity Lands;

ii) Support for Core Biodiversity Lands;

iii) Landscape Remnant;

iv) Biodiversity Corridors and Buffer Areas.

In addition to these, an additional category - 'Canopy Remnant' is also included within the DCP for the role these Canopy Remnant play in supporting ecological processes and other values.

> **Note:** Further explanation and the methodology for identifying Greenweb categories is provided within Part 18.8 of this DCP and the Ku-ring-gai Biodiversity and Riparian Lands Study Version 5.

Lands excluded from Greenweb may still contain or provide habitat for threatened ecological communities, species or populations as listed under the NSW Threatened Species Conservation Act 1995, the NSW Fisheries Management Act 1994, and / or the Environment Protection and Biodiversity Conservation Act 1999. Absence of areas from the Greenweb does not remove the need for consideration and protection under these Acts.

The majority of areas within the Greenweb include native vegetation canopy. However some areas containing cleared, built or exotic vegetation have been included (See Part 18.8 Explanation of Greenweb Categories and Sub Categories). The inclusion of such areas facilitates the improvement of connectivity between core habitats and may provide additional functions such as protection of water quality. These measures will help to maintain and restore the health, diversity and connectivity of biodiversity within Ku-ring-gai and improve resilience under climate change.

Within Greenweb the potential for presence of a native soil seed bank is important. This is the natural storage of seeds that remains largely dormant until triggered by disturbance. Many plants can survive for decades as seeds stored in soil. Areas which may look visibly weedy or disturbed may contain a native seed bank and potential for restoration through fire, weed removal or other disturbance mechanisms.

> **Note:** "The soil seedbank is the key to regeneration" (*Department of Environment and Climate Change NSW 2008, Protecting and Restoring Blue Gum High Forest)*

INTRODUCTION

The Greenweb maps should not be used at a scale finer than 1:2,000. There are considerable benefits to natural resource planning at this scale, however investigations at a site scale for individual proposals may identify inaccuracies or on ground changes.

Variations to Greenweb mapping as proposed by either Council or the proponent will be considered on merit, based on the methodology outlined in the Ku-ring-gai Biodiversity and Riparian Lands Study Version 5.

The objectives and controls in this Part applies to development activities or works that will have an impact on areas identified as Greenweb, mapped in this DCP. Within these areas, this Part guides the development activities or works in meeting the aims and objectives of the KLEP (Local Centres) 2012 (Clause 6.3 Biodiversity Protection).

Where there are inconsistencies between this Part and Section C Part 1.1 (Landscaping) of this DCP, this Part prevails to the extent of any inconsistency.

This Part is set out as follows:

i) Part 18.1 includes general objectives and controls that apply to all development on Greenweb lands;

ii) Parts 18.2 – 18.6 provide objectives and controls for each of the five categories of Greenweb based on the main functions and objectives of each area;

iii) Part 18.7 provides for no net loss of biodiversity and outlines mechanisms to achieve this;

iv) Part 18.8 provides the explanation of Greenweb categories.

18.1 ALL GREENWEB CATEGORIES

Objectives

1 *To preserve the natural environment of Ku-ring-gai in the social, economic and environmental interest of the community.*

2 *To retain, consolidate and improve existing bushland, significant vegetation and habitat for flora and fauna.*

3 *To support the protection and recovery of critical habitat, regionally significant and threatened ecological communities, species and populations.*

4 *To capture carbon, contributing to climate control.*

5 *To allow for adaptation of native flora, fauna and ecological communities to climate change.*

Controls

1 Development must be designed and sited to minimise impact on any distinctive environmental features and to conserve the areas of vegetation and/or habitat of the highest ecological value on and adjacent to the site, and to minimise fragmentation and edge effects.

The development design should also integrate consideration of bushfire, ecological impacts and management and include:

i) consideration of buildings, access, stormwater and utilities;

ii) choosing parts of the site to develop where features are not present;

iii) modifying the size, layout or construction methods to minimise on and off site disturbance and impacts;

iv) locating built structures to reduce fragmentation of open space areas and vegetation (including canopy);

v) locating buildings to take advantage of environmental features;

vi) implementing a soil and water management plan to limit impact;

vii) avoiding importing soil from outside the site;

viii) selecting native plant species that are present on site, preferably seeded from species on the site;

ix) selecting plant species that enhance local fauna habitat.

Note: Habitat and distinctive environmental features may include:

- cliffs and rock outcrops;
- remnant bushland and trees;
- tree hollows; and
- natural watercourses.

Note: Council may require, as a condition of consent, that a restriction on use be placed over key areas of the site. Council may require suitable replacements for trees or vegetation removed.

2 Subdivision must not be permitted unless each proposed site contains a building envelope that allows compliance with this Part.

3 Trees adjacent to threatened ecological communities are to be retained as a buffer. This does not apply to trees listed in Council's "Weed Management Policy".

4 The development must retain existing site drainage patterns and minimise excavation and fill within 3m of Greenweb lands.

5 Where the slope over the building footprint area is greater than 12.5%, site responsive methods such as stepping the building down the site, split level construction or pier and beam construction must be used.

6 The planting of species listed in Council's Weed Management Policy will not be permitted.

7 Species used for planting in or directly adjacent to Greenweb areas should be of local provenance.

18.1 ALL GREENWEB CATEGORIES (continued)

Controls

8 A flora and fauna assessment will be required where development within Greenweb lands impacts on connectivity, existing indigenous vegetation, fauna or habitat.

Note: This may be waived where an assessment has already been undertaken as part of a submitted Biobanking Statement (in accordance with Part 7A of the NSW Threatened Species Conservation Act 1995).

Note: Flora and fauna assessments must be undertaken by an appropriately qualified and experienced person. Council assessment provisions are available on Council's website: www.kmc.nsw.gov.au.

Survey and assessments should be undertaken in accordance with guidelines from the NSW Office of Environment and Heritage.

18.2 CATEGORY - CORE BIODIVERSITY LANDS

Objectives

1 *To protect and regenerate core vegetation and fauna habitat.*

2 *To maintain and enhance ecological function and connectivity.*

3 *To support the protection and recovery of Key Vegetation Communities, threatened species, populations and their habitats.*





Figure 18.2-1: Examples of Core Biodiversity Lands

Controls

Core Biodiversity lands are areas containing a range of natural landforms, plant and animal species, habitats and ecosystems.

These areas include public lands managed for conservation, areas of regional biodiversity importance, and form the key foundation of the Greenweb (see Figure 18.2-1).

It is recognised that works may be required within this category for bushfire, land management and appropriate recreation. This may include trails, access roads, car parks and picnic areas.

Category	Sub Category
Core Biodiversity Lands	Office of Environment and Heritage protected areas
	Ku-ring-gai Natural Areas
	Regional Fauna Habitat

Figure 18.2-1 Areas identified as Core Biodiversity Lands

Note: See Part 18.8 for explanation of Greenweb categories.

1 Avoid locating development on land identified as Core Biodiversity Lands on the Greenweb map. (Refer to maps in 18R.1 of this Part)

2 Where work impacts on land within Core Biodiversity Lands, stabilisation and or rehabilitation with indigenous vegetation will be required to mitigate impacts.

3 Where the site includes land identified as Core Biodiversity Lands, works must be consistent with a management document (e.g. a Plan of Management under the Local Government Act 1993, a Vegetation Management Plan or equivalent).

4 Where no such plan exists, development and implementation of such a plan may be required. The plan must be prepared by a suitably qualified person and must identify ongoing initiatives to preserve, protect and promote the environmental values of the land.

Note: Guidelines for Vegetation Management Plans are available on Council's website: www.kmc.nsw.gov.au

5 Planting within land identified as Core Biodiversity Lands is to consist of:

i) locally native species;

ii) species that reflect the relevant vegetation communities within the area; and

iii) a mix of groundcover shrubs and trees, and is to exclude monocultures.

18.3 CATEGORY - SUPPORT FOR CORE BIODIVERSITY LANDS

Objectives

1 *To support core areas of vegetation and fauna habitat.*

2 *To contribute to the protection and recovery of Key Vegetation Communities, threatened species, populations and their habitats.*

3 *To contribute to the protection, restoration and management of Biodiversity Corridors.*

4 *To contribute to the protection, restoration and management of vegetation and habitat in riparian lands.*

5 *To contribute to the net improvement of ecological function.*

Controls

Land identified as Support for Core Biodiversity Lands provide a range of support values, including increased remnant size, reduced edge effects and connectivity between Core Biodiversity Lands (see Figure 18.3-1).

They also include patches of Local Fauna Habitat and/or of Key Vegetation Communities and support the health of waterways. This category includes vegetation where protection, restoration, rehabilitation or regeneration works are required to enhance overall biodiversity values.

Biodiversity Corridors have been located in positions of strategic importance, providing linkages between natural habitat areas such as formal reserves or remnant patches. Whilst these corridors typically contain barriers, including buildings, roads and infrastructure or discontinuous vegetation, they are important stepping stones or refuge sites for movement and dispersal of mobile species between more extensive habitat areas.

Note: Biodiversity Corridor area lacking vegetation are addressed in Category Biodiversity Corridor and Buffer Areas (Part 18.5).

Biodiversity Corridors play a vital role in improving the viability of otherwise isolated areas.

Linking core areas through an urbanised landscape by means of corridors:

- assists fauna movement by improving vegetation cover, decreasing predation risk and promoting food resources within a species foraging range;
- supports pollination, seed and gene dispersal, which may assist in the protection of high biodiversity values including endangered ecological communities and threatened flora and fauna.

Category	Sub Category
Support for Core Biodiversity Lands	Key Vegetation Communities (KVC), adjoining Core Biodiversity Lands
	Local Fauna Habitat
	Vegetation within Core Riparian Zones and KVC's adjoining
	All vegetation within Biodiversity Corridors

Figure 18.3-1 Areas identified as Support for Core Biodiversity Lands

Note: See Part 18.8 for explanation of Greenweb categories.

1 Avoid locating development on areas identified as Support for Core Biodiversity Lands on the Greenweb map. (Refer to maps in 18R.1 of this Part).

2 Where work impacts on land within Support for Core Biodiversity Lands, stabilisation and or rehabilitation with indigenous vegetation will be required to mitigate impacts.

18.3 CATEGORY - SUPPORT FOR CORE BIODIVERSITY LANDS (continued)

Controls

3 Vegetation retention and rehabilitation must be designed to enhance and link existing vegetation and habitat within the site and within adjacent sites, Biodiversity Corridors and riparian lands.

4 Where land within an allotment is identified as Support for Core Biodiversity Lands, works must be consistent with a management plan (e.g. vegetation management plan). Where no plan exists, Council may require preparation of a plan. This plan must be prepared by a suitably qualified person and must identify ongoing initiatives to preserve, protect and promote the environmental values of the land.

Note: Guidelines for Vegetation Management Plans are available on Council's website: www.kmc.nsw.gov.au

5 Planting within land identified as Support for Core Biodiversity Lands is to consist of:

i) 100% locally native tree and understorey species within Core Riparian Zones;

ii) not less than 70% locally native tree species and 30% locally native understorey species for all other areas;

iii) species that reflect the relevant vegetation communities within the area; and

iv) a mix of groundcover shrubs and trees and is to exclude monocultures.







Figure 18.3-1: Examples of Support for Core Biodiversity Lands

18.4 CATEGORY - LANDSCAPE REMNANT

Objectives

1 *To maintain smaller Key Vegetation Communities remnants as 'stepping stones', providing habitat, seedbank and pollination resources (facilitating gene flow) and supporting flora and fauna resilience.*

2 *To maintain and restore smaller remnants of Key Vegetation Communities across a range of topographies.*

3 *To protect trees within Key Vegetation Communities that provide food, shelter or nesting resources for native fauna, or that are of exceptional aesthetic value.*







Figure 18.4-1: Examples of Landscape Remnants

Controls

Landscape Remnant comprises areas that are more fragmented than Support for Core Biodiversity Lands, which nevertheless contain Key Vegetation Communities and support core areas (see Figure 18.4-1). These areas act as stepping stones or habitat islands to facilitate the movement of flora, fauna and genetic resources through the urban landscape and across a range of topographies. They also provide important community and aesthetic values.

Category	Sub Category
Landscape Remnant	Larger Key Vegetation Community (KVC) patches or KVC in good to moderate condition
	Significant trees within Key Vegetation Communities

Figure 18.4-1 Areas identified as Landscape Remnant

Note: See Part 18.8 for explanation of Greenweb categories.

1 Avoid locating development on land identified as - Landscape Remnant; on the Greenweb map. (Refer to maps in 18R.1 of this Part).

2 Vegetation retention and rehabilitation on sites that include land identified as Landscape Remnant must be designed to improve connectivity with existing vegetation and habitat.

3 Planting within land identified as Landscape Remnant on the Greenweb map is to consist of:

i) not less than 50% locally native species;

ii) species that reflect the relevant vegetation communities within the area; and

iii) a mix of groundcover, shrubs and trees, and is to exclude monocultures.

4 Where the site contains high species diversity or is dominated by weeds within any stratum, preparation of a Vegetation Management Plan by a suitably qualified person may be required. This plan must identify ongoing initiatives to preserve, protect and promote the environmental values of the land.

Note: Weeds are listed in Council's Weed Management Policy, with updated noxious weed information available from the NSW Department of Primary Industries: www.dpi.nsw.gov.au

Note: Guidelines for Vegetation Management Plans are available on Council's website: www.kmc.nsw.gov.au

18.5 CATEGORY - BIODIVERSITY CORRIDORS AND BUFFER AREAS

Objectives

1 *To manage areas providing a buffer to Core and Support for Core Biodiversity Lands.*

2 *To reduce edge effects and to improve the health, connectivity and function of local ecosystems.*

3 *To revegetate and restore Biodiversity Corridors, significant vegetation and habitat across the landscape.*





Figure 18.5-1: Examples of Biodiversity Corridors and Buffer Areas

Controls

Land identified as Biodiversity Corridors and Buffer areas (as outlined within Figure 18.5-1) includes both vegetation, cleared, disturbed or built areas.

Consideration of these lands provides an opportunity:

- to undertake revegetation, rehabilitation or regeneration works, to re-connect remnants with Greenweb, improving Biodiversity Corridors;
- increase remnant size and buffering edge effects.

This is an important aim as larger more consolidated remnants are more resilient than fragmented or linear remnants.

Category	Sub Category
Biodiversity Corridors and Buffer Areas	Buffer Areas for Core Biodiversity Lands & Support for Core Biodiversity Lands
	Biodiversity Corridor areas lacking vegetation

Figure 18.5-1 Areas identified as Biodiversity Corridors and Buffer Areas

Note: See Part 18.8 for explanation of Greenweb categories.

1 Within Biodiversity Corridors and Buffer Areas (refer to maps in 18R.1 of this Part):

i) The siting and design of development must minimise edge effects on Greenweb.

ii) Planting is to consist of :

- not less than 50% locally native species;
- species that reflect the relevant vegetation communities within the area; and
- a mix of groundcover, shrubs and trees.

iii) Within Biodiversity Corridors (refer to maps in 18R.1 of this Part):

- landscaping and revegetation must be designed to consolidate fragmented and linear vegetation and habitat areas within the site and adjacent sites.
- the width of Biodiversity Corridors should be enhanced and gaps and barriers reduced or minimised

18.6 CATEGORY - CANOPY REMNANT

Objectives

1 *To protect smaller canopy remnant for habitat, species diversity and ecosystem services across a range of topographies.*

2 *To maintain trees for the services they provide to human well-being.*

3 *To improve air quality, prevent soil erosion, assist in improving water quality, carbon sequestration, storm water retention, energy conservation and noise reduction*





Figure 18.6-1: Examples of Canopy Remnant

Controls

Canopy Remnant comprise areas that contain Key Vegetation Communities have little to no understorey and are smaller than those mapped within the other four Greenweb categories included within the Biodiversity Map of KLEP (Local Centres) 2012 (see Figure 18.6-1).

In addition to their intrinsic value as communities of high conservation priority, Canopy Remnant provide habitat for urban, transient or locally mobile species. They support species diversity and ecosystem services including maintenance of air and water quality, soil erosion, carbon storage.

Category	Sub Category
Canopy Remnant	Smaller Key Vegetation Community patches NOT in good to moderate condition

Figure 18.6-1 Areas identified as Greenweb Canopy Remnant

Note: See Part 18.8 for explanation of Greenweb categories.

1 Retain trees identified as Canopy Remnant on the Greenweb map (refer to maps in 18R.1 of this Part).

2 Planting within land identified as Canopy Remnant is to consist of:

i) not less than 30% locally native species;

ii) species that reflect the relevant vegetation communities within the area; and

iii) a mix of groundcover, shrubs and trees and is to exclude monocultures.

18.7 NO NET LOSS OF BIODIVERSITY

Objectives

1 *To ensure maintenance of vegetation (particularly) canopy within the LGA, Covering a range of habitats, species and age classes. In recognition of the social and ecosystem services provided.*

2 *To facilitate continuity of the ecological diversity currently alive in the locality.*

3 *To increase the level of security for significant vegetation and habitat.*

4 *To allow for reasonable development while maintaining and enhancing biodiversity and ecological integrity.*

5 *To provide a range of mechanisms to achieve no net loss of significant vegetation or habitat.*

6 *To ensure that where biodiversity values need to be offset, policy requirements are applied consistently across developments and in such a way as to enhance the ecological integrity across the LGA.*

Controls

1 Development proposals must seek to achieve no net loss of significant vegetation or habitat. Retention of vegetation and habitat in situ is the preferred method of biodiversity conservation. In the event that loss of vegetation is unavoidable, the loss must be mitigated and/or offset.

Note: Both informal compensatory measures and formal offsetting include a number of ecological, administrative and financial risks. The inclusion of such measures within a proposal does not preclude Council requiring redesign of, or refusing consent to, a proposal on grounds of biodiversity loss.

2 Any application for works within the Greenweb, must be accompanied by a proposal to protect, enhance or create habitat on or off site, where it:

i) requires the removal of native vegetation; or

ii) will negatively affect actual or potential habitat of fauna or flora; or

iii) is likely to cause degradation to vegetation or habitat.

3 No net loss of significant vegetation or habitat may be achieved by:

i) retention and protection of existing significant vegetation and habitat; or

ii) informal compensatory measures:

- planting and habitat creation, especially where it improves connectivity;
- rehabilitation of degraded areas; or
- translocation of plants or soils;

Note: Where disturbance to intact, resilient natural soil profiles (that are likely to contain a healthy native seedbank) is to occur, translocation to and establishment within a viable recipient site is a key action towards no net loss of significant vegetation or habitat.

Note: In certain circumstances Council may request that native flora, fauna, natural features (e.g. rocks, logs) or viable soil profiles are translocated. This material may be used by the proponent, Council or other relevant authority to aid either in the offsetting site or other restoration program.

iii) formal offsetting measures:

- such as offsetting on or off site in accordance with Part 7A of the NSW Threatened Species Conservation Act 1995 (also known as Biobanking).

Note: Conditions will apply to how and where offset actions are applied, and these will be determined by Council.

4 In determining the appropriate measures a number of factors must be considered:

i) size and condition of the vegetation or habitat;

ii) vegetation or habitat significance, including its legislative status, and its Greenweb category;

iii) scale and duration of the impact;

18.7 NO NET LOSS OF BIODIVERSITY (continued)

Controls

iv) current and future landscape context;

v) level of uncertainty; and

vi) any other mitigation measures proposed as part of the development.

Note: It is strongly recommended that for developments considering offsetting that pre-lodgement discussions are held with Council.

5 Any proposal involving an offsetting mechanism, on or off site, must be in accordance with the following principles:

i) Principle 1: Avoid, Minimise and Mitigate

- Offsetting will only be considered once all efforts to avoid, minimise or mitigate any negative impacts have been exhausted.

ii) Principle 2: Improve or Maintain Overall Biodiversity

- In order to achieve no net loss, offsetting must seek to improve or maintain overall biodiversity.
- Offsetting must not be used as a justification for granting approval to developments, where the cumulative impacts are greater than the benefit to be obtained from the offset action.
- Offset sites are to be identified and selected in accordance with regional and local conservation priorities. Offset sites and actions must be assessed according to their long-term viability.

iii) Principle 3: Like for Like

- The area which receives offset actions (the offset site) must contain or restore the same ecological community or threatened species/population habitat as the area which is being adversely impact by the development or activity (the impact site).
- Within areas where one vegetation community grades into another (ecotone areas) flexibility will be permitted. Similarly, Council will consider offsetting to adjoining vegetation communities where a benefit to the relevant community is demonstrated.
- Where a proposal will impact an area of known breeding or key habitat for threatened species, the offset site must include known habitat for that species (i.e. the species is known to be present).
- Offsets that are not like for like will only be considered where no suitable 'like for like' offset is available or the alternate offset will provide a net biodiversity benefit of equal or greater ecological significance within the bioregion.

iv) Principle 4: Supplement Existing Protection and Management

- Offsets must be supplementary and provide for increased extent, improved condition and/or protection.

18.7 NO NET LOSS OF BIODIVERSITY (continued)

Controls

v) Principle 5: Enforceability

- Offsets and their actions must be enforceable and include monitoring and reporting to ensure that the actions have been carried out, and are leading to positive biodiversity outcomes.

vi) Principle 6: The Precautionary Principle

- In conducting an offsetting action the precautionary principle must be applied. This principle requires that a conservation approach be taken, where there is uncertainty or lack of scientific confidence in an action and there are threats of serious or irreversible environmental damage.

6 An offsetting action will not be appropriate if:

i) the applicant fails to adequately demonstrate to Council's satisfaction that all measures to address the offsetting principals in Clause 4 have been taken.

ii) the proposed development is an inappropriate use of the land subject to the proposal, as assessed under the NSW Environmental Planning & Assessment Act 1979 and any local plans, policies or strategies.

iii) the applicant has failed to adequately demonstrate to Council the need for the offsetting action.

iv) the environmental impact in the development site is unacceptable. An example of how this may arise is where there is a likelihood of irreplaceable loss of biodiversity values that will not be adequately compensated by the proposed offsetting actions.

18.8 EXPLANATION OF GREENWEB CATEGORIES AND SUB CATEGORIES

Further background on this mapping, including a detailed mapping methodology is contained within the Ku-ring-gai Biodiversity and Riparian Lands Study Version 5.

Note: These categories are designed to be created in progressive order as listed below (from top to bottom) as data from one layer may be needed for those below. Where the criteria for an area fits within more than one category, the category listed first in the order shown below applies.

Core Biodiversity Lands	**Office of Environment and Heritage Protected Areas** **Description:** Formal reserves containing Office of Environment and Heritage estate managed for the purpose of biodiversity protection
	Ku-ring-gai Natural Areas **Description:** Formal reserves consisting of areas managed by Ku-ring-gai Council as Natural Areas under the NSW Local Government Act 1993 for the purpose of biodiversity protection.
	Regional Fauna Habitat **Description:** Regional Fauna Habitat as mapped by Ku-ring-gai Council consists of regionally important connected areas including private and public land. These areas provide resources for threatened and non-threatened fauna species and populations.

Support for Core Biodiversity Lands	**Key Vegetation Communities (KVC) adjoining Core Biodiversity Lands** **Description:** Areas of KVC directly adjoining lands mapped as Core Biodiversity Lands
	Local Fauna Habitat **Description:** Local Fauna Habitat as mapped by Ku-ring-gai Council is provided by isolated remnants located more centrally in the LGA. This includes areas within private and public land ownership.
	Vegetation within Core Riparian Zones and KVC's adjoining **Description:** All vegetation within Core Riparian Zones (see Part 18), including native and non-native species, with the exception of Riparian Category 3a (consisting of piped creeks). For Riparian Category 3a, mapped areas are limited to lands containing KVC's only **AND** KVC's adjoining vegetation within Core Riparian Zones identified above. **Note:** Only Core Riparian Zone areas are used. This excludes the 10m buffers applied to the Category 1 and 2 riparian lands.
	All vegetation within Biodiversity Corridors **Description:** All vegetation including non local / non-native species, within Biodiversity Corridors as mapped by Ku-ring-gai Council. **Note:** Areas lacking vegetation within biodiversity corridors are included within lands mapped as Biodiversity Corridors and Buffer Areas.

18.8 EXPLANATION OF GREENWEB CATEGORIES AND SUB CATEGORIES (continued)

Landscape Remnant	**Larger Key Vegetation Community (KVC) patches or KVC in good to moderate condition** **Description:** Patches (areas of adjoining) KVCs that are ≥ 0.1ha in size; **OR** KVC vegetation of good or moderate condition. **Note:** Good condition vegetation, includes: • Canopy, midstorey and understorey in good condition. • Regeneration occurring within all layers. • Native dominated within all layers. Moderate condition vegetation, includes: • Native medium to dense tree overstorey, with native shrub and ground layers, and • Native dominated within 2 layers.
	Significant trees within Key Vegetation Communities **Description:** Includes patches containing significant trees within KVCs identified by Ku-ring-gai Key Vegetation Community mapping. The mapping is not considered to capture every significant tree within the urban landscape. Factors considered in determining significance include; the presence of habitat (e.g. a hollow), provision of food for wildlife, and/or exceptional form or size.
Biodiversity Corridors and Buffer Areas	**Buffer Areas for Core Biodiversity Lands and Support for Core Biodiversity Lands** **Description:** Includes all areas within 8m of lands mapped as Core Biodiversity Lands or Support for Core Biodiversity Lands. Including both vegetated and non-vegetated areas that are not already included within categories listed above. **Note:** The buffering of Core Biodiversity Lands & Support for Core Biodiversity Lands required to create this layer, leaves a number of holes that are considered too small to inform planning decisions (less than 5 m^2). These areas were removed.
	Biodiversity Corridor Areas Lacking Vegetation **Description:** This includes areas lacking vegetation, within Biodiversity Corridors as mapped by Ku-ring-gai Council. **Note:** Vegetated areas within biodiversity corridors are included within lands mapped as Support for Core Biodiversity Lands.

18.8 EXPLANATION OF GREENWEB CATEGORIES AND SUB CATEGORIES (continued)

Canopy Remnant	**Smaller Key Vegetation Community Patches NOT in good to moderate condition** **Description:** Patches (areas of adjoining) KVC (excluding areas containing vegetation in good or moderate condition) that are <0.1ha in size. **Note:** Good condition vegetation includes: • Canopy, midstorey and understorey in good condition. • Regeneration occurring within all layers. • Native dominated within all layers. Moderate condition vegetation, includes: • Native medium to dense tree overstorey, with native shrub and ground layers, and • Native dominated within 2 layers.

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Ku-ring-gai Development Control Plan - Local Centres

Greenweb Map - GORDON

DCP Greenweb Categories

- Core Biodiversity Lands
- Support for Core Biodiversity Lands
- Landscape Remnant
- Biodiversity Corridors and Buffer Areas
- Canopy Remnant

Biodiversity corridor

- Ku-ring-gai Biodiversity and Riparian Lands Study - Version 5

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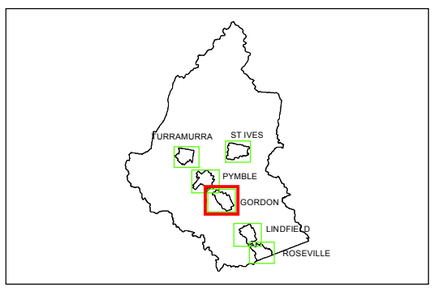

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Ku-ring-gai Development Control Plan - Local Centres

Greenweb Map - LINDFIELD

DCP Greenweb Categories

- Core Biodiversity Lands
- Support for Core Biodiversity Lands
- Landscape Remnant
- Biodiversity Corridors and Buffer Areas
- Canopy Remnant

Biodiversity corridor

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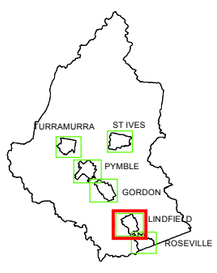

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Ku-ring-gai Development Control Plan - Local Centres

Greenweb Map - PYMBLE

DCP Greenweb Categories

- Core Biodiversity Lands
- Support for Core Biodiversity Lands
- Landscape Remnant
- Biodiversity Corridors and Buffer Areas
- Canopy Remnant

Biodiversity corridor

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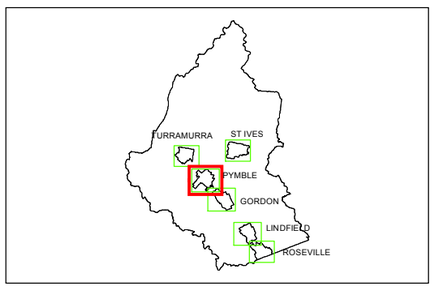

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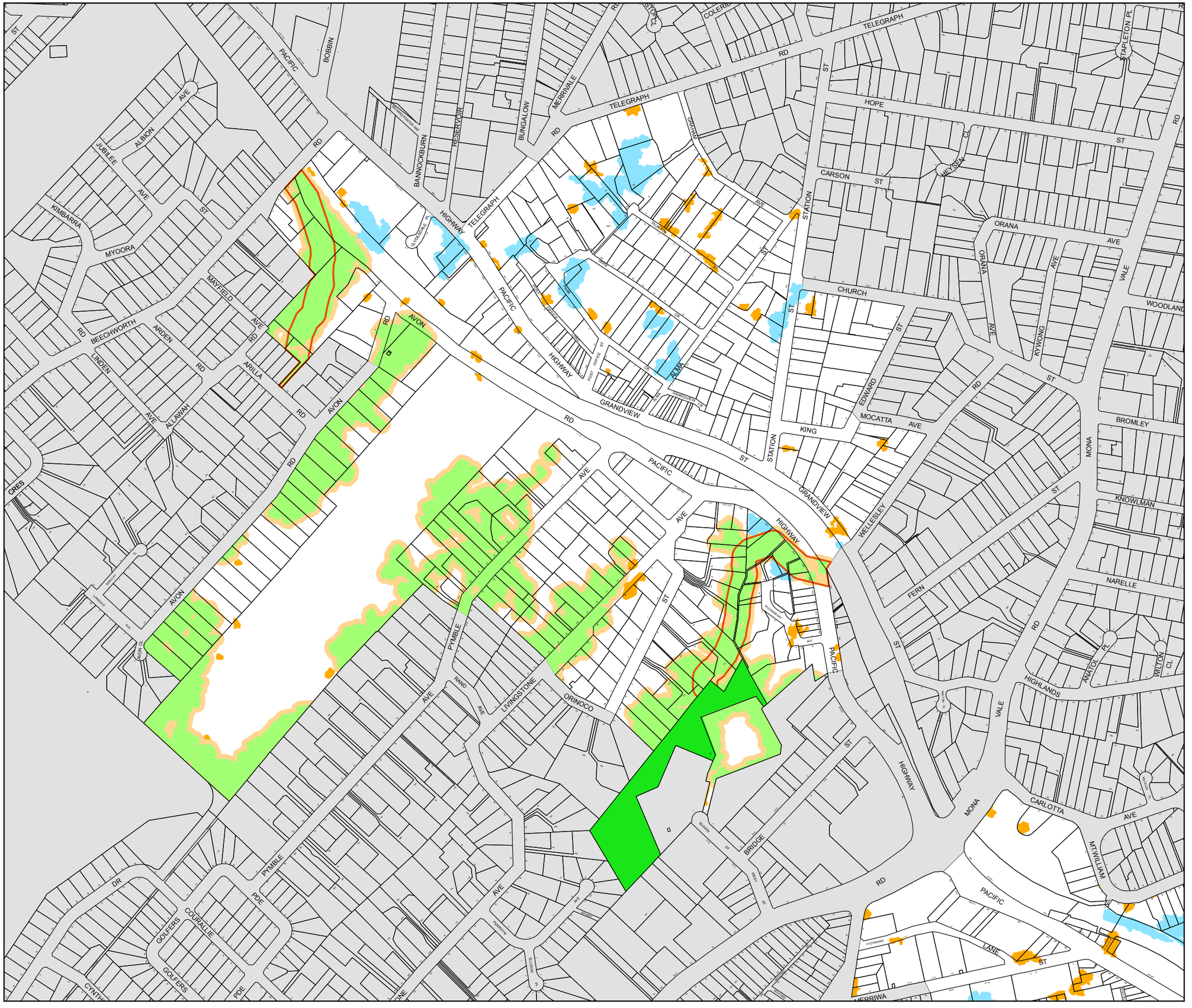

Ku-ring-gai Development Control Plan - Local Centres

Greenweb Map - ROSEVILLE

DCP Greenweb Categories

- Core Biodiversity Lands
- Support for Core Biodiversity Lands
- Landscape Remnant
- Biodiversity Corridors and Buffer Areas
- Canopy Remnant

Biodiversity corridor

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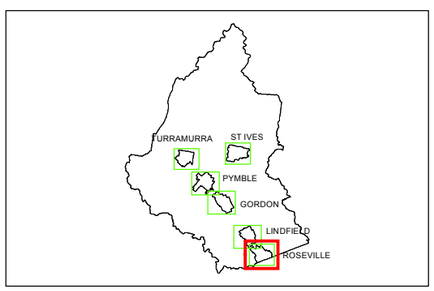

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MGA Zone 56

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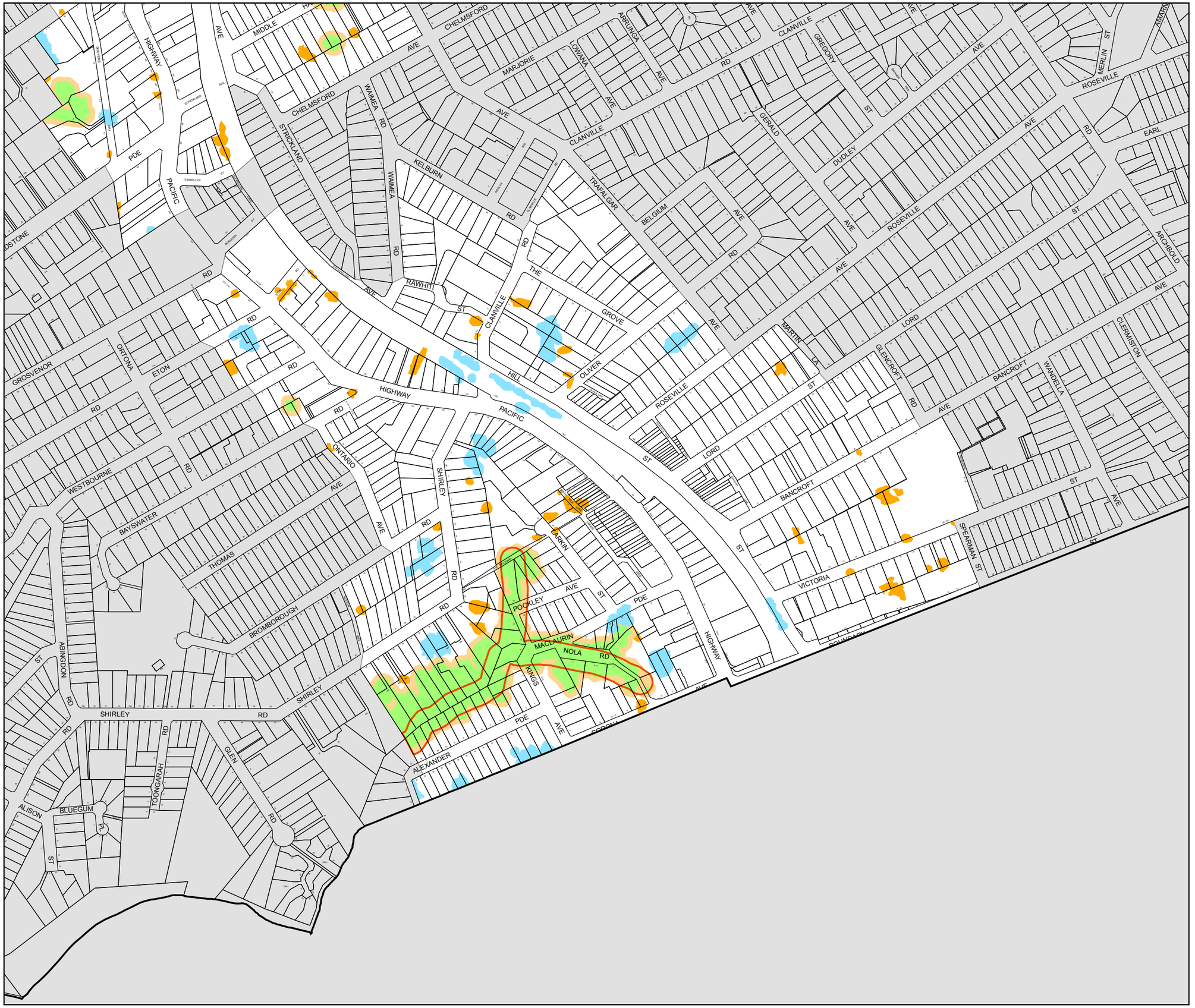

Ku-ring-gai Development Control Plan - Local Centres

Greenweb Map - ST IVES

DCP Greenweb Categories

- Core Biodiversity Lands
- Support for Core Biodiversity Lands
- Landscape Remnant
- Biodiversity Corridors and Buffer Areas
- Canopy Remnant

Biodiversity corridor

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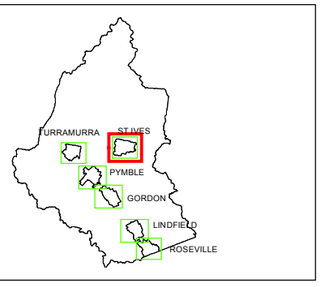

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Projection: GDA 1994 MGA Zone 56

Map identification number:

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Ku-ring-gai Development Control Plan - Local Centres

Greenweb Map - TURRAMURRA

DCP Greenweb Categories

- Core Biodiversity Lands
- Support for Core Biodiversity Lands
- Landscape Remnant
- Biodiversity Corridors and Buffer Areas
- Canopy Remnant

Biodiversity corridor

- Ku-ring-gai Biodiversity and Riparian Lands Study - Version 5

Cadastre

Cadastre 07/06/2016

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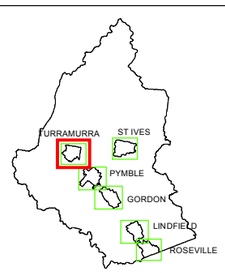

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PART 19

Heritage Items and Heritage Conservation Areas

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INTRODUCTION

Part 19 applies to any development associated with a Heritage Item or within a Heritage Conservation Area (HCA) identified on the KLEP (Local Centres) 2012 Heritage Map. The controls in this Part are additional to those in Section A and C, and relevant Parts of Section B in this DCP.

The heritage controls in this Part of the Ku-ring-gai DCP aim to:

i) retain, conserve and enhance the Heritage Items, HCAs and their associated settings;

ii) ensure the heritage significance, streetscape and landscape character of HCAs are maintained;

iii) ensure alterations and additions to Heritage Items and within HCAs respect those buildings and do not compromise the significance and character of the individual Heritage Items or the HCAs;

iv) ensure new development in the vicinity of Heritage Items and HCAs respects the heritage context and is sympathetic in terms of form, scale, character, bulk, orientation, setback, colours and textures and does not mimic or adversely affect the significance of Heritage Items or HCAs and their settings.

This Part applies to any development that is:

i) a Heritage Item listed under Schedule 5 Environmental Heritage within KLEP (Local Centres) 2012;

ii) in a Heritage Conservation Area (HCA) identified in KLEP (Local Centres) 2012;

iii) in the vicinity of a Heritage Item or HCA identified in KLEP (Local Centres) 2012.

For any development within the above categories, a pre-DA meeting is recommended prior to the lodgment of a Development Application.

Where there is inconsistency between the controls in Part 19 and controls in other parts of this DCP, the controls in Part 19 prevail. This part provides guidance to meet the objectives in the KLEP (Local Centres) 2012.

Supporting Heritage Documentation

For any works within the above categories, a Heritage Impact Statement (HIS) is required. A Conservation Management Plan (CMP) may be required for works to a Heritage Item or significant works within an HCA. Heritage impact statements and CMPs are to be completed by an experienced heritage consultant.

Applicants are advised to refer to:

i) Council's Heritage Inventory Sheets for Heritage Items and HCAs.

Note: Inventory Sheets have been prepared for each of Ku-ring-gai's HCAs and are considered by Council when assessing development applications for work within the Heritage Conservation Area.

Note: The Inventory Sheets are available at Part 19G of this DCP.

ii) Australia ICOMOS Charter for Places of Cultural Significance 1999 (The Burra Charter).

iii) Council's DA Guide available on Council's website www.kmc.nsw.gov.au.

iv) Council's heritage studies, available on Council's website and Gordon Library.

What is a Contributory Property?

This Part identifies various controls that specifically apply to contributory properties. For the purpose of this DCP, Contributory Properties are buildings and sites within a HCA whch are deemed to exhibit one or more of the following characteristics:

i) buildings and sites that make an important contribution to the character and significance of the HCA. They can be from a key historical layer, true to an architectural type, style or period, or highly or substantially intact including their garden setting. Where subdivision has occurred, the subdivision is within the key historical period or the area.

ii) buildings and sites which are altered from their original form but are recognisable and could be reasonably reinstated to that condition or the alterations are not considered to be detrimental to the integrity of the building; for example, a building that has been rendered or painted or where the roof cladding has been replaced but the form is otherwise legible.

iii) buildings and sites with new layers/additions sensitive to the style, form, bulk, scale and materials of the original building.

Note: Contributory buildings do not necessarily need to be high-quality buildings but should represent the key historical period of the HCA. An HCA may also contain high-quality buildings which are not necessarily from the key historical period.

Statement of Heritage Significance for Ku-ring-gai and its Local Centres

The heritage significance of the municipality of Ku-ring-gai and its Local Centres lies in:

iv) The evidence provided by its rich history and all its sequential layers- from Aboriginal occupation, very early timbergetting, the long period of relative isolation from built suburbia, orcharding and farming followed by the rapid growth of suburban development in response to elevated topography, "clean air" and the establishment of the railway.

v) The outstanding quantity, quality, depth and range of its twentieth-century architecture. It contains houses designed by many of Australia's prominent twentieth-century architects and these have in turn influenced the mainstream of Australian domestic architecture.

vi) The evidence it provides of twentieth-century planning and conservation philosophies: the segregation of residential areas from other urban uses, subdivision patterns which reflect a range of suburban aspirations, the use of residential district proclamations to create and retain domestic environmental amenity, street tree planting and post-war neighbourhood planning.

vii) The evidence offered by its built landscape and garden design incorporating a variety of horticultural styles and in harmony with the natural landscape, such as those in the large estate private gardens, the gardens at railway stations and well designed gardens of cultivated botanical species such as at Eryldene.

viii) The evidence of the area's natural heritage retained in its surrounding national parks, along its creek lines and in its public and private gardens, remnants of the original Turpentine, Blackbutt and Blue Gum forests and associated woodlands, under-storeys and dependent fauna.

19A Subdivision and Site Consolidation

19A.1 Subdivision and Site Consolidation for New Development within an HCA

19A.2 Subdivision and Site Consolidation of a Heritage Item

READ WITH
SECTION A - Part 2-13
SECTION B - All relevant parts
SECTION C - Part 21-25

19A.1 SUBDIVISION AND SITE CONSOLIDATION FOR NEW DEVELOPMENT WITHIN AN HCA

Objectives

1 *To retain the historic subdivision patterns within HCAs, that reflect the age and circumstances of the early and later subdivisions including the characteristic rhythm and built form spacing.*

2 *To ensure that new development respects the established streetscape, and the historical patterns of development.*

3 *To ensure new subdivisions and lot consolidations do not have an adverse impact upon the curtilage of Heritage Items, the streetscape setting of significant buildings and the identified character of the HCA as a whole.*

Controls

1 Applications for subdivision and site consolidation within an HCA is discouraged and will only be considered if the application:

i) will have no adverse affect the significance of the HCA;

ii) retains the typical block width characteristics and historic subdivision pattern of the area, including rear lanes;

iii) the setting and curtilage of Heritage Items or significant buildings in the vicinity, including important structures and landscape elements, are retained;

iv) vistas and views to and from Heritage Items and contributory properties, especially the principal elevations of buildings, are not interrupted or obscured;

v) the landscape quality of the streetscape is retained;

vi) the contours and any natural features of the site have been retained and respected;

vii) will not result in future development which will adversely affect the significance, character or appearance of the HCA.

2 Subdivision or consolidation will not generally be permitted where the setting or curtilage of any Heritage Items and contributory properties within or adjoining the site, would be compromised.

3 Applications for subdivision and site consolidation within an HCA will require a curtilage assessment.

19A.2 SUBDIVISION AND SITE CONSOLIDATION OF A HERITAGE ITEM

Objectives

1 *To ensure new subdivisions and lot consolidations do not have an adverse impact upon the curtilage and setting of Heritage Items.*

2 *To encourage the incorporation of Heritage Items into larger consolidated development sites.*

3 *To ensure that new development respects and conserves the Heritage Item, its garden setting, its streetscape and important views.*

4 *To avoid isolation of Heritage Items within new developments.*

5 *To provide a visual transition between medium/high density residential development and the Heritage Item.*

Controls

1 Subdivision of a Heritage Item will only be supported where:

i) the subdivision does not adversely affect the cultural significance of the Heritage Item;

ii) evidence of the historical setting, landscape and subdivision pattern can be recognised and/or retained.

2 Subdivision or consolidation will not generally be permitted where the curtilage and setting of a Heritage Item and significant buildings within or adjoining the site, would be compromised.

Note: Applications for subdivision and site consolidation of a Heritage Item will require a curtilage analysis within the Heritage Impact Statement with particular emphasis on the potential impact on garden settings.

Heritage Items within consolidated development sites zoned medium to high density

3 The following controls apply for consolidated sites that include a Heritage Item:

i) Consolidated development sites that include Heritage Items are to provide for conservation works to the building and its setting as part of the redevelopment.

ii) Isolation of a Heritage Item within the new development will not be supported. Refer to Figure 19A.2-1, 19A.2-2

iii) The distance or setback of new development from the Heritage Item is to consider the curtilage and setting of the item and informed by the CMP.

iv) Buildings, structures and garden settings that contribute to the significance of the Heritage Item are to be retained and sensitively incorporated into the development proposal.

v) The existing garden setting of the Heritage Item is to be enhanced and extended into the new development. Wherever possible, existing vegetation is to be retained, particularly along view corridors and street frontages.

vi) New development is to be broken down in bulk and scale to minimise dominance over the Heritage Item.

vii) New buildings to be articulated to respond to the significance of Heritage Items to achieve an appropriate transition in height, bulk and scale.

viii) The front setback of the new development is to be greater than that of the Heritage Item. Refer to Figure 19A.2-3

ix) Key views to and from the Heritage Item are to be conserved as part of the development. Refer to Figure 19A.2-3.

Note: An consolidated development site is defined for the purposes of the DCP as the joining of a number of lots to form a single site for the purposes of development.

Note: Under Clause 5.10 of KLEP (Local Centres) 2012, a CMP may be required to guide development to ensure that the significance of the Heritage Item is retained and conserved.

19A.2 SUBDIVISION AND SITE CONSOLIDATION OF A HERITAGE ITEM (continued)

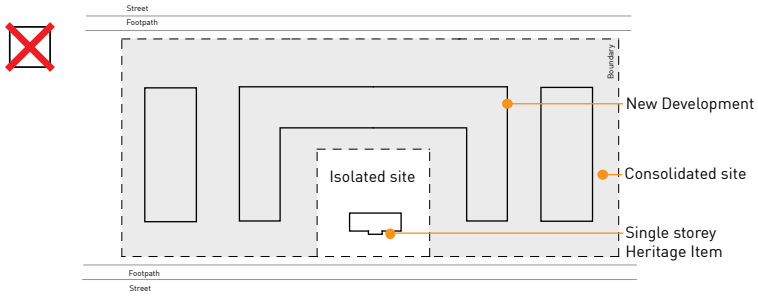

Figure 19A.2-1:
New development has excluded the Heritage Item and created an isolated site.

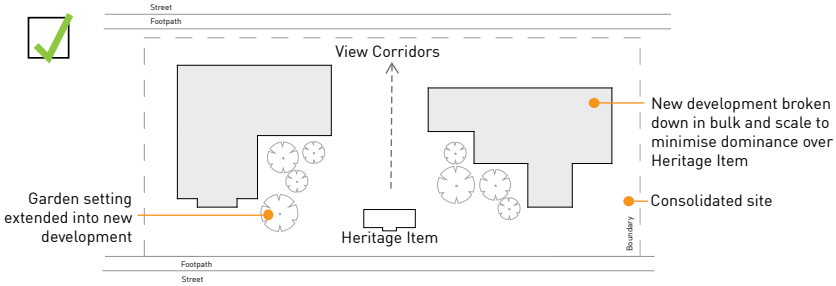

Figure 19A.2-2:
New development has integrated the Heritage Item into an consolidated site.

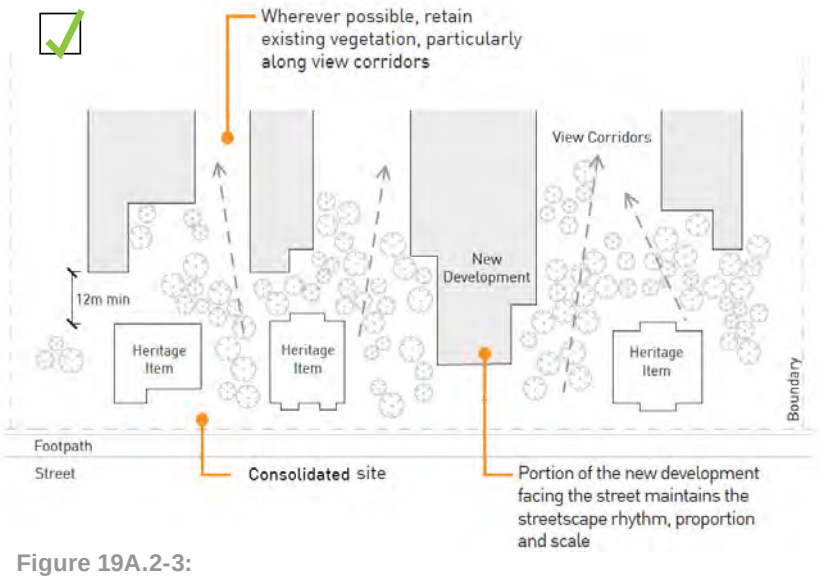

Figure 19A.2-3:
New development and Heritage Item integrated on an consolidated site.

19B Demolition

19B.1 Demolition within HCAs

19B.2 Demolition related to a Heritage Item

READ WITH
SECTION A - Part 2-13
SECTION B - All relevant parts
SECTION C - Part 21-25

19B.1 DEMOLITION WITHIN HCAS

Objectives

1 *To ensure that sites, buildings and landscape features that contribute to the significance of an HCA are retained.*

2 *To provide a photographic record before and during major works within an HCA, including demolition.*

Controls

Demolition within HCAs

1 The demolition of Heritage Items and contributory properties within HCAs is not supported.

2 Whole demolition of buildings, structures and landscape features (including significant trees) is generally not supported unless the applicant can satisfactorily demonstrate:

i) demolition will not result in any adverse impacts on the streetscape or character of the HCA;

ii) retention and stabilisation of the building or structure is unreasonable;

iii) all alternatives to demolition have been considered with reasons provided why the alternatives are not acceptable;

iv) the replacement building is compatible with the identified significance and character of the streetscape and the HCA as a whole.

3 In considering applications for partial demolition of buildings, structures and landscape features (including significant trees) within HCAs, Council will assess:

i) the significance of the building part or structure and/or landscape feature and whether its retention is considered necessary;

ii) its contribution to the streetscape;

iii) potential for modifying and/or removing neutral and/or uncharacteristic elements that would re-establish the contributory status of the building or structure within the HCA;

iv) opportunities for adaptive re-use of the building.

4 Council may require reconstruction following any unauthorised removal of detail or important elements that contribute to the significance and character of the property and the HCA.

Archival Recordings

5 In a situation where demolition is approved, Council may require an archival and photographic record of the building and grounds (in accordance with the NSW Heritage Branch guidelines) before and during works.

19B.2 DEMOLITION RELATED TO A HERITAGE ITEM

Objectives

1 *To ensure that Heritage Items and all significant elements of Heritage Items are retained and conserved.*

2 *To provide a photographic record of a Heritage Item before and during major works including demolition.*

Controls

Demolition of a Heritage Item

1 The demolition of a Heritage Item, including buildings, other structures, trees and landscape features, is not supported.

2 Council will only consider the demolition of a Heritage Item where an applicant can satisfactorily demonstrate:

i) retention and stabilisation of the building or structure is unreasonable, taking into consideration the following:
- the heritage significance of the property;
- whether the building constitutes a danger to the public.

ii) all alternatives to demolition have been considered with reasons provided as to why the alternatives are not acceptable.

Note: Council may require reconstruction following any unauthorised removal of detail or important elements that contribute to the significance and character of the Heritage Item.

Note: Plans for the replacement building are to be lodged concurrently so that the application can be assessed concurrently.

Partial Demolition of a Heritage Item

3 In considering applications for partial demolition of a Heritage Item (including parts of buildings and other structures, trees and landscape features), Council will assess:

i) the significance of the building part or structure and/or landscape features and whether its retention is considered necessary;

ii) its contribution to the significance of the Heritage Item as a whole;

iii) whether all alternatives to demolition have been considered with reasons provided as to why the alternatives are not acceptable.

Archival Recordings

4 If development consent is granted for demolition of whole or part or all of a Heritage Item, Council may require an archival and photographic record of the building and grounds (in accordance with the NSW Heritage Branch guidelines) before and during works.

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19C Development within HCAs - Alterations and Additions

Introduction
19C.1 Local Character and Streetscape
19C.2 Building Setbacks
19C.3 Gardens and Landscaping
19C.4 Access and Parking
19C.5 Building Design
19C.6 Roof Forms and Structures Attached to Roofs
19C.7 Outbuilding and Garden Structures (excluding garages and car ports)
19C.8 Fencing

READ WITH
SECTION A - Part 2-13
SECTION B - All relevant parts
SECTION C - Part 21-25

INTRODUCTION

This section applies to alterations and additions to existing dwellings within an HCA. This part provides guidance to meet the objectives in the KLEP (Local Centres) 2012.

The following controls are to be read in conjunction with the Heritage Inventory Sheets that have been provided for each of Ku-ring-gai's HCAs. The Inventory Sheets are considered by Council when assessing development application for work within HCAs, and are to be considered in developments. The Inventory Sheets are available via Council's website *www.kmc.nsw.gov.au*

19C.1 LOCAL CHARACTER AND STREETSCAPE

Objectives

1 *To ensure that sites, buildings and landscape features that contribute to the significance of an HCA are retained.*

2 *To conserve and enhance the character and significant elements of the HCA.*

3 *To ensure that additions or changes to contributory properties within HCAs respect their original, built form, architectural style and character.*

4 *To ensure the visual impact of new work is minimised through appropriate design, detail, proportion, scale and massing.*

Controls

Built form

1 Alterations and additions within an HCA are to respect the heritage significance and predominant architectural character of the HCA by having similar massing, style, form, proportions and arrangement of parts to the building itself, and to other contributory properties in the streetscape.

2 Where an HCA is characterised by single-storey dwellings:

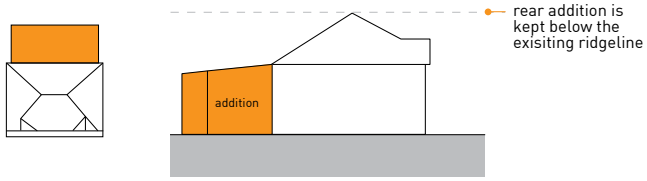
i) the single-storey character of the streetscape is to be retained;

ii) first-floor additions to contributory properties will generally not be permitted;

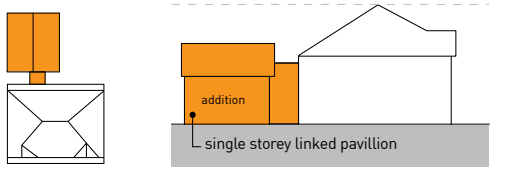
iii) attic rooms to extensions behind the main roof of the house may be allowed, subject to an assessment of the impact on the original building and buildings in the vicinity;

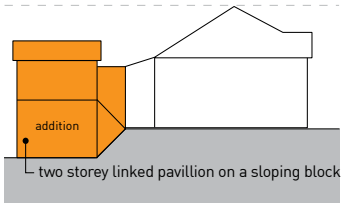
iv) additions to be kept at or below the existing roof ridge height. Refer to Figure 19C.1-1.

i) Skillion or lean-to



ii) Linked pavilion





iii) Integrated wing

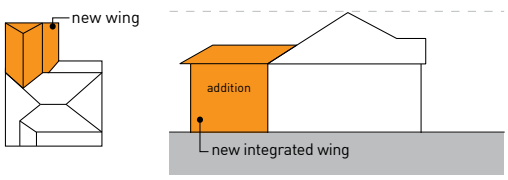


Figure 19C.1-1:
Possible forms for rear additions to single storey dwellings.

19C.1 LOCAL CHARACTER AND STREETSCAPE (continued)

Objectives

Controls

3 Where an HCA is characterised by a mix of one and two storey buildings, proposed works to contributory properties are to:

i) retain the original character of a building;

ii) match the scale and forms of the existing buildings within the streetscape (see Figure 19C.1-2).

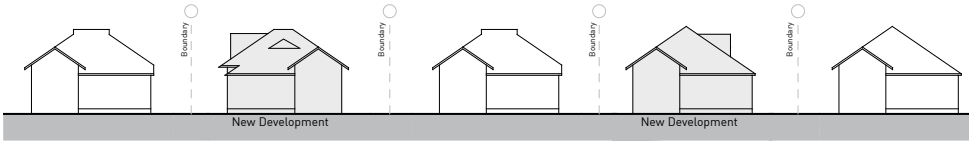


Figure 19C.1-2:
Good design: New 1.5 storey development is harmonious with the scale and mass of surrounding buildings with houses retaining a single storey character.

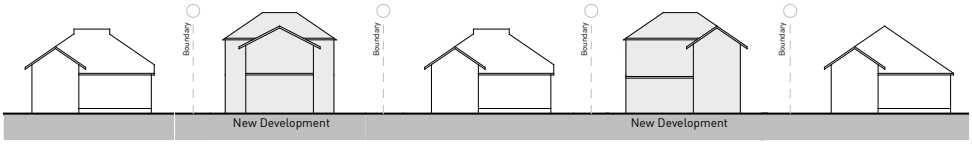


Figure 19C.1-3:
Poor design: New 2 storey development ignores existing single storey patterns by using uncharacteristic wall heights and bay widths.

5 *To ensure that the impact of new work on the character of the HCA is considered from both street frontages.*

6 *To retain the significance and valuable contribution to the historic and landscape character Ku-ring-gai's rear lanes of an HCA.*

Corner Sites and Secondary Street Frontages

4 Development applications for corner sites and those with secondary street frontages are to consider the impact of proposals on both street frontages and take into account the following:

i) The significant elements of the original house is to be retained including its principal street frontage and secondary street frontage;

ii) Non-sympathetic rear additions generally do not require retention;

iii) The scale of additions and alterations are to respect the existing ridge or eaves heights;

iv) Where additions are attached, the proposed detailing (including finishes and materials) is to be appropriate to the original;

v) Original and early fencing to the secondary frontage is to be retained and conserved;

vi) Important views to and from the corner site are not adversely affected.

5 Landscaping is required to both street boundaries, and where there are changes proposed to the landscape treatment of the street frontage, a landscaping concept is required with the submission of a Development Application.

6 New development or additions are to be located to minimise impact on existing prominent trees.

19C.1 LOCAL CHARACTER AND STREETSCAPE (continued)

Objectives

Controls

7 New side fences on corner sites should be designed and located to:

i) maintain the streetscape character and heritage significance of the property;

ii) be consistent with the established pattern of fences;

iii) ensure an adequate amount of useable private open space.

Development on Rear Lanes in Residential Areas

7 To retain the significance and character of rear lanes which form an important factor and rare element of early subdivisions in Ku-ring-gai.

8 The existing subdivision pattern of early rear lane development is to be retained.

9 The predominant one-storey scale of rear lanes should be retained.

10 The established landscape character of rear lanes should be retained, including timber paling fences and rear garden landscaping.

11 New second-storey development to any lanes or paths at the rear lane boundary is to be avoided. Two-storey development is to have a minimum setback of 6 metres from the rear lane boundary.

19C.2 BUILDING SETBACKS

Objectives

1 *To conserve and maintain the character and significance of individual properties and streetscapes in the HCA by maintaining the established pattern of front and side boundary setbacks.*

2 *To ensure the siting of new alterations and additions respect and contribute to the established streetscape patterns.*

Controls

Front and Side

1 The siting of alterations and additions is to maintain the established streetscape pattern, including the main dwellings, garages, carports and garden structures. Refer to Figure 19C.2-1.

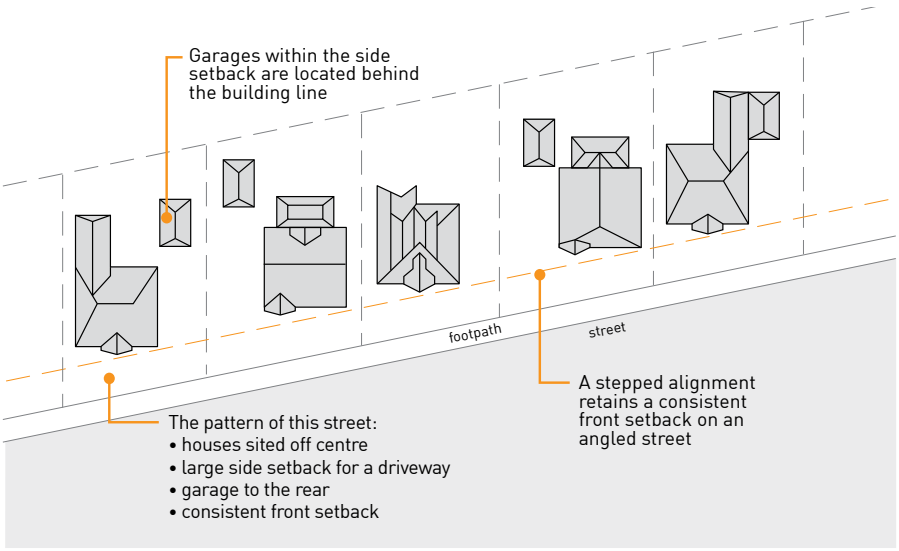


Figure 19C.2-1:
Retain the streetscape pattern of building siting.

2 Where there is a uniform building setback within streets, alterations and additions are to respect the established pattern and not be located forward of adjacent buildings.

3 Where variations in setbacks exist within the immediate vicinity and the streetscape, the larger setback will apply.

19C.3 GARDENS AND LANDSCAPING

Objectives

1 *To retain the garden character of Ku-ring-gai's HCAs which is largely due to the deep frontages and large lots that support remnant trees, early surviving gardens with established introduced trees and built garden features such as fences, walls and paving. The street tree planting and pattern of soft and hard road verges also contribute to the landscape character.*

2 *To conserve, retain and enhance the significance of the garden and landscape character within individual properties, streetscapes and the HCA as a whole.*

3 *To ensure streetscapes within the HCAs are characterised by front gardens with substantial landscaped area and minimum hard surfaces.*

Controls

1 The established landscape character (height of the tree canopy, early gardens, remnant trees, historic tree plantings) that contributes to the significance of the streetscape and the HCA as a whole are to be retained and conserved in any new development. The reinstatement of original planting, where known, is encouraged.

2 Original garden features such as gates, paths, stonework, garden terracing, tiling, cement crazy paving, walling and garden edging are to be retained and conserved.

3 New paving and hard surfacing, particularly to front setbacks is to be limited.

4 Front gardens are to:

i) have a minimum of 70% landscaped area;

ii) include substantial tree and shrub planting along street frontages.

5 Materials for new garden paving or pathways are to be appropriate to the architectural style of the HCA, such as gravel for Federation style and sandstone flagging for Inter-war styles. Plain or stencilled concrete is not acceptable.

19C.4 ACCESS AND PARKING

Further controls that may apply		
SECTION A **Part 4B.1 -** Vehicle Access		**SECTION C** **Part 22 -** General Access and Parking

Objectives

1 *To ensure that modifications to provide access do not adversely affect significant built fabric of either individual buildings or the HCA as a whole.*

2 *To allow for on-site car parking where possible while retaining the character of the property, the streetscape and significance of the HCA.*

3 *To ensure that driveways do not have any adverse visual impact on the immediate streetscape and historic patterns in the HCA.*

4 *To minimise the visual impact of new car parking by locating it at the side or rear of properties, where possible.*

5 *To ensure battle-axe driveways make a positive contribution to the streetscape and the HCA.*

Controls

Equitable Access

1 Modifications and alterations to provide access and mobility are to:

i) explore all options to achieve the statutory requirements in the least obtrusive manner possible;

ii) involve the least demolition of significant fabric;

iii) be reversible;

iv) preserve fabric of higher significance if a compromise is required.

Note: Access requirements apply for public buildings and residential flat buildings; they are not generally required for dwelling houses.

Note: Access solutions will be unique to each property and will be assessed on their individual merits.

Note: Refer to Disability Discrimination Act 1991.

Note: Refer to Australian Standard 1428.

Driveways

2 Original and existing rear lane or side entry vehicle access is to be retained and/or utilised where rear and side lanes exist.

3 Where original concrete wheel strips exist, they are to be retained.

4 New parking areas, garages and driveways are to be designed carefully so that they do not dominate the principal elevations or detract from the immediate streetscape and incorporate provisions for landscaping.

5 The siting of new driveways are to be consistent with the established pattern in the immediate streetscape and the HCA as a whole.

6 Finishes to new or refurbished driveways are to match original driveway finishes or be appropriate to the architectural style of the HCA. Painted or coloured concrete, terracotta pavers, aggregate surfaces or stamped or stencilled concrete are not to be used.

Battle-axe Driveways

7 Battle-axe driveways are to be constructed of traditional materials such as asphalt, gravel, stone flagging or concrete wheel strips and incorporate provisions for landscaping.

19C.4 ACCESS AND PARKING (continued)

Objectives

6 *To allow for on-site car parking where possible while retaining the character of the property, the streetscape and significance of the HCA.*

7 *To ensure that new garages and carports do not have any adverse visual impact on the immediate streetscape and historic patterns in the HCA.*

8 *To minimise the visual impact of new car parking by locating garages and carports at the side or rear of properties, where possible.*

9 *To retain and conserve original and early coach houses, stables and motor garage as they contribute to the setting of the house.*

Controls

New Garages and Carports

8 Where feasible, new car parking is to be consistent with the historic placement of parking structures on the site.

9 New garages and carports are not permitted forward of the building line and are to be located at least 1.5m minimum behind the existing front building line, preferably to the rear of the main building.

10 New car and vehicle parking forward of the front building line may be permitted where a minimum 3m access to the side and rear of the building is not available.

11 New garages, carports and driveways are to be of simple design and not challenge the mass, bulk and architectural design detail of the house and the surrounding streetscape.

12 Double garage doors are to be constructed as two separate doors separated by a pier.

13 Dark coloured garage doors are not encouraged due to visual impact on the streetscape. A similarity in colour of garage doors and wall surfaces that reduce impact to the street is favoured.

14 Existing building fabric, including verandahs and balconies, are not to be altered to provide a carparking structure or hard stand area.

15 New carparking structures (garages and carports) are not to be made larger by high pitched roofs and are not to incorporate attics.

Original Coach Houses, Stables and Garages

16 Where original and early garages, coach houses and stables survive, they should be retained and conserved.

17 Original garage doors, usually boarded timber, are to be retained and conserved, where possible. Where new doors are proposed to be added to early garage structures, they are to retain the colour, materials and detail to the original garage building and the significant item with which it is associated.

18 Where an early or original garage survives sited on or close to the street frontage, it is to be conserved.

19C.5 BUILDING DESIGN

Objectives

1 *To retain significant materials and details within HCAs.*

2 *To ensure that the materials and colours of new work enhances the identified character of the HCA*

3 *To ensure that the selection of materials and colours for new work is based on an understanding of the materials, finishes and colours predominant within the HCA.*

4 *To encourage the removal of paint from originally unpainted surfaces.*

5 *To encourage the recovery of the original character of contributory properties when undergoing additions and alterations*

Controls

Materials, Colours and Details

1 Development applications for alterations and additions within an HCA require a materials board and details of the colour scheme and finishes to be submitted.

2 Significant unpainted brickwork, sandstone and blockwork is not to be rendered, coated or painted.

3 The removal of later layers of paint from original face brickwork and stonework is encouraged. Chemical stripping of paint from face brickwork is encouraged.

4 Natural and recessive colour schemes are encouraged for rendered and painted finishes, especially on sites rated as neutral or uncharacteristic.

5 Significant materials and finishes such as decorative timber features, tiles, shingles, relief work, mouldings, incised designs in render, ashlar markings, tuckpointing and rough-cast stucco, are to be retained and repaired.

6 Significant materials, finishes and details are to be retained and repaired using traditional techniques where possible.

7 Contemporary materials are permitted for new work where the detailing, proportions, texture and colour range blend with the existing character of the HCA.

Repairs, Maintenance and Restoration

8 The repair and maintenance of contributory properties is encouraged.

9 The reconstruction of altered, missing or removed original features, details and elements is supported where evidence exists of the earliest state of the fabric.

10 In repairing the fabric of external surfaces, matching materials are to be used. Sourcing old and salvaged building materials for like-for-like matching of existing materials is preferred to the use of modern equivalents.

11 The removal of intrusive later additions is encouraged.

Note: Refer to KLEP (Local Centres) 2012 Clause 5.10.

Note: Refer to SEPP (Exempt and Complying Development Codes).

19C.5 BUILDING DESIGN (continued)

Objectives

6 *To ensure the retention and encourage reinstatement of early verandah and balcony forms.*

7 *To protect the original fabric and details of doors and windows of contributory properties.*

Controls

Verandahs

12 In altering existing buildings, original verandahs and porches to the front and visible side elevations of contributory properties are to be retained. Infilling of verandahs is not permitted.

13 Reinstatement of open front verandahs, where they have been enclosed, is encouraged.

14 New verandahs are not to compete with the importance of the original built form and are to be simple in design and based on existing detail or an understanding of appropriate designs for each period or style.

Doors and Windows

15 Original doors and windows to front and visible side elevations of contributory properties are to be retained. (*Refer to figure 19C.5-1*)

16 The repair and restoration of original doors and windows to front and visible side elevations of contributory properties is encouraged. Authentic reconstruction of missing doors and windows using traditional materials, styles and craftsmanship is encouraged.

17 New doors and windows in additions and alterations are to be compatible with the proportions, position, size and detailing of existing doors and windows.

18 New windows to front and visible side elevations of contributory properties are to be appropriate in form and material for the style of the house (based on original fabric or photographic evidence or on the evidence of original houses of the same style in the streetscape).

19 The retention, repair and restoration of original leadlight and coloured glass window and door panes is encouraged.

20 If sound attenuation is required, double glazing fitted to existing windows is encouraged. Alternatives to double-glazing, where there is no impact on principal elevations, are encouraged.

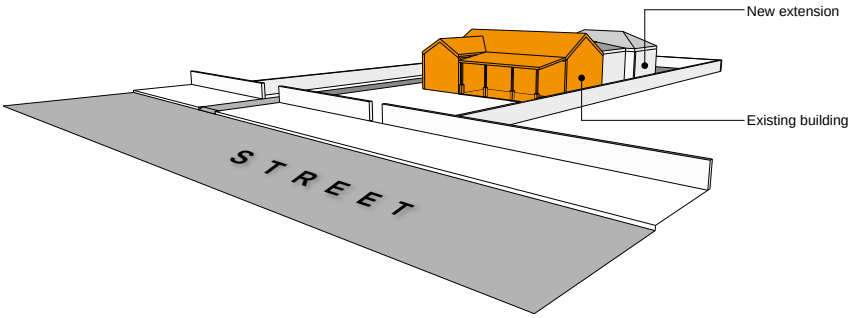
21 Original sunhoods, blinds, awnings and skirts to principal elevations are to be retained and repaired.

19C.5 BUILDING DESIGN (continued)

Objectives

8 *To discourage the use of window and door grilles and to encourage alternative security measures which do not detract from the appearance of individual buildings and the HCA as a whole.*

Controls



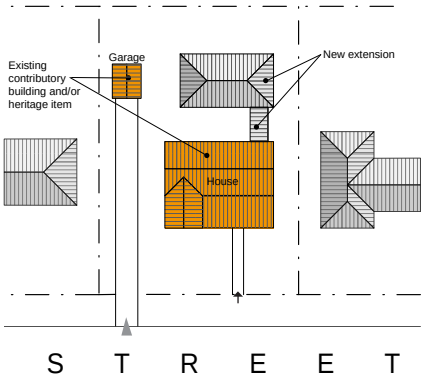


Figure 19C.5-1:
Retain original doors and windows to front and visible side elevations (coloured orange) of contributory properties.

Security Grilles

22 Security bars, mesh or roller shutters to visible elevations are not permitted.

23 Traditional timber shutters may be acceptable if shutters were original to the building.

24 The removal of security bars, mesh or roller shutters to windows which detract from the streetscape is encouraged.

25 Where additional security is required, passive measures such as mortice deadlocks, window locks and alarm systems are to be used.

26 Where there is no alternative, the installation of external security bars is acceptable provided the design responds to the glazing bars of the window or door.

19C.6 ROOF FORMS AND STRUCTURES ATTACHED TO ROOFS

Objectives

1 *To retain the character of the original roof forms within the HCA.*

2 *To protect the original fabric and details of roofs and chimneys.*

3 *To ensure that structures attached to roofs do not have an adverse impact on the character and significance of individual buildings, the immediate streetscape and the HCA.*

Controls

Roofs, Chimneys, Dormers, and Skylights

1 Fireplaces and chimneys are important building elements within HCAs and are to be retained.

2 Roof forms and details vary widely according to building type and architectural style, and this variety of forms makes an important contribution to the visual complexity of the HCA and are to be retained.

3 The roofs of alterations and additions are to match the existing roof in form, height and eaves, and be in proportion with the existing building. Non-matching roof forms for new work will be considered where they are complementary in design, not visible from the public domain and follow historic practices, such as rear skillion roofs (see Figure 19C.1-1).

4 Attic rooms are to be located within the existing roof forms and retain the streetscape appearance of the existing buildings.

Note: In some cases depending on location of buildings and shape of roof, higher roof forms to attics may be considered.

5 Skylights and dormer windows are not to be used on the street-facing roof elevations. Skylights are to have a low profile and be flush with the roof surface.

6 New or replacement roof materials are to match, like-for-like, existing roof materials, pattern and colour.

7 Slate roofs are to be conserved, repaired and retained wherever possible, with complete replacement when necessary.

8 Where inappropriate retiling has occurred replacement of concrete roof tiling with unglazed terracotta Marseilles pattern roof tiling is encouraged.

Solar Panels, Solar Water Heaters, Antennae and Other Roof Infrastructure

9 Structures, such as solar panels, solar hot water heaters, antennae etc attached to the exterior roof are:

i) to be kept below the ridge line;

ii) not to be located where visible on the principal elevations of buildings;

iii) not to be fitted to the front roof plane and, if on the side elevation are to be towards the rear of the property and not be visible from the street.

10 Where the building is a Heritage Item or a contributory property, the placement of solar panels, solar water heating, antennas etc at an alternative location within the site (such as an outbuilding or ground locations) is encouraged.

Note: Refer to SEPP (Exempt and Complying Development Codes).

Note: Refer to SEPP (Infrastructure).

19C.7 OUTBUILDINGS AND GARDEN STRUCTURES (EXCLUDING GARAGES AND CARPORTS)

Further controls that may apply		
SECTION A **Part 4C.7 -** Ancillary Facilities		

Objectives

1 To ensure that new garden structures and of outbuildings do not detract from the significance of individual properties or the HCA through inappropriate siting or excessive scale, bulk or visibility

Controls

Outbuildings and Garden Structures (excluding garages and carports)

1 Original and early outbuildings and garden structures are to be retained.

2 No new garden structures or outbuildings including pools, water tanks, gazebos, sheds, stores, cabanas are to be located within the front setback.

3 In considering any application for permission to erect an outbuilding or structure, the following will be considered:

i) the location of the proposed structure in relation to the principal building, boundaries and other details of the site;

ii) the proposed form, scale, materials and colours of the structure. In this regard, the scale of any outbuilding or structure is to be subservient to the main house, colours and materials should be recessive;

iii) the relative prominence and visibility of the proposed structure from the street frontage or frontages of the site;

iv) neighbouring properties, and requirement for landscaped screening or planting to ensure that the proposed structure is well integrated.

Note: Refer to SEPP (Exempt and Complying Development Codes).

19C.8 FENCING

Objectives

1 *To retain early and original fences, gates and retaining walls where they survive, and where they reinforce the original landscape character of the garden and streetscape*

2 *To retain those streetscapes where front and side fencing do not form part of the original streetscape.*

3 *To encourage the reinstatement of the original form of fencing, where known.*

4 *To encourage new front fences which contribute to the streetscape character of the HCA by being consistent with the established pattern of existing original fences.*

Controls

Original and Early Fences, Gates and Retaining Walls

1 Original and early fences, piers, gates and retaining walls are to be retained and conserved. The height of original and early fences is not to be altered.

2 Original face brick or sandstone fences are not to be rendered, coated or painted.

3 The configuration, finishes and details of original sandstone retaining walls that are located at the street front boundaries (whether identified as contributory properties or not) are to be retained and conserved.

Missing or Absent Fences

4 New front fencing is not encouraged in areas where it does not form part of the streetscape. In such areas, the front boundary can be defined by low hob walls, by garden beds or planting to allow private gardens to merge with their neighbours and support the landscape character of the area.

New Front Fences

5 Replacement of unsympathetic fences, gates and walls with new elements of appropriate height, style and materials is encouraged.

6 Where historic records and physical evidence exists, new front fencing is to reinstate the original.

7 Where no evidence is available to guide reconstruction of missing fences to contributory properties, new front fencing is to match the architectural style of the house, the period of construction and the character of the immediate streetscape. Refer to Figure 19C.8-1

8 No metal panel fencing is to be constructed on any boundary within an HCA.

Note: Refer to Dividing Fences Act 1991.

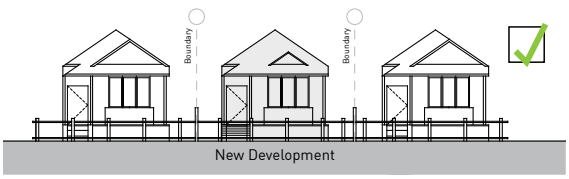


Figure 19C.8-1:
Good design: New development uses similar fencing detailing to existing.



Figure 19C.8-1:
Poor design: New development does not respect existing fencing patterns.

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19D Development within HCAs: New Buildings

Introduction
19D.1 Local Character and Streetscape
19D.2 Building Setbacks
19D.3 Gardens and Landscaping
19D.4 Building Design
19D.5 Secondary Dwelling within HCAs

READ WITH
SECTION A - Part 2-13
SECTION B - All relevant parts
SECTION C - Part 21-25

INTRODUCTION

This section applies to new single residential dwellings within an HCA and are in addition to the controls in Section 19C and are to be read in conjunction with them. This part provides guidance to meet the objectives in the KLEP (Local Centres) 2012.

The controls are to be read in conjunction with the Heritage Inventory Sheets that have been prepared for each of Ku-ring-gai's HCAs. The Inventory Sheets are considered by Council when assessing development applications for work within HCAs and are to be considered in developments. The Inventory Sheets are available via Council's website *www.kmc.nsw.gov.au*

19D.1 LOCAL CHARACTER AND STREETSCAPE

Objectives

1 *To promote high-quality new design that complements the streetscape character and heritage significance of the HCA.*

2 *To ensure that new development retains the identified historic and aesthetic character of the HCA in which it is situated.*

Controls

Built Form

1 Scale and massing of any new buildings is to be integrated into the established character of the HCA and respect the scale, form and character of adjacent or nearby development. They are to be incorporate design elements such as the roof forms, facade and parapet heights, door, window and verandah proportions of contributory properties in the HCA, particularly neighbouring buildings from the same key development period.

2 The design and character of any new buildings are to be informed by the:

i) date and style of contributory properties;

ii) scale and form of contributory properties;

iii) street and subdivision patterns of the HCA;

iv) setbacks of neighbouring contributory properties;

v) materials, building techniques and details used in the HCA; and

vi) views, vistas and skylines in the HCA.

3 Façades are to be modulated to break down the scale of new development.

4 The height of new buildings is not to be higher than contributory properties.

5 New roofs visible from the street are reflect the size, shape, pitch, eaves and ridge heights, and bulk of contributory properties and roofs. They are to respect the complexity and patterns of predominant roof shapes and skylines of the HCA.

6 New buildings may be contemporary in design, however, their scale, form and detail is not to detract from the scale, form, unity, cohesion and predominant character of streetscape elements around it.

7 Where an HCA is characterised by single-storey dwellings, single-storey development on infill sites is preferred. New two-storey houses will only be permitted where the upper floor is designed within the roof and where the new building is in keeping with the height, mass and proportions of contributory properties in the vicinity.

19D.2 BUILDING SETBACKS

Objectives

1 *To ensure the location and siting of new development respects the established pattern of built elements in the streetscape and the HCA.*

2 *To ensure new development does not adversely impact on the immediate streetscape or significant views within the HCA.*

Controls

Location and Setback of New Buildings

1 The siting of new buildings is to be consistent with the established pattern of built elements in the HCA, including the main dwellings, garages, carports and garden structures.

2 Where there is a uniform building setback from streets, new buildings are to respect the established pattern and not be located forward of adjacent buildings. Where variations in setback exist, the larger setback will apply. Side setbacks are to be consistent with historic patterns.

3 New buildings are not to be orientated across sites contrary to the established alignment pattern.

4 The location of new buildings is to ensure that significant views to and from places within the HCA are retained.

19D.3 GARDENS AND LANDSCAPING

Objectives

1 *To preserve the garden and landscape character of the HCA.*

Controls

Gardens and Landscaping

1 New, traditionally designed gardens that enhance the historic and aesthetic character of the streetscape and the HCA as a whole are encouraged.

2 New gardens should be horticulturally and stylistically sympathetic to the period of the HCA. The use of similar materials such as sandstone, brick and gravel is encouraged.

3 The use of a variety of plant species to avoid mono-cultural plantings along street frontages and as screen planting is encouraged.

4 High solid hedges that screen the dwelling from the street are not permitted.

19D.4 BUILDING DESIGN

Objectives

1 *To ensure new development respects the character of, and minimises the visual impact upon, the HCA and its streetscapes.*

Controls

Materials, Colour and Details

1 Materials and details used for new buildings are to be similar to, or compatible with, the original buildings in the HCA

2 Development applications are to provide a material board and details of the colour scheme and finishes.

3 Contemporary materials are permitted where the detailing, proportions, texture and colour range blend with the existing character of the HCA.

4 New buildings are to incorporate architectural language such as massing, proportions, detailing, coursing lines, materials and finishes, which are sympathetic to and complement the predominant character of the HCA.

5 Colour schemes are not to detract from colour schemes in the streetscape and not to be in visual contrast with the colours of the contributory properties in the HCA. Recessive colours and traditional materials are preferred.

19D.5 SECONDARY DWELLINGS WITHIN HCAS

Further controls that may apply		
SECTION A **Part 5A -** Secondary Dwellings		

Objectives

1 To ensure that new secondary dwellings respect the established streetscape, and the historical patterns of development within HCA, including the characteristic rhythm and built form spacing.

Controls

1 Generally, proposals for a secondary dwelling within an HCA will only be considered if the proposal:

i) will have no adverse impact on the significance of the HCA;

ii) the rhythm of buildings in the streetscape is retained;

iii) the setting and curtilage of any Heritage Item or significant buildings in the vicinity, including important structures and landscape elements, are retained;

iv) vistas and views to and from of Heritage Items and contributory properties in the vicinity, especially the principal elevations of buildings, are not interrupted or obscured;

v) the landscape quality of the streetscape is retained;

vi) the contours and any natural features of the site have been retained and respected.

2 Applications for secondary dwellings within an HCA require a curtilage assessment within the Heritage Impact Statement, with particular emphasis on the potential impact on garden settings.

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19E Heritage Items

Introduction
19E.1 Building Design
19E.2 Adaptive Reuse
19E.3 Gardens and Landscaping

READ WITH
SECTION A - Part 2-13
SECTION B - All relevant parts
SECTION C - Part 21-25

INTRODUCTION

This section applies to all Heritage Items.

The following controls are in addition to the controls in Part 19A to 19F and are to be read in conjunction with them. This part provides guidance to meet the objectives in the KLEP (Local Centres) 2012.

The are to be read in conjunction with the Heritage Inventory Sheets that have been prepared for Ku-ring-gai's Heritage Items. The Inventory Sheets are considered by Council when assessing development applications for work to Heritage Items and are to be considered in developments. The Inventory Sheets are available via Council's website on *www.kmc.nsw.gov.au*

Development applications for works to a Heritage Item will require a Heritage Impact Statement (HIS) prepared by an experienced heritage consultant to be submitted as part of the application.

In addition, to ensure that Ku-ring-gai's Heritage Items are managed in accordance with heritage best-practice and Council's adopted heritage management documents, Council may require a Conservation Management Plan (CMP) prepared by an experienced heritage consultant to be submitted as part of the application.

19E.1 BUILDING DESIGN

Objectives

1 *To ensure the significant external features of a Heritage Item and its setting are retained and new development is sympathetic in terms of bulk, form, style, character, scale, and materials.*

2 *To encourage the reinstatement of missing elements, where known, and the removal of later unsympathetic changes.*

3 *To ensure that the materials, finishes, and colours of new work enhances the identified significance of the Heritage Item*

4 *To ensure the significant internal spaces and features of a Heritage Items are identified, retained and conserved.*

5 *Encourage the re-instatement of missing elements, where known, and the removal of later unsympathetic changes.*

Controls

Alterations and Additions – External

1 All works to a Heritage Item are to comply with the controls in this section regardless of whether the property is located in an HCA or not.

2 Development applications for works to a Heritage Item require a materials board and details of the colour scheme and finishes to be submitted.

3 New work to Heritage Items may be identifiable as new; however, works are to respect and have minimal impact on the property heritage significance.

4 All significant built features of a Heritage Item are to be retained and conserved.

5 Original materials, finishes and details are to be retained and their repair using traditional techniques in encouraged.

6 Alterations and additions are to respect the scale, form, height, location, materials and colours of the Heritage Item.

7 Alterations and additions are be located at the rear or side of the building to maintain the integrity of the prominent elevations and streetscape contribution.

8 Extensions, alterations and additions are not to visually dominate or compete with the original scale of the existing buildings to which they are added.

9 The re-instatement of missing elements and details, where known, and the removal of past unsympathetic changes, is encouraged.

Alterations and Additions - Internal

10 Major internal alterations resulting in the loss of significant interior details, finishes, built fabric, room layout and original floor plan are unlikely to be supported unless it can be demonstrate that there is no adverse impact on heritage significance.

11 All significant interior spaces and fabric of Heritage Items are to be retained and conserved.

12 Original materials, finishes and details are to be retained and their repair using traditional techniques in encouraged.

13 The re-instatement of missing elements and details, where known, and the removal of past unsympathetic changes, is encouraged.

Note: Refer to SEPP (Exempt and Complying Development Codes).

Note: Refer to KLEP (Local Centres) 2012 Clause 5.10

19E.2 ADAPTIVE REUSE

Objectives

1 To ensure that new uses for Heritage Items are compatible with the fabric and heritage significance of the Heritage Item.

Controls

Adaptive Reuse

1 Adaptive reuse of a Heritage Item is permissible under Clause 5.10.10 of the KLEP where the conservation of the Heritage Item is facilitated. Substantial alteration of the Heritage Item is generally not supported.

2 Development involving adaptive reuse of a Heritage Item requires the preparation of a Conservation Management Plan (CMP) by an experienced consultant to guide change and ensure conservation of the Heritage Item.

3 In accordance with Clause 5.10.10 of the KLEP, Council will consider variations to other development standards, including car parking requirements, in order to achieve desirable heritage and planning outcomes.

19E.3 GARDENS AND LANDSCAPING

Objectives

1 *To retain and conserve the significance of a Heritage Item in its setting.*

2 *To retain and conserve the significant garden elements and structures of Heritage Items and to retain an appropriate garden setting.*

Controls

1 Trees, and garden elements and structures which contribute to the significance of the Heritage Item are to be retained and conserved. Examples of historic garden elements and structures can include, but are not limited to, tennis courts, croquet lawns, grottos, ferneries, garden terracing, lawn edgings etc.

2 New gardens should be horticulturally and stylistically sympathetic to the period of the HCA. The use of similar materials such as sandstone, brick and gravel is encouraged.

3 The use of a variety of plant species to avoid mono-cultural plantings along street frontages and as screen planting is encouraged.

4 High solid hedges that screen the dwelling from the street are not permitted.

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19F Development in the Vicinity of Heritage Items or Heritage Conservation Areas (HCAs)

Introduction

19F.1 Local Character and Streetscape

19F.2 Building Setbacks

19F.3 Gardens and Landscaping

19F.4 Fencing

READ WITH
SECTION A - Part 2-13
SECTION B - All relevant parts
SECTION C - Part 21-25

INTRODUCTION

This section applies to development on sites that either directly adjoin or are in the vicinity of a Heritage Item or an HCA. This part also applies to a situation where the Heritage Item is not incorporated into new consolidated development, as per 19A of this Part. This part provides guidance to meet the objectives in the KLEP (Local Centres) 2012.

The term “in the vicinity” not only means immediately adjoining a Heritage Item or HCA, but depending on site context, can be extended to include other sites with a high visual presentation due to landform, size or location of the Heritage Item.

The controls in this part are in addition to the controls in Sections 19A, 19B, 19C and 19D and are to be read in conjunction with them.

19F.1 LOCAL CHARACTER AND STREETSCAPE

Objectives

1 *To consider the impact on the historic curtilage and setting of the Heritage Item or HCA and related heritage features such as views, streetscape context, historical subdivisions, garden settings, alienated trees and other landscape features.*

2 *To retain the significance of Heritage Items or HCAs in their settings.*

3 *To ensure that the scale of new development does not dominate, detract from or compete with Heritage Items or HCAs in the vicinity.*

4 *To ensure that new development respects and conserves the significance of any nearby Heritage Items or HCA and their settings.*

5 *To ensure that new development does not visually dominate the adjoining or nearby Heritage Item or HCA.*

6 *To ensure that the scale of new development in the vicinity of the HCA is in harmony with the streetscape and does not dominate, detract from or compete with the Heritage Item or HCA.*

Controls

General

1 All development in the vicinity of a Heritage Item or HCA is to include a Heritage Impact Statement (HIS). The HIS is to address the effect of the proposed development on a Heritage Item or HCA and demonstrate that the proposed works will not adversely impact upon significance, including any related heritage features within the identified curtilage and setting.

Built form

2 Development on sites that either directly adjoin or are in the vicinity of a Heritage Item or an HCA is to have regard to:

i) the form of the existing building or buildings including height, roofline, setbacks and building alignment;

ii) dominant architectural language such as horizontal lines and vertical segmentation;

iii) proportions including door and window openings, bays, floor-to-ceiling heights and coursing levels;

iv) materials and colours;

v) siting and orientation;

vi) setting and context;

vii) streetscape patterns.

Retail/Mixed Use Setting

3 New development adjacent to or in the vicinity of a Heritage Item or HCA within a retail/mixed use setting such as an existing row of two-storey shops, are to:

i) retain the existing characteristics of the street including the setback, height and rhythm of facades, and is to be sympathetic to the materials and detailing of the earlier facades.

ii) retain a pedestrian building scale at the street level and to set back any levels that are higher than the adjacent Heritage Item or HCA.

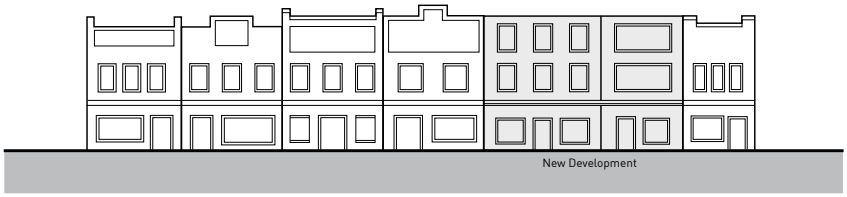


Figure 19F.1-1:
The infill building reinforces the street's rhythm of facades by re-interpreting the existing architectural lines such as parapet height, window openings, awnings and vertical segmentation to reflect existing building widths.

19F.1 LOCAL CHARACTER AND STREETSCAPE (continued)

Objectives

7 *To protect significant views and vistas to and from the Heritage Item or HCA.*

Controls

Views

4 New development in the vicinity of a Heritage Item or HCA is to demonstrate that it will not reduce or impair important views to and from the Heritage Item from the public domain.

19F.2 BUILDING SETBACKS

Objectives

1 *To ensure new work in the vicinity of a Heritage Item or HCA respects and contributes to the established streetscape patterns through careful siting of new buildings.*

2 *To ensure new development provides an interface of scale and bulk to preserve the amenity to the adjacent Heritage Item or building within a HCA.*

3 *To ensure new medium and high density development does not visually dominate the Heritage Item or building within the HCA.*

Controls

Setbacks

1 The front setback of development adjacent to a Heritage Item or buildings within an HCA is to be greater than that of the Heritage Item or building within the HCA. Where variations in setbacks exist, the larger setback will apply.

Residential Context

2 All medium and high density development is to have a stepped facade to any common boundary with a Heritage Item or building within the HCA. The facade is to be stepped back above an 8m height from natural ground level as per Figure 19F.2-1. Facades greater than 8m high will not be permitted adjacent to a Heritage Item or building with an HCA.

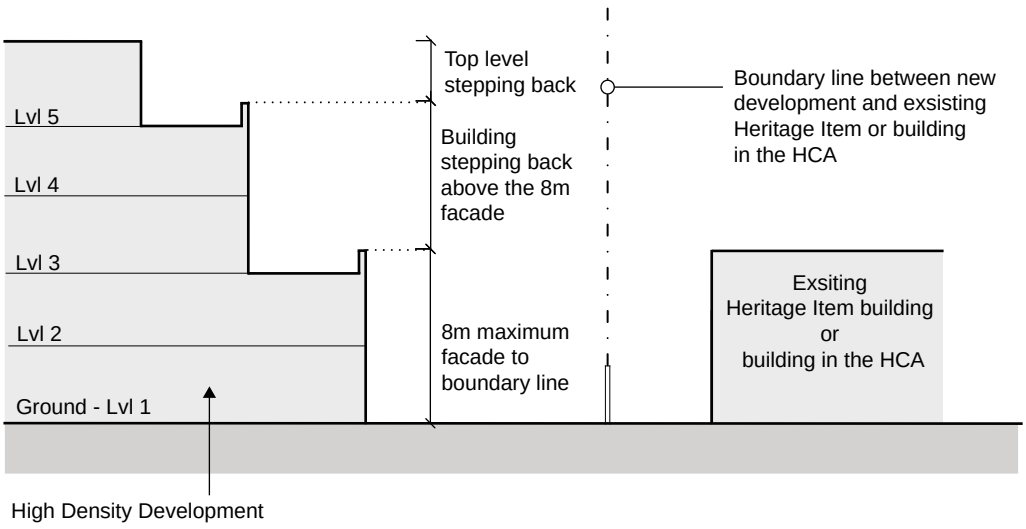


Figure 19F.2-1
Setback requirements for high density residential development adjacent to Heritage Item or an HCA

19F.2 BUILDING SETBACKS (continued)

Controls

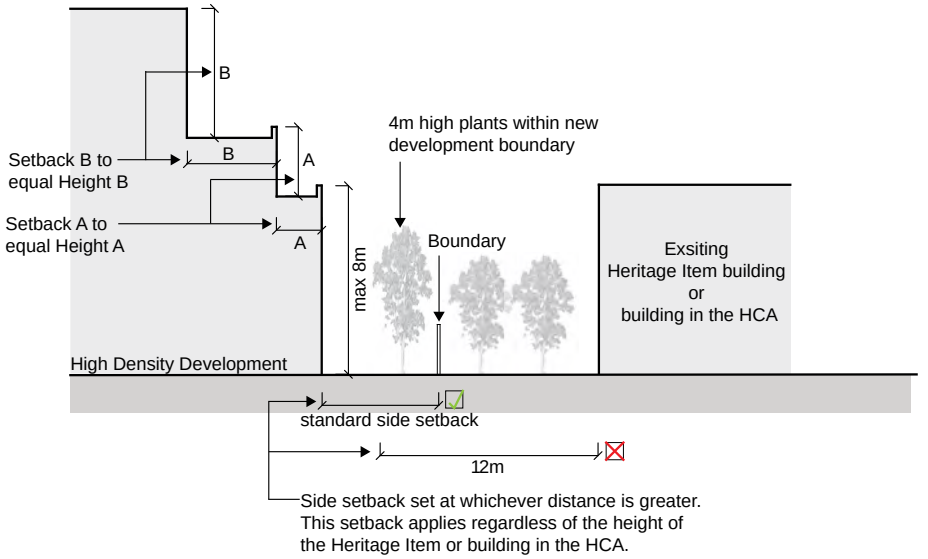
3 In addition to the side and rear setback controls in Section A of this DCP, new development adjacent to a Heritage Item or building within an HCA, is to comply with the following:

i) adjacent developments are to have a minimum 12m building separation to the Heritage Item or building in the HCA (more if setback requirements are not met within the 12m) as per Figure 19F.2-2;

ii) adjacent development is to not exceed a facade height of 8m from existing ground level, including balustrades;

iii) adjacent development with a building mass above 8m high from existing ground level is to be stepped back an additional 6m from the Heritage Item as per *Figure 19F.2-2;*

Where variations in setbacks exist the larger setback will apply.



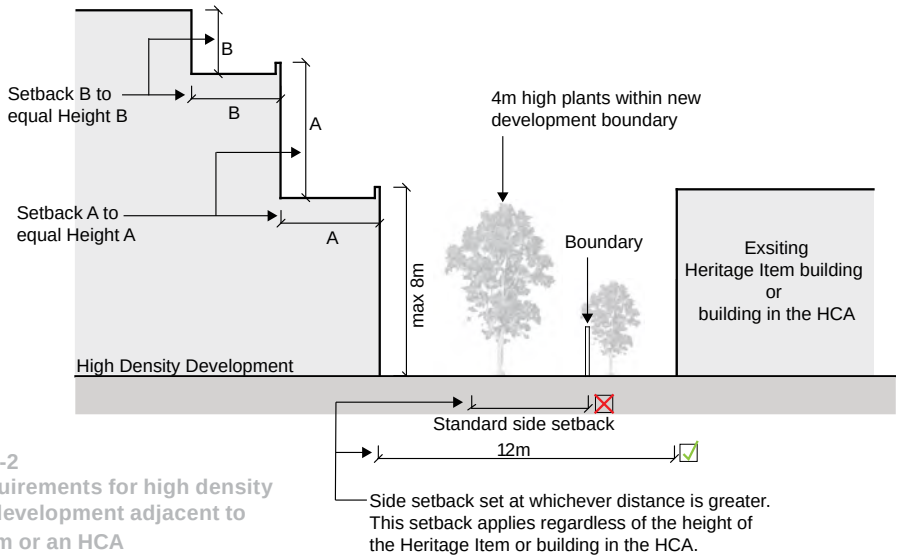


Figure 19F.2-2
Setback requirements for high density residential development adjacent to Heritage Item or an HCA

19F.3 GARDENS AND LANDSCAPING

Objectives

1 *To ensure that new development does not impact on the landscape character and garden setting of any nearby Heritage Item or HCA.*

Controls

Gardens, Setting and Curtilage

1 Development in the vicinity of a Heritage Item or an HCA is to:

i) retain original or significant landscape features associated with the Heritage Item or HCA, or which contribute to its setting. In particular, garden settings in the vicinity are not to be adversely affected in terms of overshadowing or physical impacts on significant trees;

ii) retain the established landscape character of the Heritage Item or HCA including height of the tree canopy and density of boundary landscape plantings or otherwise reinstated them in the new development;

iii) include appropriate screen planting on side and rear boundaries.

19F.4 FENCING

Objectives

1 To encourage front fences on adjacent sites that contribute to the setting of the Heritage Item and the streetscape character of the HCA.

Controls

Fences on adjoining sites

1 New front fences on adjacent sites are to be no higher than the front fences of the adjoining Heritage Item or HCA. Open and transparent front fences such as timber or metal picket are preferred.

2 No metal panel fencing is to be constructed on any boundary of a Heritage Item.

19G Local Centre Heritage Conservation Areas

19G.1 C29 – Balfour Street/Highfield Road, Lindfield
19G.2 C27 – Blenheim Road, Lindfield
19G.3 C32B – Clanville, Roseville
19G.4 C32C – Clanville, Roseville
19G.5 C17 – Gordon Park, Gordon
19G.6 C12B – Gordondale Estate, Gordon
19G.7 C40 – Hillview, Turramurra
19G.8 C6B – Ku-ring-gai Avenue, Turramurra
19G.9 C5 – Laurel Avenue/ King Street, Turramurra
19G.10 C36 – Lord Street/Bancroft Avenue, Roseville
19G.11 C10B – Orinoco Street, Pymble
19G.12 C7 – Park Estate, Pymble
19G.13 C8B – Pymble Heights, Pymble
19G.14 C39 – Robert Street/Khartoum Avenue, Gordon
19G.15 C16B – St Johns Avenue, Gordon
19G.16 C25B – Stanhope Road, Lindfield
19G.17 C19B – Smith Grant, Gordon
19G.18 C35 – The Grove, Roseville
19G.19 C31 – Trafalgar Avenue, Lindfield
19G.20 C28 – Wolseley Road, Lindfield
19G.21 C18 – Yarabah Avenue, Gordon

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS

Controls

In addition to these specific controls, the general controls for heritage conservation areas (HCAs) in 19C of this Part are to be complied with.

19G.1	C29	–	Balfour Street/Highfield Road, Lindfield
19G.2	C27	–	Blenheim Road, Lindfield
19G.3	C32B	–	Clanville, Roseville
19G.4	C32C	–	Clanville, Roseville
19G.5	C17	–	Gordon Park, Gordon
19G.6	C12B	–	Gordondale Estate, Gordon
19G.7	C40	–	Hillview, Turramurra
19G.8	C6B	–	Ku-ring-gai Avenue, Turramurra
19G.9	C5	–	Laurel Avenue/ King Street, Turramurra
19G.10	C36	–	Lord Street/Bancroft Avenue, Roseville
19G.11	C10B	–	Orinoco Street, Pymble
19G.12	C7	–	Park Estate, Pymble
19G.13	C8B	–	Pymble Heights, Pymble
19G.14	C39	–	Robert Street/Khartoum Avenue, Gordon
19G.15	C16B	–	St Johns Avenue, Gordon
19G.16	C25B	–	Stanhope Road, Lindfield
19G.17	C19B	–	Smith Grant, Gordon
19G.18	C35	–	The Grove, Roseville
19G.19	C31	–	Trafalgar Avenue, Lindfield
19G.20	C28	–	Wolseley Road, Lindfield
19G.21	C18	–	Yarabah Avenue, Gordon

Legend

Item - General

Conservation area - General

19G.1 C29 – Balfour Street/Highfield Road, Lindfield

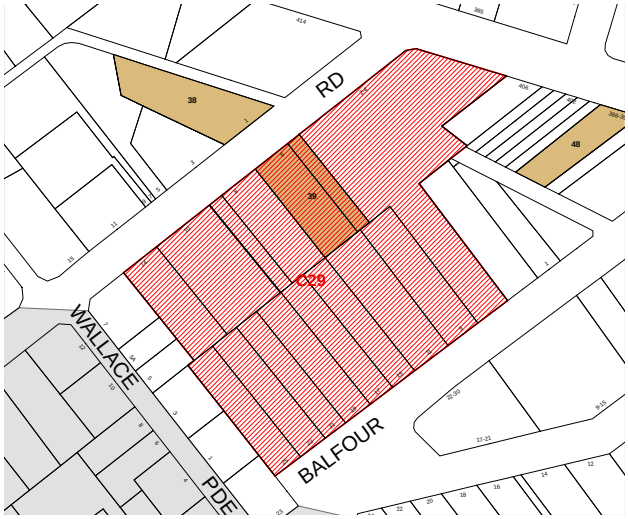


Figure 19G.1-1:
Location map of C29 in Lindfield Local Centre. The above map is indicative only. Refer to the Heritage Map in KLEP (Local Centres) 2012 for the location and extent of HCAs.







Key Historical Periods: Federation, Inter-war

Boundaries: The Balfour Street/Highfield Road HCA encompasses the properties from 2-4 Highfield Road (corner Pacific Highway) to 14 Highfield Road, and 7-25 Balfour Street (note: 7 Balfour Street is part of the Holy Family Catholic church property at 2-4 Highfield Road).

Description: The Balfour Street group of houses within this area are a remarkably intact group of Federation/Queen Anne style houses set high above street level and overlooking the opposite side of Balfour Street (which has been redeveloped with modern townhouses). The Highfield Road portion of the area contains large intact Federation/Queen Anne style houses including one heritage item. The area also includes the church and church school on the corner of the Pacific Highway and Highfield Road.

Materials: The houses within the area have brick walls in typical Federation period red/brown brickwork.

Historical Significance: The Balfour Street/Highfield Road HCA is of historical significance as a highly intact area of Federation housing, representative of the development of the 1884 Gordon Park Estate subdivision following the opening of the North Shore railway line in 1890.

Aesthetic Significance: The Balfour Street/Highfield Road HCA is of aesthetic significance as a highly intact group of predominantly Federation/Queen Anne style houses. Due to the topography of the area, the HCA is on relatively high point, sloping down towards Ontario Parade, and affording district views from various locations.

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

19G.1 C29 – Balfour Street/Highfield Road, Lindfield (continued)

Objectives

1 *To conserve the character of this HCA.*

2 *To retain significant buildings and landscapes.*

3 *To ensure new development enhances the existing character of the street.*

Controls

1 One and two-storey Federation residences, heritage-listed and contributory, must be retained.

2 Original face brickwork, sandstone and roughcast stucco to be retained and not rendered or painted. The removal of paint from original face brick is encouraged.

3 Concrete roof tiling to be replaced with unglazed terracotta Marseilles pattern roof tiling where inappropriate retiling has occurred.

4 Redevelopment controls stipulated in this section are to apply to the Holy Family School buildings and site at 2-4 Highfield Road.

5 Ensure a landscape buffer on adjacent sites outside the HCA, particularly in Balfour Street and Ontario Parade.





19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

Legend

Item - General
Conservation area - General

19G.2 C27 – Blenheim Road, Lindfield

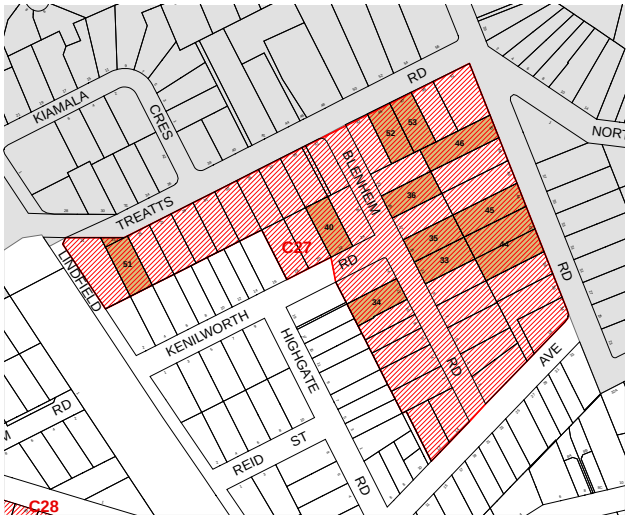


Figure 19G.2-1:
Location map of C27 in Lindfield Local Centre. The above map is indicative only. Refer to the Heritage Map in KLEP (Local Centres) 2012 for the location and extent of HCAs.





Key Historical Periods: Federation, Inter-war

Boundaries: The Blenheim Road Conservation Area encompasses all properties in Blenheim Road, with boundaries along Treatts Road including Nos 21-51 Treatts Road, incorporating 18-24 Kenilworth Road, and 12-18 Woodside Avenue, and 34-50 Nelson Road.

Description: Blenheim Road is a wide street, kerbed and guttered, with mature street tree planting. The area includes the southern side of Treatts Road and the western side of Nelson Road. Single storey intact Federation Queen Anne and Inter-war California Bungalow style housing predominates. Treatts Road is a wide, busy street, kerbed and guttered, which curves at its southern end north of the railway line.

Materials: House walls are predominantly brick and roughcast stuccoed with slate or unglazed terracotta tile roofs, and timber framed windows, either casements or double-hung.

Historical Significance: The Blenheim Road HCA is of historical significance as an intact portion of the Heart of Lindfield subdivision auctioned in December 1911.

Aesthetic Significance: The Blenheim Road HCA is of aesthetic significance as a predominantly intact area of overwhelmingly single storey Federation and Inter-war housing.

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

19G.2 C27 – Blenheim Road, Lindfield (continued)

Objectives

1 *To conserve the character of this HCA.*

2 *To retain significant buildings and landscapes.*

3 *To ensure new development enhances the existing character of the street.*

Controls

1 One storey Federation and Inter-war period residences, heritage-listed and contributory, must be retained.

2 First floor additions will not be permitted to key residences. Attic rooms to extensions behind the main roof of the house may be allowed, subject to impact assessment on the original building and adjacent buildings.

3 New two storey houses are not permitted in this area except where they incorporate the second storey within a roof area and maintain the single storey appearance and bulk consistent with the locality.

4 Original face brickwork, sandstone and roughcast stucco to be retained and not rendered or painted. The removal of paint from original face brick is encouraged.

5 Concrete roof tiling to be replaced with unglazed terracotta Marseilles pattern roof tiling wherever possible.

6 Low brick front fencing is preferred.

7 Construction of garages or carports on the street alignment of properties will not be permitted. Garages and carports must be located at least 1.5m behind the street facing building line, and preferably to the rear of the main building on each site.

8 Paving and hard surfacing, particularly to front gardens, is to be limited. Gardens, including substantial trees and shrubs, are to be established along street elevations.

9 Ensure a landscape buffer on adjacent sites outside the HCA.



19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

Legend

Item - General

Conservation area - General

19G.3 C32B – Clanville, Roseville

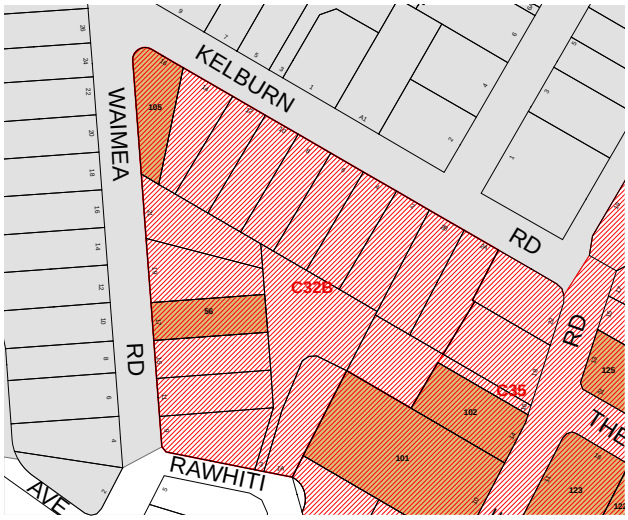


Figure 19G.3-1:
Location map of C32B in Roseville Local Centre. The above map is indicative only. Refer to the Heritage Map in KLEP (Local Centres) 2012 for the location and extent of HCAs.







Key Historical Periods: Federation and Inter-war.

Boundaries: Area bounded by Kelburn Road, Waimea Road, Rawhiti Street and the boundary with HCA C35.

Note: this HCA forms part of a larger draft HCA under Draft LEP 218.

Description: The HCA was originally part of the large 400-acre land grant to David Dering Mathew in c1816-1819 and named 'Clanville'. In the 1840s it was owned by Archbold family and was subdivided in the late nineteenth century into Roseville Park Estate (1893) and Roseville Station Estate (1896). Further subdivision occurred in the early twentieth century with the creation of a series of smaller estates: Clanville (1903), Clanville Heights (1905), Terry's Hill Estate (1908), Clermiston (1912), Taraville (1914), First Estate (1918), Garden Estate (1920), Horden's Roseville Estate (1922) and Archbold Hill (1923).

Built Character: The topography is generally level. The streets are consistent widths and the allotments generally rectilinear. Development is predominately large, low-scale, single-storey and two-storey Federation and Inter-war houses within garden settings on relatively large allotments.

Materials: The area is predominantly face brickwork walling (some now painted), built on a sandstone base, with roofs clad in slate or tiles and timber-framed windows of vertical proportion, some with roughcast render, shingles and/or half-timbering, some with a timber verandah on the front elevation.

Historical Significance: The Clanville HCA is historically significant as it demonstrates the history of residential subdivision following the break

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

19G.3 C32B – Clanville, Roseville (continued)

up of the original Clanville Estate in the late nineteenth and early twentieth centuries.

Aesthetic Significance: The Clanville HCA is aesthetically significant for its cohesive streetscape character and large number of high-quality Federation and Inter-war houses within established garden settings.

Objectives

1 *To conserve the existing character of this HCA.*

2 *To retain significant buildings and landscapes.*

3 *To ensure that any future development respects and retains the significance of the individual items and the conservation area as a whole.*

Controls

1 One and two-storey Federation and Inter-war residences, heritage-listed and contributory, must be retained.

2 Original face brickwork, sandstone and roughcast stucco to be retained and not rendered or painted. The removal of paint from original face brick is encouraged.

3 Original finishes and details, where known, are to be retained and the reinstatement of missing elements is encouraged.

4 Concrete roof tiling is to be replaced with unglazed terracotta Marseilles pattern roof tiling where inappropriate retiling has occurred.

5 Slate roofs are to be conserved, repaired and retained wherever possible and replaced with modern equivalents when necessary.

6 Additions and alterations must respect the architectural and streetscape character of low-scale residential houses within garden settings on relatively large allotments.

7 Low brick or stone front fences matching the materials of the house are preferred.

8 Traditional front garden schemes that enhance the aesthetic significance of the HCA are encouraged.



19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

Legend

Item - General
Conservation area - General

19G.4 C32C – Clanville, Roseville

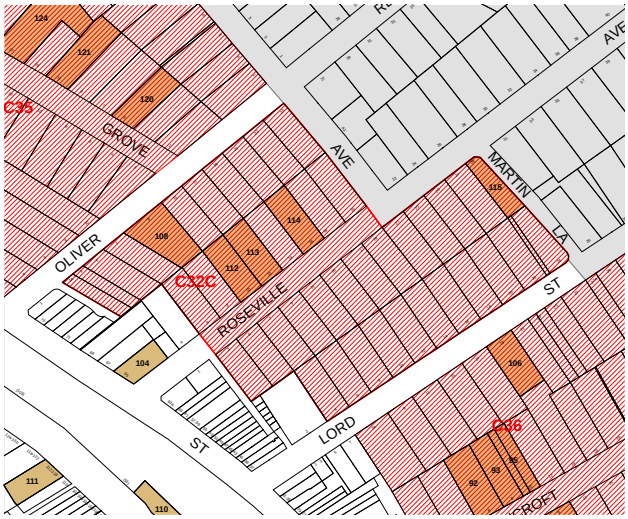


Figure 19G.4-1:
Location map of C32C in Roseville Local Centre. The above map is indicative only. Refer to the Heritage Map in KLEP (Local Centres) 2012 for the location and extent of HCAs.





Key Historical Periods: Federation and Inter-war.

Boundaries: Area bounded by Oliver Road, Trafalgar Avenue, Martin Lane and the laneway to the rear of the apartment blocks along Hill Street.

Note: this HCA forms part of a larger draft HCA under Draft LEP 218.

Description: The HCA was originally part of the large 400-acre land grant to David Dering Mathew in c1816-1819 and named 'Clanville'. In the 1840s it was owned by Archbold family and was subdivided in the late nineteenth century into Roseville Park Estate (1893) and Roseville Station Estate (1896). Further subdivision occurred in the early twentieth century with the creation of a series of smaller estates: Clanville (1903), Clanville Heights (1905), Terry's Hill Estate (1908), Clermiston (1912), Taraville (1914), First Estate (1918), Garden Estate (1920), Horden's Roseville Estate (1922) and Archbold Hill (1923).

Built Character: The topography is generally level. The street grid is disturbed by the railway alignment west of Trafalgar Lane. The streets are consistent widths and the allotments generally rectilinear. Development is a mix of single and two-storey Federation and Inter-war houses with face brick work and sandstone foundations within garden settings on relatively large allotments. Trafalgar Avenue and Oliver Road have high-quality houses enhanced by street tree plantings.

Materials: The area is predominantly face brickwork walling (some now painted), built on a stone base, roof clad in tiles, timber framed windows of vertical proportion, some with half-timbering.

Historical Significance: The Clanville HCA is historically significant as it demonstrates the history of residential subdivision following the break

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

19G.4 C32C – Clanville, Roseville (continued)

up of the original Clanville Estate in the late nineteenth and early twentieth centuries.

Aesthetic Significance: The Clanville HCA is aesthetically significant for its cohesive streetscape character and large number of high-quality Federation and Inter-war houses within established garden settings.

Objectives

1 *To conserve the existing character of this HCA.*

2 *To retain significant buildings and landscapes.*

3 *To ensure that any future development respects and retains the significance of the individual items and the conservation area as a whole.*

Controls

1 One and two-storey Federation and Inter-war residences, heritage-listed and contributory, must be retained.

2 Original face brickwork, sandstone and roughcast stucco to be retained and not rendered or painted. The removal of paint from original face brick is encouraged.

3 Original finishes and details, where known, are to be retained and the reinstatement of missing elements is encouraged.

4 Concrete roof tiling is to be replaced with unglazed terracotta Marseilles pattern roof tiling where inappropriate retiling has occurred.

5 Slate roofs are to be conserved, repaired and retained wherever possible and replaced with modern equivalents when necessary.

6 Additions and alterations must respect the architectural and streetscape character.

7 Low brick or stone front fences matching the materials of the house are preferred.

8 Traditional front garden schemes that enhance the aesthetic significance of the HCA are encouraged.



19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

Legend

Item - General
Conservation area - General

19G.5 C17 – Gordon Park, Gordon

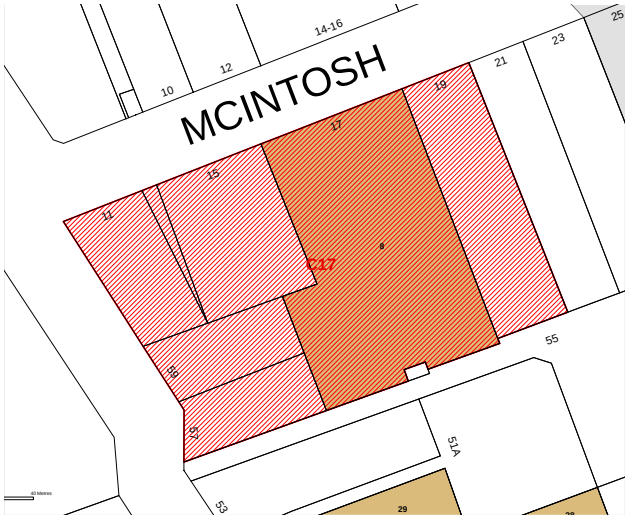


Figure 19G.5-1:
Location map of C17 in Gordon Local Centre. The above map is indicative only. Refer to the Heritage Map in KLEP (Local Centres) 2012 for the location and extent of HCAs.







Key Historical Periods: Federation, Inter-war

Boundaries: Properties 11-19 McIntosh Street and 57-59 Werona Avenue

Description: McIntosh Street is a relatively level section of wide street with wide grassed verges and lined with mature Plane trees on both sides. Werona Avenue faces the North Shore railway corridor. The street has soft edge on the western (railway) side and concrete kerbing on the eastern side.

Built Character: The HCA includes high-quality examples of Federation and Inter-war houses with the outstanding feature of the HCA being the SHR-listed Eryldene at 17 McIntosh Street. Erylene (1913-1926) is an example of the work of architect, William Hardy Wilson and includes a historically significant garden and outbuildings. The other houses in the HCA are high-quality Federation bungalows and Inter-war cottages with a high degree of intactness and established gardens on large allotments.

Materials: Predominately face brick with rendered brick at Eryldene, a Victorian Italianate house at 19 McIntosh Street and an early weatherboard house at 15 McIntosh Street. Roofing is generally terracotta Marseilles tiles with Eryldene's roof clad with terracotta shingles. Timber windows with double-hung sashes or casements. Open verandahs with cast iron columns on the two houses on either side of Eryldene and with deep setbacks.

Historical Significance: The Gordon Park HCA is of historical significance in being able to demonstrate the history and development of Gordon.

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

19G.5 C17 – Gordon Park, Gordon (continued)

Aesthetic Significance: The Gordon Park HCA is of aesthetic significance in being a high-quality enclave of Federation and Inter-war houses centred on the SHR-listed Eryldene.

Objectives

1 *To conserve the character of this HCA.*

2 *To retain significant buildings and landscapes.*

3 *To ensure new development enhances the existing character of the street.*

Controls

1 All properties in the HCA contribute to its significance and must be retained.

2 Original face brickwork and sandstone to be retained and not rendered or painted. The removal of paint from original face brick is encouraged.

3 Original finishes and details, where known, are to be retained and the reinstatement of missing elements is encouraged.

4 Concrete roof tiling is to be replaced with unglazed terracotta Marseilles pattern roof tiling where inappropriate retiling has occurred.

5 Additions and alterations must respect the architectural and streetscape character.

6 Low brick or stone front fences matching the materials of the house are preferred.

7 Traditional front garden schemes that enhance the aesthetic significance of the HCA are encouraged.







19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

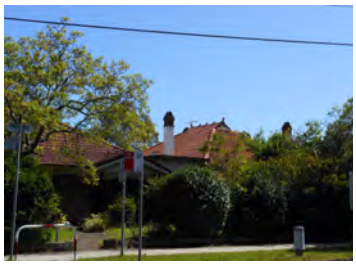
Legend

Item - General
Conservation area - General

19G.6 C12B – Gordondale Estate, Gordon



Figure 19G.6-1:
Location map of C12B in Gordon Local Centre. The above map is indicative only. Refer to the Heritage Map in KLEP (Local Centres) 2012 for the location and extent of HCAs.





Key Historical Periods: Federation and Inter-war.

Boundaries: Properties at 6-16 Park Avenue, Gordon.

Note: this HCA forms part of a larger draft HCA under Draft LEP 218.

Description: The topography is generally level. The street grid is regular running east/west with rectilinear allotments.

Built Character: A small group of high-quality houses from the late nineteenth and early twentieth centuries. 6-14 are a row of single-storey Federation bungalows and 16 Park Ave is a large, two-storey freestanding Victorian villa. 12-14 Park Avenue is a particularly impressive early bungalow with high-quality architectural features. Both 12-14 and 16 are locally listed heritage items. The consistent street setbacks and established gardens give the group an overall cohesion and streetscape presence.

Materials: Face brick, high-quality joinery, decorative facades, timber double-hung sash windows or casement windows, complex gabled and hipped roofs, slate and terracotta Marseilles tiled roofs, matching low front walls, leadlight windows, asymmetrical facades with open porches, winding front paths.

Historical Significance: The area is significant as part of the 1823 100acre land grant to Benjamin Clayton. The area is significant as part of the Gordondale Estate land release in 1883 anticipating the improved transport connections with the construction of the North Shore railway line. The area is significant as the subsequent 1922 subdivision of the Garden Square Estate Marshall.

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

19G.6 C12B – Gordondale Estate, Gordon (continued)

Aesthetic Significance: The area has aesthetic significance as an intact group of Victorian, Federation and Inter-war residences.

Objectives

1 *To conserve the character of this HCA.*

2 *To retain significant buildings and landscapes.*

3 *To ensure new development enhances the existing character of the street.*

Controls

1 Original face brickwork and sandstone to be retained and not rendered or painted.

2 Original finishes and details, where known, are to be retained and the reinstatement of missing elements is encouraged.

3 Slate roofs to be conserved, repaired and retained wherever possible and replaced with modern equivalents when necessary.

4 Traditional front garden schemes that enhance the aesthetic significance of the HCA are encouraged.

5 Existing side driveways to be retained. Carriage loop in front of 16 Park Avenue to be retained.

6 Garden features and front fencing where original or early, such as low brick and stone walling, curved paths and cement crazy paving to be retained.

7 Additions and alterations to the corner site at 6 Park Avenue to carefully consider impact on streetscape and view of the building from Park and Pearson Aves.



19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

19G.7 C40 – Hillview, Turramurra

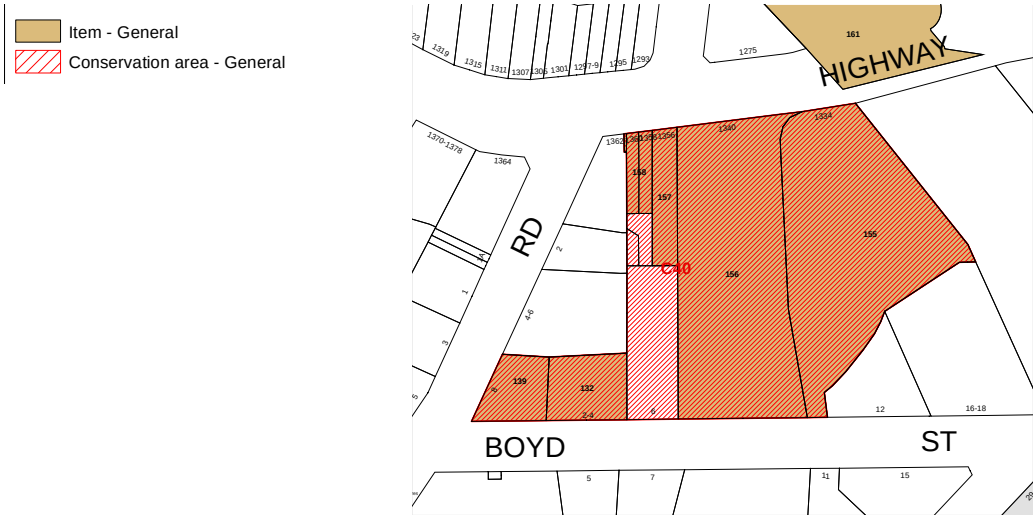


Figure 19G.7-1:
Location map of C40 in Turramurra Local Centre. The above map is indicative only. Refer to the Heritage Map in KLEP (Local Centres) 2012 for the location and extent of HCAs.





Key Historical Periods: late nineteenth century, pre-war Federation, 1920s-1930s Art Deco.

Boundaries: Pacific Highway (north), Kissing Point Road (west), Boyd Street (south) and the North Shore rail corridor (east).

Description: The Hillview Conservation Area includes the Hillview group, two Federation shops and a 1930s Art Deco bank building on the Pacific Highway and 1890s-1900 houses and duplex on Kissing Point Road and Boyd Street. The Hillview Group includes the original cottage, the c1913 guesthouse, garages, stone wall and gates to the Pacific Highway, carriage loop, croquet lawn, terracing and mature landscape setting.

Built Character: Hillview group comprises several buildings and a landscaped setting developed in several stages. The c1913 two-storey guesthouse is of particular note for its size, design and quality detailing. The boundary fence to the Pacific Highway is sandstone with metal chains. The original wrought iron entrance gates are installed on the site.

The commercial buildings on the Pacific Highway comprise a pair of face brick pre-WWI two-storey shop buildings. One retains its bronze and leadlight shopfront windows. The Art Deco bank building is rendered brick with decorative grillework.

The buildings along Kissing Point Road and Boyd Street were built in the late 1890s to 1900 following partial subdivision of Hillview.

Materials: Original face brick, quality timber joinery, terracotta roof tiles and ridge cappings, timber bargeboards, brick chimneys, exposed eaves, timber double-hung sash windows, gable and hipped roofs. The Art Deco

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

19G.7 C40 – Hillview, Turramurra (continued)



bank building features rendered and painted brick façade with decorative metal grillework.

Historical significance: The Hillview Conservation Area is historically significant as a substantially intact group of buildings constructed within a short period of time demonstrating the history of Turramurra. The Hillview Group is a rare example of a grand private boarding house complex built following the opening of the railway. The bank and shop buildings on the Pacific Highway reflect the growth of Turramurra shopping centre and the houses on Kissing Point Road and Boyd Street demonstrate the later development of Turramurra following the partial subdivision of Hillview.

Aesthetic significance: The Hillview Group of buildings displays high-quality construction and decorative detailing throughout. They are prominently located adjacent to the railway line with spectacular views. The pre-WII shop buildings are the only early shop buildings on the south side of the Pacific Highway. The bronze and leadlight shopfront is rare on the Upper North Shore. The bank building is a good representative example of an Art Deco bank building. The early bungalows on Kissing Point Road and Boyd Street form a group of architecturally similar houses and cohesive streetscape.

Objectives

1 *To conserve the character of the HCA.*

2 *To retain significant buildings, landscape and streetscape items and the relationships between them.*

3 *To ensure that any future development respects and retains the significance of the individual items and the HCA as a whole.*

Controls

1 All individually listed heritage items to be retained.

2 Additions and alterations must respect the existing character and setting of the buildings and to be sympathetic in terms of form, scale, character, bulk, materials, colours and textures.

3 Significant decorative and architectural details (iron grillework, terracotta roofs and tiles, timberwork, bronze shopfront, glazed tiles, leadlights, timber shingle cladding, bay windows etc) must be retained and reinstated where missing.

4 Original face brickwork and sandstone to be retained and not rendered or painted. Encourage removal of paint from original face brick.

5 Gardens, gardens structures and landscaping which contribute to the significance of individual items and the conservation area as a whole must be retained and conserved.

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

Legend

Item - General

Conservation area - General

19G.8 C6B – Ku-ring-gai Avenue, Turramurra



Figure 19G.8-1:
Location map of C6B in Turramurra Local Centre. The above map is indicative only. Refer to the Heritage Map in KLEP (Local Centres) 2012 for the location and extent of HCAs.









Key Historical Periods: Federation.

Boundaries: Properties from the Pacific Highway on the southern siide and from No 8 on the northern side of Ku-ring-gai Avenue until it intersects with Turunga Street, then all properties on the western side of Ku-ring-gai Avenue up to the intersection with Boomerang Street.

Note: this HCA forms part of a larger draft HCA under Draft LEP 218.

Description: Ku-ring-gai Avenue from the corner of Womerah Street to Boomerang Street features spectacular and highly significant mature Brush Box street tree planting interspersed with Jacarandas. The street is wide with concrete kerbing on both sides and includes substantial gardens that obscure the many fine house that line the street.

Built Character: A predominance of fine large two storey Federation period mansions on large lots with large gardens, interspersed with a smaller number of later one and two storey houses.

Materials: The buildings from the key period of significance for the area (late nineteenth century and Federation period 1901-1914) and the 1920s are predominantly brick with slate or terracotta tile roofs and timber-framed windows. Later housing is frequently rendered brick or non-traditional (e.g. blond) brickwork, with concrete tiled roofs. Traditional front fencing is generally timber picket, brick, cast iron palisade or sandstone. Front fences to later houses are frequently high timber lap and cap or brush fencing, however many later houses have no front fences.

Historical Significance: Ku-ring-gai Avenue HCA is of historical significance as one of the most prestigious Federation-period streets in the Sydney metropolitan area, which evidences the lifestyles of Sydney

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

19G.8 C6B – Ku-ring-gai Avenue, Turramurra (continued)

society's elite in the period from the 1890s to the 1920s.

Aesthetic Significance: Ku-ring-gai Avenue is of aesthetic significance as one of the most prestigious Federation period streets in Sydney. It derives its fine aesthetic qualities from its collection of grand, frequently architect designed Federation period residences set in generous and well-proportioned garden settings which blend into the mature Brush Box avenue street tree planting.

Objectives

1 *To conserve the character of this HCA.*

2 *To retain significant buildings and landscapes.*

3 *To ensure new development enhances the existing character of the street.*

Controls

1 Conserve significant buildings and gardens from all periods.

2 Maintain and enhance Brush Box street tree planting fronting Ku-ring-gai Avenue. Replacement of other tree species (e.g.Jacaranda) with Brush Box in Ku-ring-gai Avenue is encouraged.

3 Retain and conserve significant historic planting and trees.

4 Provide hedging without front fencing to modern or infill housing in the street.

5 Ensure that a landscape buffer is provided to adjacent sites outside the HCA.



Image 8

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

Legend

Item - General

Conservation area - General

19G.9 C5 – Laurel Avenue/ King Street, Turramurra

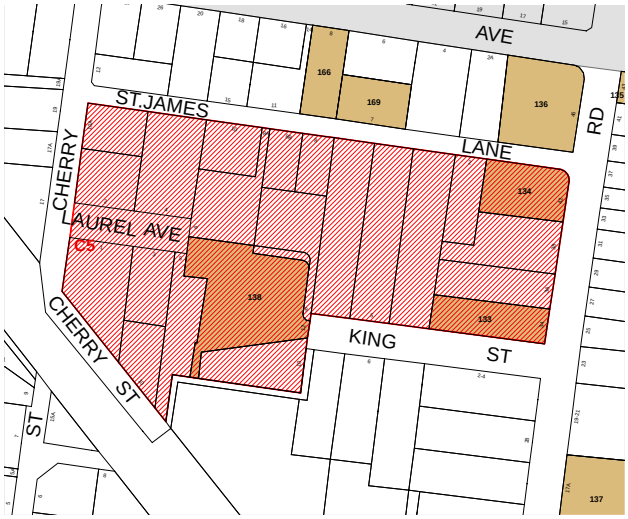


Figure 19G.9-1:
Location map of C5 in Turramurra Local Centre. The above map is indicative only. Refer to the Heritage Map in KLEP (Local Centres) 2012 for the location and extent of HCAs.









Key Historical Periods: Federation, Inter-war

Boundaries: King Street (north side only) Eastern Road from 34 to 42, St James Lane (south side only), Cherry Street (east side, from corner of St James Lane to 10 Cherry Street, and includes Laurel Avenue.

Description: It was noted in 2002 that "recent demolition of Inter-war period housing has begun to erode the cohesiveness of the area. Nonetheless the Federation and Inter-war subdivision and development characteristics still predominate…"

Built Character: King Street on its northern side encompasses St James Anglican Church and rectory, and The Manse at 34 Eastern Road. The area also includes the collection of Laurel Avenue inter-war houses (2, 4, 6 and 3 Laurel Avenue) which include two dwellings designed by architect Leith McCredie, and listed Heritage items at 12 King Street and 42 Eastern Road.

Materials: Federation period housing in the area generally features face brick walls with unglazed terracotta tile or slate roofing and timber-framed windows (either casement or double-hung). Inter-war period housing features a mix of brick or rendered brick, generally with terracotta tile roofs and timber-framed windows (either casement or double-hung). Traditional front fences are generally low brick or timber picket, however hedging also occurs in lieu of front fencing, particularly in Laurel Avenue. Modern housing within the area is frequently rendered brick, with concrete tiled roofs and aluminium framed windows.

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

19G.9 C5 – Laurel Avenue/ King Street, Turramurra (continued)

Historical Significance: The Laurel Avenue/King Street HCA is of historical significance as its subdivision pattern and collection of Federation and Inter-war period housing and church illustrates the complex subdivision history of the area, following the opening of the railway in 1890 and the intensification of suburban development in the Inter-war period.

Aesthetic Significance: The Laurel Avenue/King Street HCA is considered to be of aesthetic significance for its collection of Federation and Inter-war period housing.

Objectives

1 *To conserve the character of this HCA.*

2 *To retain significant buildings and landscapes.*

3 *To ensure new development enhances the existing character of the street.*

Controls

1 One and two storey Federation and Inter-war period residences, heritage-listed and contributory, must be retained and conserved. In addition, St James Anglican Church must be retained.

2 Hedging without front fencing is to be provided to infill housing in the area, or to earlier houses where there is no evidence of original types of front fencing.

3 Ensure a landscape buffer on adjacent sites outside the HCA separates development within the Turramurra Local Centre from Laurel Avenue/King Street HCA.





19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

Legend

Item - General
Conservation area - General

19G.10 C36 – Lord Street/Bancroft Avenue, Roseville



Figure 19G.10-1:
Location map of C36 in Roseville Local Centre. The above map is indicative only. Refer to the Heritage Map in KLEP (Local Centres) 2012 for the location and extent of HCAs.







Key Historical Periods: Federation, Inter-war

Boundaries: Boundary excludes Roseville College, but otherwise follows the Roseville Local Centre boundary on the eastern side following Glencroft Road. The northern boundary follows Lord Street to include 7A to 37 Lord Street. The western boundary runs west of 7a and then follows Bancroft Lane, crosses Bancroft and runs along the western boundary of 3a Bancroft Avenue, then along the rear boundary of 1-23 Bancroft Avenue returning to Glencroft Road.

Description: The proposed area is an intact portion of the wider draft HCA, characterised by single storey Federation Queen Anne style housing.

Materials: The Federation period housing features brick and roughcast stuccoed walls, sometimes with sandstone foundations, terracotta or slate roofing, and timber framed windows, casement or double-hung.

Historical Significance: The Lord Street/Bancroft Avenue HCA is of historical significance as the area reflects its historical development following the 1903 Clanville Estate subdivision.

Aesthetic Significance: The Lord Street/Bancroft Avenue HCA is of aesthetic significance for its intact streetscapes of Federation one and two storey housing.

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

19G.10 C36 – Lord Street/Bancroft Avenue, Roseville (continued)

Objectives

1 *To conserve the character of this HCA.*

2 *To retain significant buildings and landscapes.*

3 *To ensure new development enhances the existing character of the street.*



Controls

1 One and two storey Federation residences, heritage-listed and contributory, must be retained.

2 Original face brick, sandstone and roughcast stucco to Federation period housing to be retained and not rendered or painted. The removal of paint from original face brick is encouraged.

3 Concrete roof tiling to be replaced with unglazed terracotta Marseilles pattern roof tiling where inappropriate retiling has occurred.

4 Open front verandahs, where enclosed, to be reinstated.

5 Low brick fencing or infill housing in the area is encouraged.

6 Maintain and enhance street tree planting throughout the HCA. Reinforce Brush Box avenue planting where it occurs - for example in Lord Street and Bancroft Avenue.

7 Ensure a landscape buffer on adjacent sites outside the HCA, particularly in Lord Street, Hill Street and Victoria Street.



Legend

Item - General
Conservation area - General

19G.11 C10B – Orinoco Street, Pymble

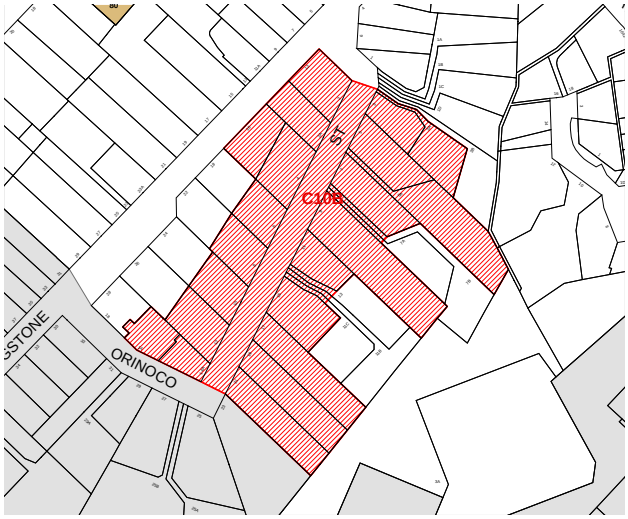


Figure 19G.11-1:
Location map of C10B in Pymble Local Centre. The above map is indicative only. Refer to the Heritage Map in KLEP (Local Centres) 2012 for the location and extent of HCAs.







Key Historical Periods: Federation, Inter-war

Boundaries: The area encompasses 3-21 Orinoco Street (including 5a Orinoco Street) and 2-14 Orinoco Street, and 12-16 Livingstone Avenue, Pymble.

Note: this HCA forms part of a larger draft HCA under Draft LEP 218.

Description: Orinoco Street joins Livingstone Avenue at its northern end, turns a right angle and rejoins Livingstone Avenue at its southern end. The street is relatively wide, concrete kerbed and with footpaths on both sides, and slopes down to the south. The street has mixed street trees.

Built character: Generally single storey Federation and inter-war houses with large gardens.

Materials: The majority of houses from the key historical periods (Federation and Inter-war) are brick (often painted) and roughcast stuccoed brick, with terracotta tiled roofs and timber framed windows, either casements or double-hung. 3 Orinoco Street features a gabled terracotta shingled roof.

Historical Significance: The Orinoco Street HCA is of historical significance as a highly intact area of Federation and Inter-war housing,representative of the development of the Hamilton Estate after the opening of the North Shore railway line in 1890. A significant portion of the houses, (six houses) were designed between 1913 and 1930 by a single architectural firm, and therefore illustrate changing designs from the same firm over this period.

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

19G.11 C10B – Orinoco Street, Pymble (continued)



Aesthetic Significance: The Orinoco Street HCA is considered to be of high aesthetic significance for its concentration of architect-designed houses (seven in total in the area). The street contains six houses designed by the architectural firm Peddle Thorp or Peddle Thorp & Walker between 1913 and 1930, and these houses illustrate changing designs from a single prominent Sydney architectural firm over this period.

16 Livingstone Street, included within the HCA, is a house built 1956/57 to a design by the architectural firm Morrow & Gordon for Grace Irene Gordon, wife of Percy J. Gordon architect, principal of the firm at the time, as his family residence. Both Peddle Thorp (later Peddle Thorp & Walker), now Peddle Thorp again, and Morrow & Gordon were prominent Sydney architectural firms. The Peddle Thorp architectural firm still continues in practice today. Morrow & Gordon were the designers of the former Grace building (now the Grace Hotel) and former AWA buildings in the City of Sydney (both buildings still extant and heritage listed).

Objectives

1 *To conserve the character of this HCA.*

2 *To retain significant buildings and landscapes.*

3 *To ensure new development enhances the existing character of the street.*

Controls

1 One and two storey Federation and Inter-war period residences, heritage-listed and contributory, must be retained.

2 Original face brick, sandstone and roughcast stucco to Federation period housing to be retained and not rendered or painted. The removal of paint from original face brick is encouraged.

3 Concrete roof tiling is to be replaced with unglazed terracotta Marseilles pattern roof tiling where inappropriate retiling has occurred.

4 Terracotta shingled roofs and terracotta tile roofs must be conserved.

5 Low brick front fencing is preferred.

6 Single storey development is preferred. New two storey houses will only be permitted where the upper floor is designed within the roof and where they are in keeping with the height, mass and proportions of the existing built fabric.

7 Ensure a landscape buffer on adjacent sites outside the HCA, particularly in Livingstone Avenue, and blocks behind Orinoco Street properties, and adjacent to the Pymble Town Centre.

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

Legend

Item - General

Conservation area - General

19G.12 C7 – Park Estate, Pymble

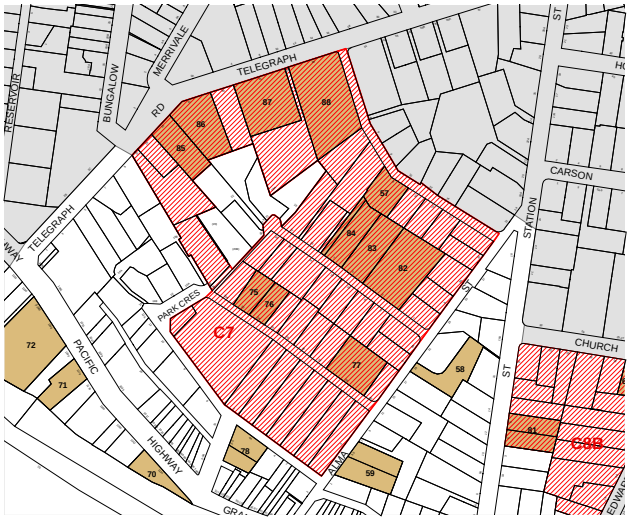


Figure 19G.12-1:
Location map of C7 in Pymble Local Centre. The above map is indicative only. Refer to the Heritage Map in KLEP (Local Centres) 2012 for the location and extent of HCAs.









Key Historical Periods: Federation, Inter-war

Boundaries: Boundary runs around the southern, eastern and western sides of Robert Pymble Park, along the northwestern side of Alma Street, along Graham Avenue to Telegraph Road, and along Telegraph Road to 11 Telegraph Road. It encompasses Robert Pymble Park and the north-western side of Alma Street from 6-10 Alma Street, 5-17 Graham Avenue, 11 to 29 Telegraph Road, and 18 to 40 Park Avenue, 2-18 Taunton Street and 1-17 Taunton Street, specifically excluding battleaxe lots accessed from the western end of Taunton Street.

Description: Alma Street: Long street of variable topography (hilly). No street planting except for low shrubs, grass, agapanthus and similar in narrow verges. Narrow carriageway. Concrete kerbs both sides. A hilly street with steep rises and dips.

Graham Avenue: a gently curved street with oleander bushes in verge near intersection with Alma Street, little other street planting other than grass. No footpaths. Concrete kerbs both sides. Some large trees in front gardens.

Park Crescent: Unusual “U” shaped street wrapping around Robert Pymble Park. Narrow carriageway, some soft edges, some concrete kerbing, and no footpaths, parking both sides. Little street planting.

Taunton Street: Narrow straight no through road. Concrete kerbing both sides, narrow grassed verges with low planting and few street trees.

Telegraph Road: Wide street with grassed verges, concrete kerbing, footpaths on both sides. Mature Liquidamber as street trees.

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

19G.12 C7 – Park Estate, Pymble (continued)







Objectives

1 *To conserve the character of this HCA.*

2 *To retain significant buildings and landscapes.*

3 *To ensure new development enhances the existing character of the street.*

Built Character: The area's large 1890s villa estates were further subdivided in the inter-war period for the construction of substantial houses, many fine examples of inter-war architectural styles on the heights above Robert Pymble Park (northern side of Park Crescent, Taunton Street, Graham Street) and along Telegraph Road.

Materials: Predominantly face brickwork for Federation and Inter-war housing with slate or terracotta tile roofing and timber framed windows, casement or double hung.

Historical Significance: The Park Estate HCA is of historical significance as a late nineteenth century subdivision which retains largely intact development from the Federation and Inter-war periods.

Aesthetic Significance: The Park Estate HCA is considered to be of high aesthetic significance for its fine collection of substantial Federation and Inter-war housing, including fine examples of the Federation Queen Anne, Federation Arts & Crafts, Inter-war Old English, Inter-war California Bungalow, Inter-war Functionalist and Inter-war Georgian Revival styles. The topography also adds to the area's aesthetic significance, as the land rises from Robert Pymble Park to the north, resulting in the area's houses overlooking the park. Houses on the even side of Taunton Street overlook the houses in Park Crescent below.

Controls

1 One and two storey Federation and Inter-war period residences, heritage-listed and contributory, must be retained.

2 Original face brick, sandstone and roughcast stucco to Federation period housing to be retained and not rendered or painted. The removal of paint from original face brick is encouraged.

3 Concrete roof tiling is to be replaced with unglazed terracotta Marseilles pattern roof tiling where inappropriate re-tiling has occurred.

4 Terracotta shingled roofs, terracotta tile roofs and slate roofing must be conserved.

5 Low brick front fencing is preferred.

6 Ensure a landscape buffer on adjacent sites outside the HCA.

7 Proposals to increase the height of houses at 18-40 Park Crescent must provide details on how they affect views and setting between Robert Pymble Park and houses at 2-18 Taunton Street.

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

Legend

Item - General
Conservation area - General

19G.13 C8B – Pymble Heights, Pymble

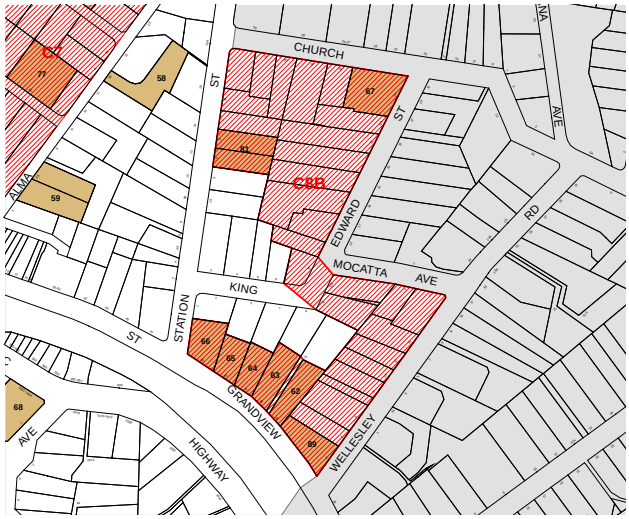


Figure 19G.13-1:
Location map of C8B in Pymble Local Centre. The above map is indicative only. Refer to the Heritage Map in KLEP (Local Centres) 2012 for the location and extent of HCAs.







Key Historical Periods: Victorian, Federation, Inter-war

Boundaries: The area encompasses properties at 35-45 Grandview Street, 2-14 Wellesley Road, 2 & 4 Mocatta Avenue, 11 and 11A King Edward Street, 10 -24 King Edward Street, 16-22 Church Street, and 5-9 Station Street, Pymble.

Note: this HCA forms part of a larger draft HCA under Draft LEP 218.

Description: Grandview Street: runs parallel to the railway. Wide street, with the railway on the southern side, concrete kerbing on both sides. Slopes down from intersection with Pacific Highway. View of railway platform from the street. The retail/commercial section of the street (western end) is predominantly 2 storey c. 1920s shops, in various states of alteration, plus two larger commercial buildings, c. 1980s. The eastern end is dominated by a group of late nineteenth century and early twentieth century heritage-listed houses.

Station Street: Relatively wide steep street, concrete kerbing both sides, footpath only on western side, scattered street trees.

Church Street, King Edward Street, Mocatta Avenue, Wellesley Road: relatively wide streets with concrete kerbing both sides, scattered and mixed street trees.

Built Character: The area encompasses a group of Heritage items in Grandview Street, which include large 1890s houses, and a number of substantial Federation-period Heritage items in Station Street, Church St and Wellesley Road. The southern side of Church Street, while not intact, includes one listed Heritage item (corner King Edward St) and faces the large group of Heritage items on the northern side of Church Street.

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

19G.13 C8B – Pymble Heights, Pymble (continued)

Materials: Late nineteenth century dwellings in Grandview Street have rendered brick walls, later housing predominantly brick walls. Roofs are variously slate, unglazed terracotta tiled or concrete tiled, with unglazed terracotta tiling predominant. Windows are timber-framed either casements or double hung, except to late twentieth century housing, which often feature aluminium framed windows.

Historical Significance: The Pymble Heights HCA is of historical significance as a late nineteenth century subdivision which retains largely intact development from the 1880s through to the Inter-war period.

Aesthetic Significance: The Pymble Heights HCA is of aesthetic significance for its late nineteenth century to Federation heritage items, particularly 35-45 Grandview Street and 2 Wellesley Road (corner Grandview Street), and its largely intact (with the exception of Church Street) streetscapes of Federation to Inter-war housing, which occupy hilly topography rising from Grandview Street to Church Street.

Objectives

1 *To conserve the character of this HCA.*

2 *To retain significant buildings and landscapes.*

3 *To ensure new development enhances the existing character of the street.*

Controls

1 One and two storey Victorian, Federation and Inter-war period residences, heritage-listed and contributory, must be retained and conserved.

2 Original face brick, sandstone and roughcast stucco to Federation period housing to be retained and not rendered or painted. The removal of paint from original face brick is encouraged.

3 Concrete roof tiling is to be replaced with unglazed terracotta Marseilles pattern roof tiling where inappropriate retiling has occurred.

4 Terracotta shingled roofs, terracotta tile roofs and slate roofing must be conserved.

5 Low brick front fencing or hedging in lieu of fencing in King Edward Street and Church Street, particularly for modern or infill housing is preferred.

6 Ensure a landscape buffer on adjacent sites outside the HCA, particularly in King Edward Street and at Nos 1A and 3 Station Street, and adjacent to the Pymble Town Centre.



Legend

Item - General

Conservation area - General

19G.14 C39 – Robert Street/Khartoum Avenue, Gordon

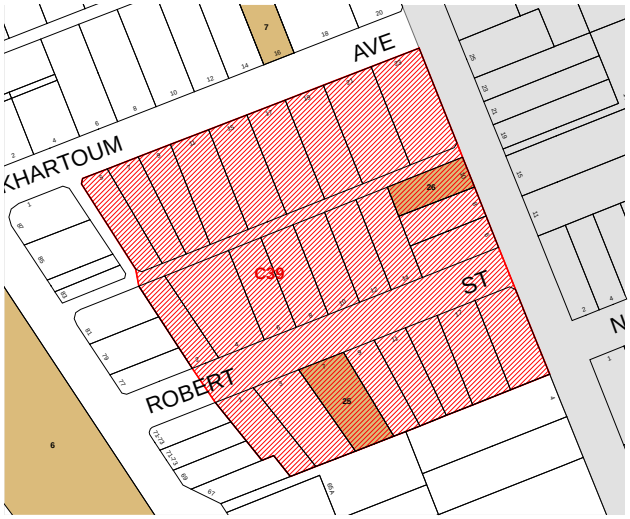


Figure 19G.14-1:
Location map of C39 in Gordon Local Centre. The above map is indicative only. Refer to the Heritage Map in KLEP (Local Centres) 2012 for the location and extent of HCAs.





Key Historical Periods: Federation and Inter-war.

Boundaries: Properties on the southern side of Khartoum Avenue, Khartoum Lane, both sides of Robert Street and including Khartoum Lane, the properties on the western side of Rosedale Road between Khartoum Avenue and Robert Street.

Description: Khartoum Avenue and Robert Street feature concrete kerbing and mixed tree planting including Brush Box and Jacarandas. Khartoum Lane is a narrow rear lane with soft edges. It has a leafy character with overhanging trees. The houses are low-scale within garden settings, many on large allotments.

Built Character: The area is predominantly single-storey, Federation and Inter-war period houses within garden settings on large allotments.

Materials: The area is predominantly face brickwork walling (some now painted), built on a sandstone base, with rough cast render finish and half-timbering to street facing gables, hipped roof clad in slate, and timber framed windows of vertical proportion.

Historical Significance: The area is significant as an intact portion of the Gordondale subdivision of McIntosh's Estate, anticipating the improved transport connections with the construction of the North Shore railway line. The area is also representative of the slow development of an 1883 subdivision, the first buildings appearing after the opening of the railway in 1890.

Aesthetic Significance: The area is significant as a largely intact collection of Federation and Inter-war period houses, enhanced by Brush Box street tree plantings.

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

19G.14 C39 – Robert Street/Khartoum Avenue, Gordon (continued)

Objectives

1 *To conserve the character of this HCA.*

2 *To retain significant buildings and landscapes.*

3 *To ensure new development enhances the existing character of the street.*

Controls

1 One and two-storey Federation and Inter-war residences, heritage-listed and contributory, must be retained.

2 Original face brick, sandstone and roughcast stucco to Federation period housing to be retained and not rendered or painted. The removal of paint from original face brick is encouraged.

3 Original finishes and details, where known, are to be retained and the reinstatement of missing elements is encouraged.

4 Concrete roof tiling is to be replaced with unglazed terracotta Marseilles pattern roof tiling where inappropriate retiling has occurred.

5 Slate roofs are to be conserved, repaired and retained wherever possible and replaced with modern equivalents when necessary.

6 Single-storey development on infill sites is preferred. New two-storey houses will only be permitted where the upper floor is designed within the roof and where they are in keeping with the height, mass and proportions of the existing built fabric.

7 First-floor additions to heritage-listed and contributory items will generally not be permitted. Attic rooms to extensions behind the main roof of the house may be allowed, subject to impact assessment on the original building and adjacent buildings.

8 Additions and alterations must respect the architectural and streetscape character.

9 Low brick or stone front fences matching the materials of the house are preferred.

10 Original garden features such as gates, winding front paths, crazy paving and garden edging to be retained and conserved.

11 Traditional front garden schemes that enhance the aesthetic significance of the HCA are encouraged.



Legend

Item - General

Conservation area - General

19G.15 C16B – St Johns Avenue, Gordon

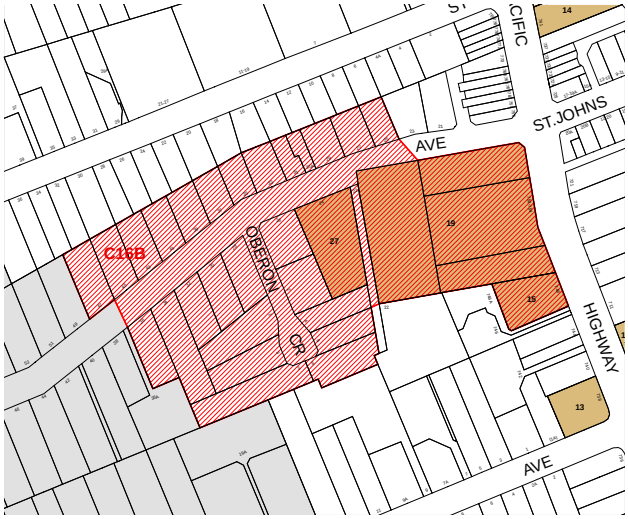


Figure 19G.15-1:
Location map of C16B in Gordon Local Centre. The above map is indicative only. Refer to the Heritage Map in KLEP (Local Centres) 2012 for the location and extent of HCAs.







Key Historical Periods: Federation, Inter-war

Boundaries: Rear 25 to 47 St Johns Avenue, boundary of Gordon Town Centre, southern boundary of 5, 8 and 6 Oberon Crescent, southern boundary of St Johns Church and Cemetery site and encompassing 748 and 750-754 Pacific Highway.

Note: this HCA forms part of a larger draft HCA under Draft LEP 218.

Description: St Johns Avenue: a gently curving street sloping down from Pacific Highway. Unusual and dramatic for its narrow carriageway and wide grassed street verges planted with mature Brush Box street trees on both sides. Limited street parking due to narrow carriageway.

Oberon Crescent: a narrow cul de sac off St Johns Avenue, with parking on both sides. Circular planting bed in carriageway at end of the street defining a turning circle, containing one street tree and groundcover planting. No footpaths. Low shrubs as street planting.

Pacific Highway: includes two heritage-listed properties – St Johns church at 750-754 Pacific Highway and a Federation/Queen Anne house at 748 Pacific Highway.

Built Character: A mix of single and two-storey Federation and Inter-war single-storey buildings. Notable buildings include the two-storey, c1950s Inter-war Functionalist house on the corner of Oberon Crescent, the Blacket-designed St Johns church group from the 1870s and 1890s, and a Queen Anne style house at 24 St Johns Avenue.

Materials: Generally face brickwork for walls, unglazed terracotta tile roofs, and timber-framed windows.

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

19G.15 C16B – St Johns Avenue, Gordon (continued)

Historical Significance: St Johns Avenue HCA is historically significant for its association with St John the Evangelist Church, rectory and cemetery. St Johns Avenue was also the first paved road in Ku-ring-gai. The sandstone church was designed by Edmund Blackett and built in 1872 with later additions. The Brush Box street trees along St Johns Avenue are significant as tree plantings by the residents of the street in 1928. St Johns cemetery is the earliest cemetery in Ku-ring-gai.

Aesthetic Significance: St Johns Avenue HCA is aesthetically significant for the visually dramatic streetscape of St Johns Avenue defined by its narrow road surface, wide grassy verges and mature Brush Box street trees and the predominately intact collection of high-quality Federation and Inter-war housing.

Objectives

1 *To conserve the character of this HCA.*

2 *To retain significant buildings and landscapes.*

3 *To ensure new development enhances the existing character of the street.*







Controls

1 One and two-storey Federation and Inter-war residences, heritage-listed and contributory, must be retained.

2 Retain high-quality later housing from the 1940s and 1950s.

3 Original face brick, sandstone and roughcast stucco to Federation period housing to be retained and not rendered or painted. The removal of paint from original face brick is encouraged.

4 Original finishes and details, where known, are to be retained and the reinstatement of missing elements is encouraged.

5 Concrete roof tiling is to be replaced with unglazed terracotta Marseilles pattern roof tiling where inappropriate retiling has occurred.

6 Slate roofs are to be conserved, repaired and retained wherever possible and replaced with modern equivalents when necessary.

7 Single-storey development on infill sites is preferred. New two-storey houses will only be permitted where the upper floor is designed within the roof and where they are in keeping with the height, mass and proportions of the existing built fabric.

8 First-floor additions to heritage-listed and contributory items will generally not be permitted. Attic rooms to extensions behind the main roof of the house may be allowed, subject to impact assessment on the original building and adjacent buildings.

9 Low brick or stone front fences matching the materials of the house are preferred.

10 Original garden features such as gates, winding front paths, crazy paving and garden edging to be retained and conserved.

11 Traditional front garden schemes that enhance the aesthetic significance of the HCA are encouraged.

Legend

Item - General

Conservation area - General

19G.16 C25B – Stanhope Road, Lindfield

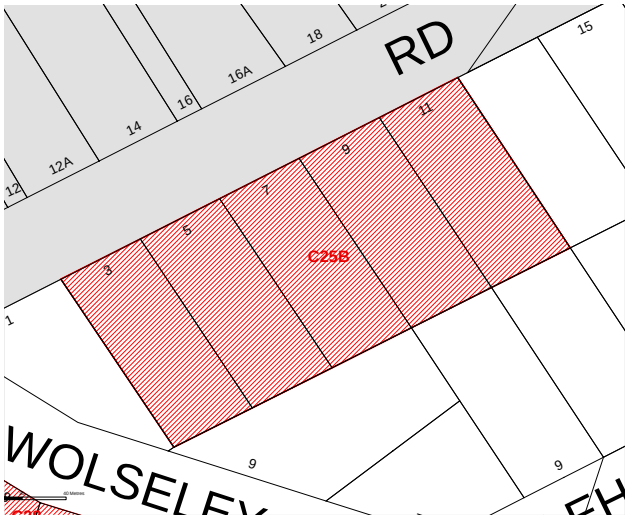


Figure 19G.16-1:
Location map of C25B in Lindfield Local Centre. The above map is indicative only. Refer to the Heritage Map in KLEP (Local Centres) 2012 for the location and extent of HCAs.





Key Historical Periods: Interwar

Boundaries: Nos 3-11 Treatts Road, Killara are included within this HCA.

Note: this HCA forms part of a larger draft HCA under Draft LEP 218.

Description: The broader Stanhope Road HCA lies within the 160-acre Springdale grant to Jane Bradley in 1839. The current street layout was formed when the grant was subdivided in the late nineteenth century following the construction of the North Shore Railway line. Later interwar development on smaller allotments reflects increased population and improved transport (electrification of the railway in 1927 and the opening of the Sydney Harbour Bridge in the 1932).

Built Character: The HCA is relatively flat and predominately residential. There are several large freestanding late Victorian villas with the majority of the houses being single-storey Federation and inter-war bungalows within garden settings on large allotments. The larger HCA includes several heritage items. The large number of intact Victorian and Federation houses creates streetscapes with high-level architectural consistency. The area includes established gardens, street tree plantings and avenues, especially along Stanhope Road.

This row of buildings on Treatts Road reflects the more intensive development of the inter-war period in being on smaller allotments with reduced street setbacks. The row sits below the street with a footpath in front of several properties. The verge retains early concrete edging, driveway culverts and concrete steps.

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

19G.16 C25B – Stanhope Road, Lindfield (continued)



These properties are good representative examples of Inter-war bungalows and form a row with others on the opposite side of the road. No 9 is a recent development. No 11 was built in c1950s and contributes to the conservation area.

Materials: Face brick, high-quality joinery, timber shingles, timber double-hung sash windows or casement windows, gabled roofs, terracotta tiled roofs, matching low front walls, asymmetrical facades with open porches, winding front paths.

Historical significance: The larger Stanhope Road Conservation Area has historic significance in demonstrating the late nineteenth century subdivision of the Springdale Estate. Later development is evident in the consistent streetscapes created by Federation and inter-war housing.

Aesthetic significance: The larger Stanhope Road Conservation Area has aesthetic significance for the high quality of its original housing and consistent use of traditional building styles and materials from the late Victorian, Federation and inter-war periods. The allotment pattern, built forms, established gardens and avenue plantings combine to form highly cohesive and architecturally significant streetscapes.

Objectives

1 *To conserve the character of the HCA.*

2 *To retain significant buildings, landscape and streetscape items and the relationships between them.*

3 *To ensure that any future development respects and retains the significance of the individual items and the HCA as a whole.*

Controls

1 Inter-war houses and the later c1940s-1950s house at 11 Treatts Road to be retained.

2 Original face brick, sandstone and roughcast stucco to Federation period housing to be retained and not rendered or painted. The removal of paint from original face brick is encouraged.

3 Original finishes and details, where known, are to be retained and the reinstatement of missing elements is encouraged.

4 Additions and alterations must respect the architectural and streetscape character.

5 Low brick or front fences matching the materials of the house are preferred.

6 Original garden and footpath features such as gates, winding front paths, crazy paving and garden edging to be retained and conserved.

7 Traditional front garden schemes that enhance the aesthetic significance of the HCA are encouraged.

Legend

Item - General

Conservation area - General

19G.17 C19B – Smith Grant, Gordon

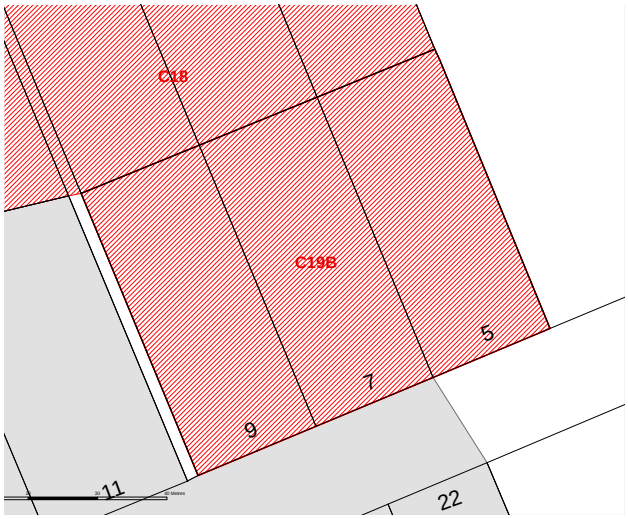


Figure 19G.17-1:
Location map of C19B in Gordon Local Centre. The above map is indicative only. Refer to the Heritage Map in KLEP (Local Centres) 2012 for the location and extent of HCAs.





Key Historical Periods: Federation and inter-war housing

Boundaries: Nos 5, 7 and 9 Cecil Street are included within this DCP.

Note: this HCA forms part of a larger draft HCA under Draft LEP 218.

Description: The Smith Grant Conservation area lies within the former 40-acre land grant to Joseph Smith in 1823. There was little development in the area until the construction of the North Shore Railway in the 1893. Smith's grant and others were progressively subdivided in the early years of the twentieth century with a social and economic boost given to the area with the creation of the new Ku-ring-gai Shire Council at Gordon in 1906.

The larger conservation area includes Federation and interwar housing with several heritage items creating streetscapes with high-level architectural consistency and intactness. These three properties are good representative examples of inter-war bungalows and form a row with others adjacent and opposite.

Built Character: Gently undulating topography, winding streets, concrete footpaths and grassy verges, some remnant bushland trees, consistent front and side building setbacks, predominately single-storey (inter-war) with several two-storey buildings (Federation), gabled and pitched roofs, side driveways, established street trees and gardens. Several later houses (1940s-1950s) contribute to the streetscape and do not detract from the conservation area. One early two-storey weatherboard house on prominent corner site. Several battle-axe entrances leading to later development at rear. Architectural emphasis on individual cottages within garden settings.

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

19G.17 C19B – Smith Grant, Gordon (continued)



Materials: Face brick, high-quality joinery, decorative brickwork, leadlight windows either timber double-hung sash windows or casement windows, terracotta tiled roofs, single-storey bungalows with matching low front walls in brick or sandstone, sandstone foundations, asymmetrical facades with open porches, winding front paths.

Mature gardens with typical plantings from late nineteenth and early twentieth centuries: palms, jacarandahs, crepe myrtles, lawn, flowering bulbs.

Historical significance: A substantially intact group of buildings and streetscapes which reflect the early twentieth century development of Gordon and Killara following the opening of the North Shore Railway Line in 1893.

Aesthetic significance: Intact and architecturally cohesive group of Federation and inter-war residential houses with a large number of high-quality examples and significant street trees.

Objectives

1 *To conserve the character of the HCA.*

2 *To retain significant buildings, landscape and streetscape items and the relationships between them.*

3 *To ensure that any future development respects and retains the significance of the individual items and the HCA as a whole.*

Controls

1 One and two-storey Federation and Inter-war residences, heritage-listed and contributory, must be retained.

2 Retain high-quality later housing from the 1940s and 1950s.

3 Original face brick, sandstone and roughcast stucco to Federation period housing to be retained and not rendered or painted. The removal of paint from original face brick is encouraged.

4 Original finishes and details, where known, are to be retained and the reinstatement of missing elements is encouraged.

5 First-floor additions to heritage-listed and contributory items will generally not be permitted. Attic rooms to extensions behind the main roof of the house may be allowed, subject to impact assessment on the original building and adjacent buildings.

6 Additions and alterations must respect the architectural and streetscape character.

7 Low brick or stone front fences matching the materials of the house are preferred.

8 Original garden features such as gates, winding front paths, crazy paving and garden edging to be retained and conserved.

9 Traditional front garden schemes that enhance the aesthetic significance of the HCA are encouraged.

Legend

Item - General

Conservation area - General

19G.18 C35 – The Grove, Roseville



Figure 19G.18-1:
Location map of C35 in Roseville Local Centre. The above map is indicative only. Refer to the Heritage Map in KLEP (Local Centres) 2012 for the location and extent of HCAs.







Key Historical Periods: Federation, Inter-war

Boundaries: Area bounded by Clanville Road, Trafalgar Avenue, Oliver Road, Hill Street, Rawhiti Street and the boundary of HCA C23B.

Description: The Grove is a relatively wide street with mature Brush Box street planting, sloping down from Clanville Road, kerbed and guttered on both sides with grassed verges. Clanville Road from north side of Rawhiti St intersection on the west, and from 1 (corner Hill St) to The Grove, on the south side is a wide street with wide grassed verges and mixed street trees including Brush Boxes.

Built Character: both the section of Clanville Road within the area and The Grove consists of a largely intact group of single storey Federation Queen Anne, Federation Bungalow and Inter-war California Bungalow style single storey houses within garden settings on large allotments. 13 Clanville Road (Corner The Grove) is a two storey Inter-war Mediterranean style residential flat building.

Materials: Housing from the key historical periods (Federation, Inter-war) have brick walls, sometimes with sandstone foundations, unglazed terracotta tile roofs and occasionally slate roofs, and timber framed windows, casement or double-hung. The area includes a few Inter-war period residential flat buildings, which also contribute to the area's character - 13 and 21 Clanville Road and 15 The Grove – the Clanville Road examples feature rendered brick walls, which appear original.

Historical Significance: The Grove HCA is of historical significance as the area reflects its historical development following both the 1903 Clanville Estate subdivision and resubdivision in 1922 as part of Hordern's Roseville Estate.

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

19G.18 C35 – The Grove, Roseville (continued)

Aesthetic Significance: The Grove HCA is of aesthetic significance for its intact streetscapes of Federation to Inter-war period housing, largely single storey, with mature street tree planting (predominantly Brush Box) characteristic of the same period.

Objectives

1 *To conserve the character of this HCA.*

2 *To retain significant buildings and landscapes.*

3 *To ensure new development enhances the existing character of the street.*

Controls

1 One and two-storey Federation and Inter-war residences and flat buildings, heritage-listed and contributory, must be retained.

2 Original face brick, sandstone and roughcast stucco to Federation period housing to be retained and not rendered or painted. The removal of paint from original face brick is encouraged.

3 Original finishes and details, where known, are to be retained and the reinstatement of missing elements is encouraged.

4 Concrete roof tiling is to be replaced with unglazed terracotta Marseilles pattern roof tiling where inappropriate retiling has occurred.

5 Open front verandahs, where enclosed, to be reinstated.

6 Low brick fencing that matches the materials of the house is preferred.

7 Single-storey development on infill sites is preferred. New two-storey houses will only be permitted where the upper floor is designed within the roof and where they are in keeping with the height, mass and proportions of the existing built fabric.

8 Additions and alterations must respect the architectural and streetscape character.

9 Original garden features such as gates, winding front paths, crazy paving and garden edging to be retained and conserved.

10 Traditional front garden schemes that enhance the aesthetic significance of the HCA are encouraged.

11 Maintain and enhance street tree planting throughout the HCA, especially the Brush Box avenues and remove other tree species.

12 Ensure a landscape buffer on adjacent sites outside the HCA, particularly in Clanville road, Rawhiti Street and Oliver Street.



Legend

Item - General

Conservation area - General

19G.19 C31 - Trafalgar Avenue, Lindfield

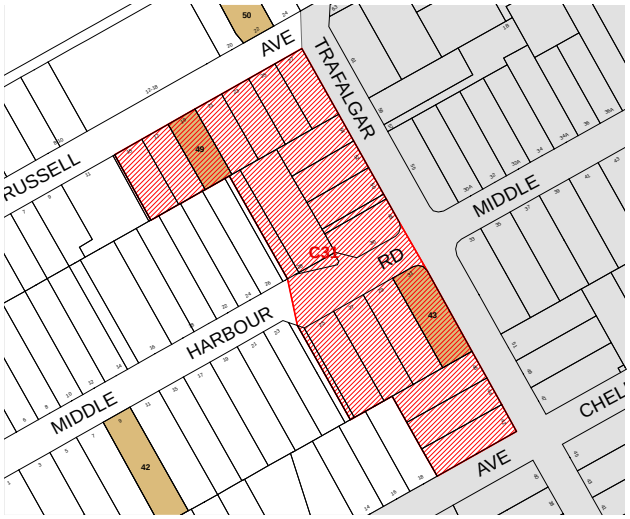


Figure 19G.19-1:
Location map of C31 in Roseville Local Centre. The above map is indicative only. Refer to the Heritage Map in KLEP (Local Centres) 2012 for the location and extent of HCAs.



Key Historical Periods: Federation, Inter-war

Boundaries: Properties at 15-27 Russell Avenue, 28-30 and 25-31 Middle Harbour Road and 42-54 Trafalgar Avenue.

Description: This is an "edge" area that takes in portions of Russell Avenue, Middle Harbour road and the western side of Trafalgar Avenue.

Materials: Houses from the key historical periods of significance (Federation, Inter-war) have brick and roughcast stuccoed walls, often with sandstone foundations, and slate or unglazed terracotta tile roofing. Windows are timber framed, either casements or double-hung.

Historical Significance: The Trafalgar Avenue HCA is of historical significance as an intact portion of a number of subdivisions from the period 1893 to 1912.

Aesthetic Significance: The Trafalgar Avenue HCA is of aesthetic significance as a predominantly intact area of Federation and Inter-war housing.

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

19G.19 C31 - Trafalgar Avenue, Lindfield (continued)

Objectives

1 *To conserve the character of this HCA.*

2 *To retain significant buildings and landscapes.*

3 *To ensure new development enhances the existing character of the street.*

Controls

1 One and two storey Federation and Inter-war period residences, heritage-listed and contributory, must be retained.

2 Original face brick, sandstone and roughcast stucco to Federation period housing to be retained and not rendered or painted. The removal of paint from original face brick is encouraged.

3 Concrete roof tiling is to be replaced with unglazed terracotta Marseilles pattern roof tiling where inappropriate retiling has occurred.

4 Reinstatement of open front verandas where they have been enclosed is encouraged.

5 Low brick front fencing or hedging in lieu of fencing is preferred.

6 New two storey houses are discouraged in this area.

7 Ensure a landscape buffer on adjacent sites outside the HCA, particularly in Chelmsford Avenue, Middle Harbour Road and Russell Avenue.



Legend

Item - General

Conservation area - General

19G.20 C28 – Wolseley Road, Lindfield

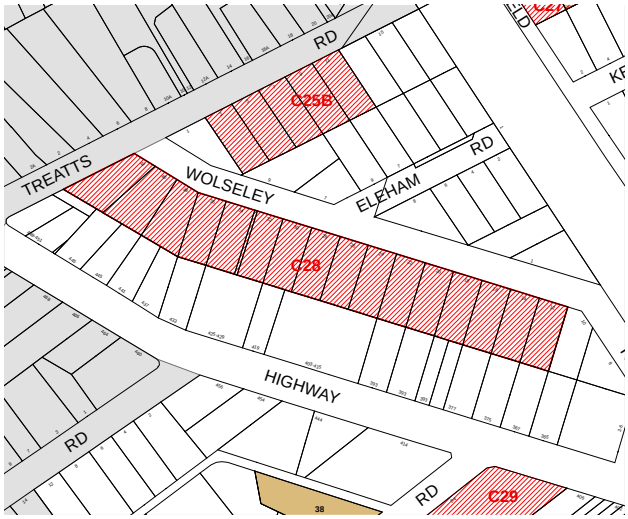


Figure 19G.20-1:
Location map of C28 in Roseville Local Centre. The above map is indicative only. Refer to the Heritage Map in KLEP (Local Centres) 2012 for the location and extent of HCAs.







Key Historical Periods: Federation, Inter-war

Boundaries: Even-numbered properties from 12-42 Wolseley Road.

Description: Wolseley Road retains a high proportion of intact housing from the Federation and Inter-war periods.

Materials: Housing from the key historical periods (Federation, Inter-war) have brick walls, sometimes with sandstone foundations, unglazed terracotta tile roofs and occasionally slate roofs, and timber framed windows, casement or double-hung.

Historical Significance: Wolseley Road is of historical significance for its collection of Federation and Inter-war period housing, built following subdivision as part of the 1911 Heart of Lindfield Estate, and representative of suburban development in Lindfield following the opening of the North Shore railway line in 1890, and the intensification of development in the inter-war period.

Aesthetic Significance: Wolseley Road is of aesthetic significance for its intact collection of Federation and Inter-war single storey housing and for its magnificent avenue of mature Brush Box trees .

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

19G.20 C28 – Wolseley Road, Lindfield (continued)

Objectives

1 *To conserve the character of this HCA.*

2 *To retain significant buildings and landscapes.*

3 *To ensure new development enhances the existing character of the street.*



Controls

1 One storey Federation and Inter-war period residences, heritage-listed and contributory, must be retained.

2 First floor additions will not be permitted to key residences. Attic rooms to extensions behind the main roof of the house may be allowed, subject to impact assessment on the original building and adjacent buildings.

3 Original face brick, sandstone and roughcast stucco to Federation period housing to be retained and not rendered or painted. The removal of paint from original face brick is encouraged.

4 Concrete roof tiling is to be replaced with unglazed terracotta Marseilles pattern roof tiling where inappropriate retiling has occurred.

5 Reinstatement of open front verandas where they have been enclosed is encouraged.

6 Low brick fencing or hedging in lieu of fencing to modern or infill housing in the area is the preferred option.

7 New two storey houses are not permitted in this area except where they incorporate the second storey within a roof area and maintain the single storey appearance and bulk consistent with the locality.

8 Maintain and enhance street tree planting throughout the HCA, in addition, the Brush Box avenue should be reinforced by replacing other species such as Jacarandas with new plantings of Brush Box.

9 Ensure a landscape buffer on adjacent sites outside the HCA, particularly along the Pacific Highway, Treatts Road and Wolseley Road (odd-numbered side).



Legend

Item - General

Conservation area - General

19G.21 C18 – Yarabah Avenue, Gordon

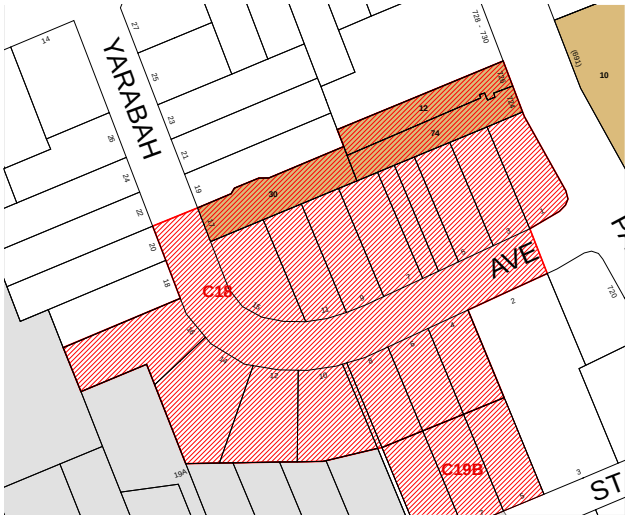


Figure 19G.21-1:
Location map of C18 in Gordon Local Centre. The above map is indicative only. Refer to the Heritage Map in KLEP (Local Centres) 2012 for the location and extent of HCAs.





Key Historical Periods: Federation, Inter-war

Boundaries: Heritage items at 724 and 726 Pacific Highway, and properties at 1 to 17 Yarabah Avenue, and 4 to 16 Yarabah Avenue.

Description: A curved street coming off the Pacific Highway, turning and descending to the intersection with Bushlands Avenue. Houses on the northern and eastern sides are generally sited above street level, those on the southern and western sides of the street below street level. No footpaths. Concrete kerbing, relatively wide street with mixed street tree planting.

Built Character: largely intact single storey inter-war California Bungalows including the heritage-listed “Nebraska” at 17 Yarabah Avenue.

Materials: All houses within the area are face brick, however some have been painted. Roofs are generally unglazed terracotta tiled, however replaced with concrete roof tiling in a few instances, and windows are timber framed, either casements or double-hung.

Historical Significance: The Yarabah Avenue HCA is of historical significance as an intact portion of a 1920s subdivision.

Aesthetic Significance: Yarabah Avenue is of aesthetic significance as an intact streetscape of a 1920s residential subdivision, interesting for its curving street pattern.

19G LOCAL CENTRE HERITAGE CONSERVATION AREAS (continued)

19G.21 C18 – Yarabah Avenue, Gordon (continued)

Objectives

1 *To conserve the character of this HCA.*

2 *To retain significant buildings and landscapes.*

3 *To ensure new development enhances the existing character of the street.*

Controls

1 One storey Inter-war period residences, heritage-listed and contributory, in Yarabah Avenue, and one and two storey Federation period residences at 724 and 726 Pacific Highway must be retained wherever possible.

2 Original face brick to Federation and Inter-war housing to be retained and not rendered or painted. The removal of paint from original face brick is encouraged.

3 Concrete roof tiling is to be replaced with unglazed terracotta Marseilles pattern roof tiling wherever possible.

4 Low brick front fencing or hedging in lieu of fencing in Yarabah Avenue is the preferred option.

5 All development within this HCA is to be restricted to one to two storeys in height and incorporate a landscape buffer.

6 Ensure a landscape buffer on adjacent sites outside the HCA.



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PART 20

DEVELOPMENT NEAR ROAD OR RAIL NOISE

20.1 Development Near Road or Rail Noise

DEVELOPMENT NEAR ROAD OR RAIL NOISE

20.1 DEVELOPMENT NEAR ROAD OR RAIL NOISE

Objectives

1 *To ensure that excavation, earthworks, demolition and construction does not adversely impact on the function or safety of the rail corridor or busy roads.*

2 *To ensure noise and vibration mitigation measures are implemented in development adjacent to rail and road corridors.*

3 *To address air quality issues associated with rail and road corridors, and minimise their effect upon adjacent development.*

4 *To ensure development does not reduce the safety of users of the site or the road or rail corridor.*

5 *To minimise the impact of external noise from road or rail corridors and facilitate comfortable living conditions for residents.*

Controls

1 All development that is in, or immediately adjacent to, the rail corridor or a busy road must be designed in accordance with NSW Department of Planning '*Development Near Rail Corridors and Busy Roads - Interim Guidelines, December 2008*' (DNRCBR 2008).

Note: Under NSW DNRCBR 2008, busy roads include:

- Pacific Highway;
- Ryde Road;
- Mona Vale Road;
- Main Road 328, Section of Boundary Street, between Pacific Highway and Babbage Road, within the Local Centre boundary; and
- Secondary Road 2043, Section of Horace Street, Link Road, Killeaton Street within the Local Centre boundary.

Note: Under DNRCBR 2008, the rail corridor refers to the North Shore rail line.

Note: SEPP Infrastructure will also apply

2 Buildings must be designed to minimise the impact of noise through planning, construction and materials in accordance with the relevant acoustic standards in relation to noise transmission from traffic:

i) AS3671-1989: Acoustics- Road traffic noise intrusion- Building siting and construction.

ii) AS2107-2000: Acoustics- Recommended design sound levels and *reverberation times for building interiors.*

3 On lots adjoining the rail corridor and/or a busy road, landscaping is to be designed to:

i) create a setting for the building by planting tall trees which contribute to the tree canopy; and

ii) be durable and suited to the conditions of the road and railway environment.

4 Where dwellings are located on busy roads incorporate the following into the design of the development to reduce traffic noise within the dwelling:

i) cavity brick walls;

ii) double glazing;

iii) solid core doors;

iv) concrete floors;

v) recessed balconies;

vi) located habitable rooms (bedroom, living rooms) away from the road / noise source;

vii) use of landscaping mounds and vegetation as noise buffers.

20.1 DEVELOPMENT NEAR ROAD OR RAIL NOISE (continued)

Controls

5 Residential fencing or masonry walls to a busy road must be a maximum of 1.8m high, with a minimum 2m setback from the front boundary to provide a landscape zone. This landscape zone must incorporate shrubs and trees that screen the wall from the road.

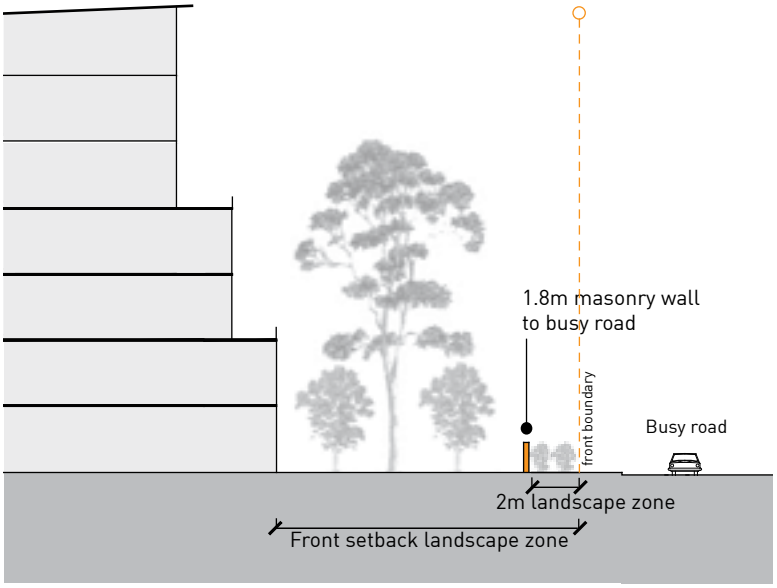

Figure 20.1-1:
Fencing for development facing a busy road.

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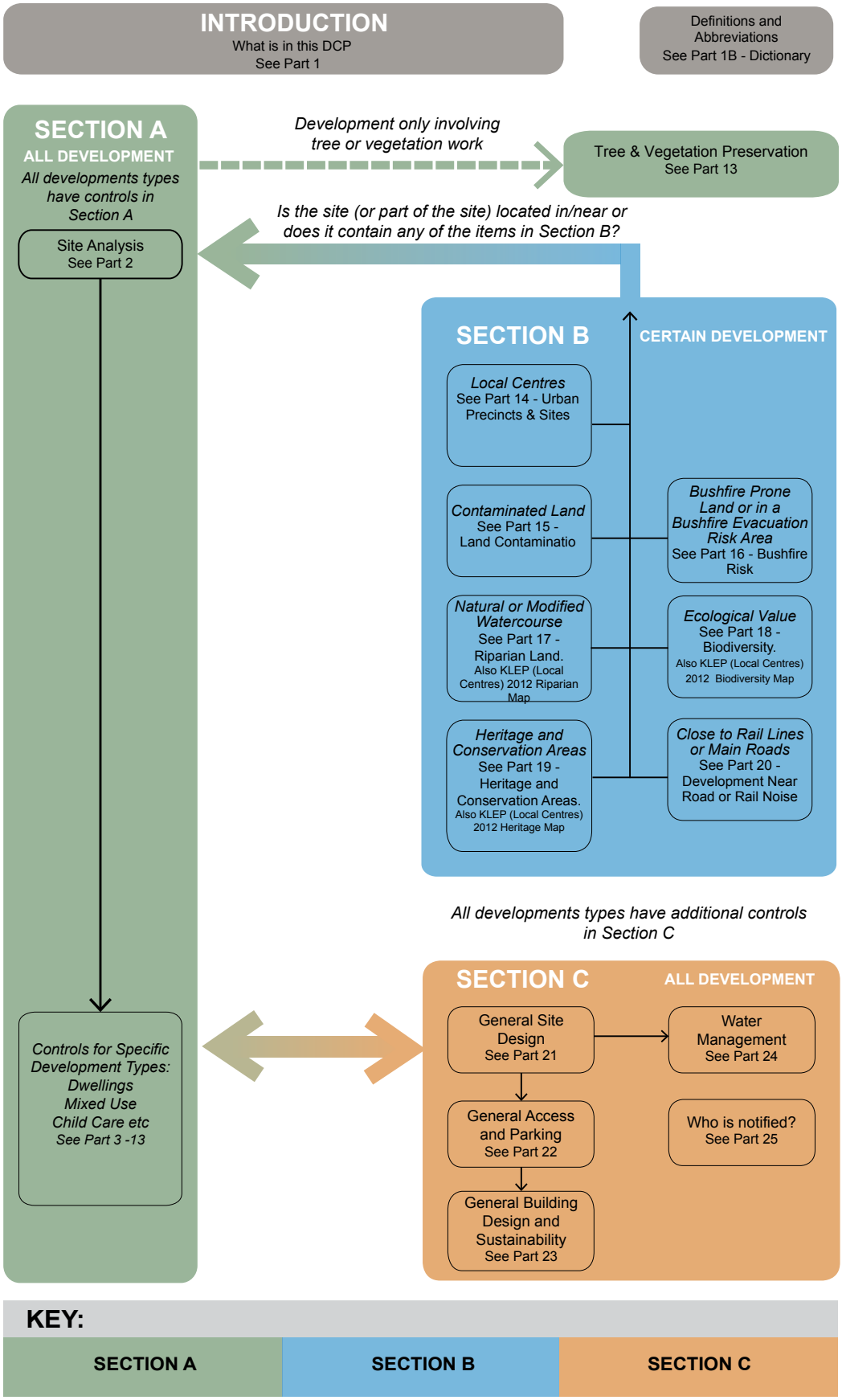
SECTION C

Ku-ring-gai Development Control Plan

ADOPTED - 28/11/17
EFFECTIVE - 07/12/17

SECTION C

HOW TO USE THE DCP



SECTION C

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SECTION C

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SECTION C

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PART 21

GENERAL SITE DESIGN

Introduction
21.1 Earthworks and Slope
21.2 Landscape Design

GENERAL SITE DESIGN

INTRODUCTION

This Part is to be read in conjunction with KLEP (Local Centres) 2012.

This Part applies to all types of development, and provides a consistent area wide approach to issues that all developments must address and provides guidance on meeting the aims and objectives within the LEP.

This Part is closely related to Site Analysis in Section A Part 2.1 and outlines how development is to respond to the site and contextual attributes identified in the site analysis.

Part 21.1 - Earthworks and Slope guides developments in meeting some of the objectives and standards in Clause 6.9 Earthworks in the LEP.

In this Part, where a site contains land affected by bushfire (see Section B Part 16), riparian values (see Section B Part 17) the Greenweb (see Section B Part 18), or heritage values (see Section B Part 19) the controls in Section B apply to the extent of any inconsistency.

21.1 EARTHWORKS AND SLOPE

Objectives

1 *To respect the natural topography of a site.*

2 *To maintain the health of existing trees.*

3 *To maintain subsurface and groundwater flows and direction.*

4 *To minimise downstream impacts from erosion and sedimentation or altered water flows due to site earthworks or retaining walls.*

5 *To ensure that development is designed considering the stability of the land on which it is located.*

6 *To prevent damage to buildings and structures on adjoining land.*

7 *To minimise excavated materials going off site.*

8 *To minimise land degradation, water pollution and damage to infrastructure from erosion and accumulated sediment.*

Controls

1 Development must be accommodated within the natural slope of the land. Level changes across the site are to be primarily resolved within the building footprint. This may be achieved by:

i) stepping buildings down a site; and

ii) locating the finished ground floor level as close to existing ground level as practicable.

2 Development is to minimise earthworks on steeply sloping sites. Sites with a slope in excess of 15% may require certification from a geotechnical engineer as to the stability of the slope in regard to the proposed design.

3 Landscape cut or fill should not be more than 600mm above or below natural ground line.

4 A minimum 0.6m width is required between retaining walls to provide adequate soil area and depth to ensure that they do not read as a single level change, and for the viability of landscaping.

Note: A minimum width of 2m is required between retaining walls for this area to be included in deep soil calculations.

5 Existing ground level is to be maintained for a distance of 2m from any boundary.

6 Grassed embankments are not to exceed a 1:6 slope. Vegetated embankments, planted with soil stabilising species, may be to a maximum of 1:3.

7 Fill and excavation are not permitted within sensitive environments, such as riparian lands, bushland, or significant vegetation.

Note: A plan demonstrating the extent of batters or shoring in the vicinity of sensitive environments prepared by a suitably qualified engineer, will be required.

8 Retaining walls, excavated and filled areas shall be located and constructed to have no adverse impact on:

i) structures to be retained on the site;

ii) structures on adjacent public or private land;

iii) trees to be retained on site or on adjoining sites.

Note: A geotechnical / hydrogeological report may be required to demonstrate this.

Note: If the ground level is modified within the canopy spread, an arborist's report will be required to assess the impact of the proposed works. Refer to AS4970:2009 Protection of trees on development sites.

21.1 EARTHWORKS AND SLOPE (continued)

Controls

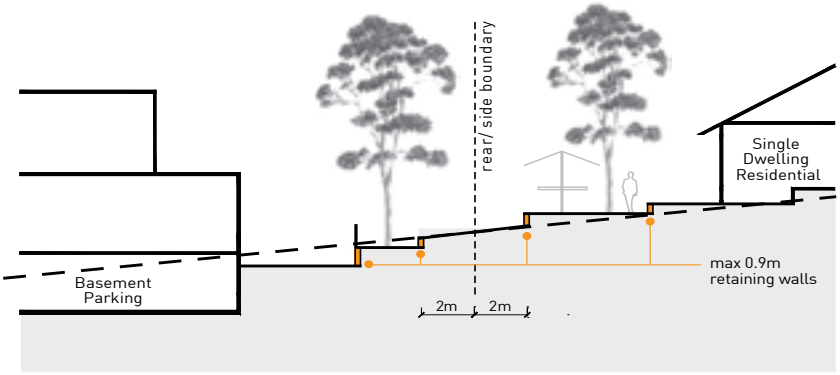

Figure 21.1-1:
Retaining walls, terraces and ground lines at boundaries.

9 Excavated and filled areas are to be constructed so as not to redirect or concentrate stormwater or surface water runoff onto adjoining properties.

10 The design of the proposal must consider the impacts of altered subsurface/groundwater flows or direction on groundwater dependent ecosystems or species.

Note: Riparian systems and a number of vegetation communities or species may be fully or partially dependent on subsurface/groundwater flows. A hydrogeological report may be required to address changes to groundwater. Details of measures proposed to mitigate such impacts are required.

11 For any dwelling house development, excavation within the building footprint must not exceed 1.0m depth relative to ground level (existing), fill must not exceed 1m relative to ground level, with a maximum level difference across the building footprint of 1.8m. See Figure 21.2-2.

12 Retaining walls on low and medium residential density sites must not exceed 1m in height above existing ground level. Where greater level change over the site is required, the site should be terraced. See Figure 21.2-1.

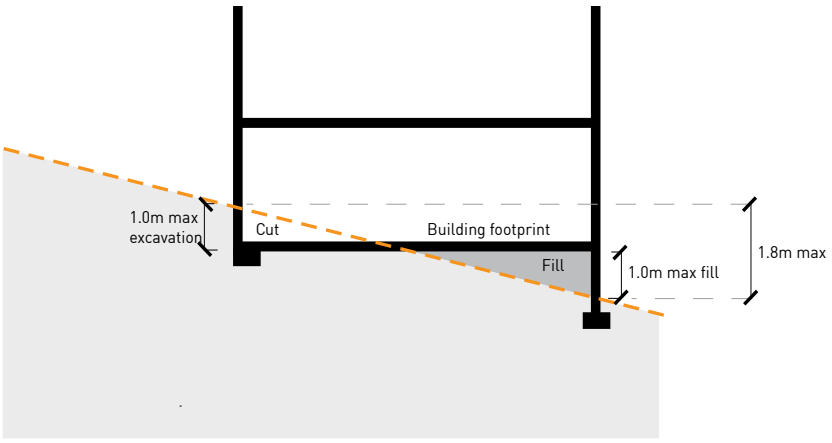

Figure 21.1-2:
Earthworks within the building footprint.

21.2 LANDSCAPE DESIGN

Objectives

1 *To contribute to the landscape character of Ku-ring-gai.*

2 *To ensure landscape design and species selection is suitable to the site and its context and considers the amenity of residents and neighbours.*

3 *To increase the resilience of significant vegetation and habitat, through the improvement of condition, extent and connectivity of vegetation.*

4 *To conserve landscaped settings for heritage items and components of heritage conservation areas.*

5 *To ensure that landscaping in the vicinity of heritage places does not detract from the heritage value of the place.*

6 *To integrate landscape design and biodiversity protection with bushfire management.*



Figure 21.2-1:
Example of a rock outcrop.

Controls

Site Planning and Design

1 The site planning and design of developments must:

i) retain and enhance indigenous vegetation, biodiversity corridors and existing natural features on the site including trees, shrubs and groundcovers, soils, rock outcrops and water features. These provide habitat, breeding sites, food and shelter for a wide variety of life forms and ecological processes that support life and define the character of the locality.

Note: Specific controls for the areas mapped for their biodiversity significance on the Greenweb map in Part 6R are included in Part 6 of this DCP.

ii) retain significant and visually prominent trees and vegetation that contributes to neighbourhood character;

iii) retain vegetation and garden fabric such as paths, walls, steps, ponds and terraces, that contribute to the heritage significance of the setting of a heritage item or a site within a heritage conservation area;

iv) be located to retain views of public reserves;

v) consider subsurface/groundwater flows near bushland;

vi) Retain habitat within the site including:

- drainage features and damp areas;
- rock outcrops
- hollow-bearing trees;
- areas of leaf litter;
- bushrock.

2 The retention of existing appropriate screen planting is encouraged.

3 Structures (including services) must be located outside the canopy spread of trees to be retained. This applies to street trees, trees on site and on adjoining sites.

4 Disturbance of natural soil profiles must be minimised.

5 Existing ground level must be maintained beneath the canopy spread of trees to be retained.

Note: If the ground level is modified by excavation or fill within the canopy spread, an assessment prepared by a suitably qualified arborist in accordance with AS 4970-2009 Protection of Trees on Development Sites, will be required.

6 The introduction of imported soils and disturbance of local seed banks must be avoided wherever possible.

7 Vegetation retention must consider the following:

21.2 LANDSCAPE DESIGN (continued)

Objectives

7 *To ensure that landscaping design considers the principles of Crime Prevention through Environmental Design.*

8 *To reduce noise reflectivity and support visual privacy.*

9 *To contribute to climate control by retaining and planting trees to capture carbon.*

10 *To promote climate change adaptation through landscape design which:*

- *minimises water use*
- *provides for summer shade*
- *is resilient to storms*
- *consolidates and interconnects vegetation, habitat and waterways, and*
- *minimises bushfire risk.*



Figure 21.2-2:
Trees planted in groups are more resilient to storms

Controls

i) healthy specimens that have a high Safe Useful Life Expectancy are to be the first priority for retention;

ii) trees within heritage items or heritage conservation areas are to be assessed in terms of heritage significance;

iii) mature trees and hollow-bearing trees within biodiversity areas are a priority for retention; and

iv) while single trees may be ecologically important in their own right, or as part of a broader community, retaining and planting trees in groups.

Note: Works within an area containing critical habitat, threatened species, populations, or threatened ecological communities may require a flora and fauna assessment in accordance with Part 5A of the Environmental Planning and Assessment Act (1979). Works that have a significant impact on the above are integrated development requiring referral to at least one government agency.

8 Seasonal temperature control and improved air quality can be achieved through effective landscape design:

i) use of vegetation to protect the north, east and west facing windows against the hot summer sun;

ii) use of deciduous vegetation to provide summer shade but allow winter sun to penetrate the building;

iii) trees with dense foliage to create more shade;

iv) vegetated courtyards to reduce temperatures in your courtyard and internal living spaces;

v) vertical shading for east and west walls and windows to protect from hot summer sun at lower angles, for example trees, shrubs and vines supported on a frame;

vi) horizontal shading for north facing windows, for example, deciduous vines grown over a pergola;

vii) tall, evergreen trees should not be planted too close to north-facing windows to avoid overshadowing in winter;

viii) use of ground cover planting, low growing shrubs, lawns and vegetated walls to reduce glare and surface temperature from paving, roofs and walls;

ix) use of large dense shrubs as windbreaks to the south-west to counter cold winter winds and channel cooling summer breezes; and

x) use of medium to large-sized shrubs or trees clipped to form a hedge to provide still air insulation and shading when grown close to a wall;

xi) the positioning of low shrubs, lawn and ponds to the north to help cool hot summer winds.

21.2 LANDSCAPE DESIGN (continued)

Controls

Planting

9 Siting and choice of planting must consider:

i) the desired function of the tree, shrub or groundcover (e.g. feature tree, provision of shade), screen planting, ground stabilising);

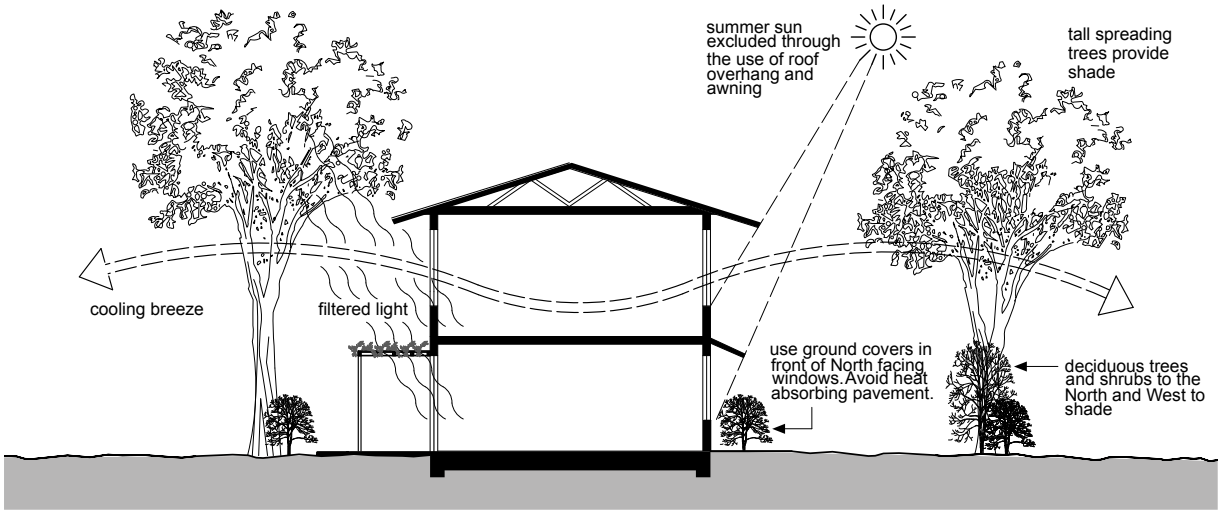

Figure 21.2-3:
Improved air quality through landscape design



Figure 21.2-4:
Tree used for shade.

ii) provision of solar access to dwellings and private open space areas on site and on adjoining sites;

iii) the horticultural style of heritage item or heritage conservation area;

iv) the appropriate range of plant height and foliage density, water efficiency, aesthetic appeal and suitability to the characteristics of the site and location;

v) the proximity of trees to buildings, walls and other structures on site and on adjoining sites;

vi) the proximity of trees to stormwater, electricity, gas, sewer and other services; and

vii) the potential hazard of planting types and densities on sites prone to bushfire risk (refer to Planning for Bushfire Protection 2006).

10 Planting beds for screen planting must be of adequate width to allow the plants to flourish.

Note: Screen planting should not be continuous on bushfire prone land.

11 Where development is located close to a reserve, the landscaping design is not to prevent passive surveillance of the reserve.

12 The height of planting within the front setback is to allow partial views to and from the dwelling or main building and beyond;

21.2 LANDSCAPE DESIGN (continued)

Controls

13 Where a property boundary is within 100m of bushland, planting is to consist of not less than 70% locally native tree species and 30% locally native understorey species. Species are to reflect the relevant vegetation communities within the area.

14 Where a property boundary is between 100m and 300m from bushland at least 50% of the overall number of trees and shrubs must be locally occurring native species. Species are to reflect the relevant vegetation communities within the area.

15 For development on sites where single residential development is permitted, and all property boundaries are greater than 300m from bushland, at least 25% of the overall number of trees and shrubs must be locally occurring native species. Species are to reflect the relevant vegetation communities within the area.

16 The planting of species listed in Council's Weed Management Policy will not be permitted.

Note: Council's Weeds Management Policy is available on Council's web site: www.kmc.gov.nsw.au

17 Species used for planting in or directly adjacent to areas with significant vegetation or habitat should be of local provenance.

Note: To enable this, propagation must be started well before any construction begins. A list of appropriate species for native vegetation communities within Ku-ring-gai is available from Council and on the Council's website (www.kmc.gov.nsw.au).

PART 22

GENERAL ACCESS AND PARKING

Introduction

22.1 Equitable Access

22.2 General Vehicle Access

22.3 Basement Car Parking

22.4 Visitor Parking

22.5 Parking for People with a Disability

22.6 Pedestrian Movement Within Car Parks

22.7 Bicycle Parking and Facilities

22R References

22R.1 Car Parking Rates

GENERAL ACCESS AND PARKING

INTRODUCTION

This part applies to all types of development, and provides a consistent area wide approach to access and parking issues that all developments must address. This Part guides development consistent with the KLEP (Local Centres) 2012 in meeting the aims and objectives within the LEP.

This Part provides guidance on how developments can be safely and conveniently accessed by all people, whether they are walking, riding, in a wheelchair or a vehicle, with an emphasis on the more sustainable methods of access.

22.1 EQUITABLE ACCESS

Objectives

1 *To encourage consideration of access issues at the start of the development design process.*

2 *To ensure convenient, safe and legible access for all people throughout the pedestrian network and public open space.*

3 *To ensure that buildings used by the public and high and medium density residential development have safe and convenient access for all people.*

4 *To ensure that substantial building refurbishment or intensified use of existing buildings provides upgraded levels of access and facilities for all people.*

5 *To ensure that people with a disability have equal access to work by providing access to facilities, services and opportunities that meets their specific needs.*

6 *To provide housing that allows people to stay in their home as their needs change due to aging or disability.*

7 *To ens ure that use of the development is easy to understand, regardless of the user's experience, knowledge, language skills or current concentration level.*

Controls

1 For the purpose of this Part "access" is defined as:

i) an ability to travel from one point to another in a continuous and independent manner, following a reasonable route;

ii) an ability to communicate or obtain information or service from any person, display or facility which is intended to communicate or provide that information or service to any person.

2 Designing for access for all people is encouraged for all development types.

3 Where minor alterations or additions to an existing building are proposed, the alterations must not reduce the accessibility of the building.

4 Applications for development, other than single dwellings, are to demonstrate how access to and within developments meets the requirements of the Disability Discrimination Act 1992 (DDA).

Note: Section 23 of the Disability Discrimination Act 1992 (DDA) requires non- discriminatory access to premises which the public or a section of the public is entitled or allowed to use. It does not apply to single dwellings.

Some of the premises covered by Section 23 include:

i) public footpaths, walkways, pedestrian malls and public transport facilities

ii) educational institutions, child care centres, libraries and other information and advice centres

iii) shops, department stores, travel agents, hairdressers, beauty salons, cafes, restaurants and pubs

iv) banks and other financial institutions

v) parks, public swimming pools, sporting venues, social clubs and public toilets

vi) theatres and other places of entertainment

vii) government service offices

viii) hospitals and other medical facilities

ix) doctors', lawyers, dentists and other professional offices

x) other premises the public or a part of the public is entitled or allowed to enter or use.

Section 23 applies to existing places as well as places under construction. To comply with the DDA existing places may need to be modified to be accessible.

The DDA does not require the provision of access to be made if this will cause major difficulties or excessive costs to a person or organisation. This is called "unjustifiable hardship".

22.1 EQUITABLE ACCESS (continued)

Controls

But before deciding that providing access is unjustified, a person or organisation should:

i) thoroughly consider how access might be provided

ii) discuss this directly with the person involved, and

iii) consult relevant sources of advice.

If alterations to premises to provide full and equitable access would involve the destruction or removal of significant heritage value, in some circumstances making these alterations MAY be found to involve unjustifiable hardship. If adjustments cause hardship it is up to the organisation to show that they are unjustified.

It remains the responsibility of the owner or occupier to comply with the requirements of the DDA and to investigate their own personal legal liabilities under the DDA. Council cannot certify compliance.

5 Entry access ramps for people with a disability must be located within the site and must not dominate the front façade.

6 The provision of access for all to and within heritage items is to:

i) have minimal impact on the significant fabric of the item;

ii) be, as far as possible, reversible.

7 Where such access is likely to have a major adverse impact on significant fabric, alternative solutions should be considered. However every effort is to be made to provide equitable access through the main entrance to the building.

Note: Alternative solutions may include a temporary ramp, or access through a side entrance or the like.

8 Building entries are to be clearly visible from the street. Where site configuration is conducive to having a side entry, the path to the entry must be obvious from the street.



Figure 22.1-1 International Symbols for Facilities

1. Universal Information Symbol
2. International Symbol of Accessibility
3. Symbol indicating Audio Description for Theatre & Live Performances
4. Audio Description for TV, Films & Video
5. Large Print / Accessible Print Symbol
6. Symbol indicating Access for Individuals Who Are Blind or Have Low Vision
7. Braille Symbol
8. Telephone Typewriter Symbol
9. Sign Language Interpretation Symbol
10. Assistive Listening Systems Symbol (Ear)
11. Assistive Listening System Symbol (Telephone)
12. Closed Captioning Symbol

22.1 EQUITABLE ACCESS (continued)

Controls

9 Ensure pedestrian areas have clear sightlines, are appropriately lit and overlooked by buildings that provide street level activity.

10 Access ways for pedestrians and for vehicles are to be separated.

11 Ensure landmarks, including landmark buildings, are distinctive in form and reinforce the street pattern and topography to enable people to find their way.

12 Buildings are to be sited and designed to avoid obscuring landmark features and views which enable ease of orientation from the street and public open space areas.

13 Ensure all users of the site can find their way within the development. This can be achieved by:

i) Designing foyers and orienting reception and information desks so that arriving visitors can be seen;

ii) Locating reception and information desks near lifts to enable staff to assist visitors with directions;

iii) Dividing large-scale sites into distinctive smaller parts, or zones of functional use, while preserving a 'sense of place' and connectivity between spaces;

iv) Organising the smaller parts of the development under a simple organisational principle, such as 'use' through a zonation plan with a logical and rational structure;

v) Providing frequent directional cues throughout the space, particularly at decision points along routes in both directions;

vi) Displaying/using appropriate international symbols for facilities as illustrated in Figure 22.1-1.

Residential only

14 All Multi Dwelling Housing, Residential Flat Buildings and Shop Top Housing within Mixed Use developments are to provide access to, and between, dwellings and parking in accordance with the *Livable Housing Guidelines* as stipulated in Part 6 Multi Dwelling Housing, Part 7 Residential Flat Buildings and Part 8 Mixed Use Development.

22.2 GENERAL VEHICLE ACCESS

Objectives

1 *To ensure pedestrian amenity and safety.*

2 *To minimise the size, quantity and visual intrusion of vehicle access points and driveways.*

3 *To provide well located and designed vehicle entrances that facilitate streetscape continuity and a high quality and amenity of the public domain.*

4 *To ensure continuous kerbside on-street parking.*

Controls

1 Except as provided in *Part 14 of this DCP*, car park entry and egress, for developments other than low density residential, must be provided from secondary streets or lanes where these are available.

Note: For service access and loading requirements see relevant development type in Section A.

2 The width and number of vehicle access points are to be limited to minimise potential pedestrian/vehicle conflicts. Wherever practicable, commercial and mixed use buildings are to share, amalgamate or provide a rear lane for vehicle access.

3 Vehicle access driveways must be set back a minimum of 10m from street intersections or as specified in *Clause 3.2.3 of AS2890.1* (whichever is the greater). Refer to Figure 22.2-1.

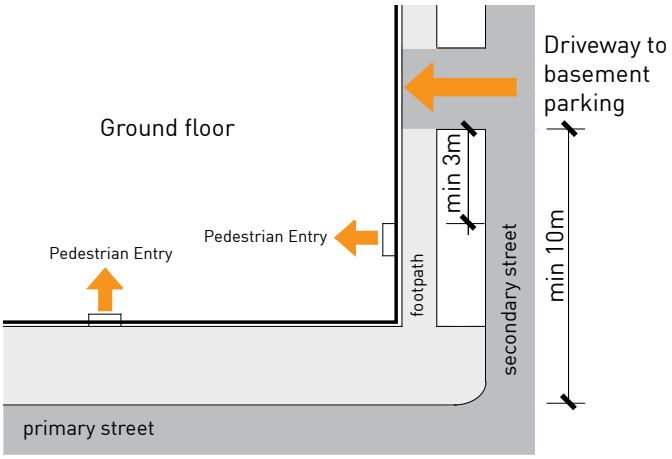

Figure 22.2-1:
Vehicle access controls.

4 Vehicle and pedestrian access to buildings must be separated and clearly distinguished. Vehicle access must be located a minimum of 3m from pedestrian entrances. Refer to Figure 22.2-1.

5 Provide clear sight lines at pedestrian and vehicle crossings.

6 The width of any driveway for a low density residential development, as measured at the front site boundary, must not exceed 3.5m.

7 For all other development types, driveway width is to comply with the table below. Greater widths will only be considered where it is required by RMS or Australian Standards relating to off-street parking and pedestrian safety.

22.2 GENERAL VEHICLE ACCESS (continued)

Controls

Proposed Number of Car Parking Spaces in Development	Driveway Clear Width
Less than 25 spaces	3.7m min – 6m max
25-100 spaces	3.7m min – 6m max (on local roads) 6m min - 9m max (on main roads)*
100-300 spaces	6m min – 9m max (on local roads) 6m for entry, 4-6m for exit, 1.3m separation (on main roads)*

* Subject to RMS approval

8 Long driveways (greater than 30m) are to be avoided. Where they are unavoidable, driveways over 30m long are to be provided with a passing bay.

9 Vehicles must be able to enter and leave the site in a forward direction.

10 Vehicle entries and service areas are to be set back or recessed from the main facade line and integrated into the overall facade design, so as not to dominate the building elevation.

11 Vehicle entries, walls and ceilings are to be finished with high quality materials, finishes and detailing, similar to the external facades of the building.

12 Service ducts, pipes and storage facilities must not be visible from the street.

13 External security doors may be provided where necessary. Security doors are to be of high quality material and detail and must blend into the building facade.

14 For driveways on sloping sites, where high retaining walls are required on both sides of the driveway, one wall is to be no higher than 1.2m. Where greater level change is required, the retaining wall should be stepped back and softened by landscaping. High solid walls should be relieved by

i) change in colour or finish;

ii) recessing; and/ or

iii) exposed brick or block work.





Figure 22.2-2:
Vehicle entries that are well integrated with overall facade design.

22.3 BASEMENT CAR PARKING

Further controls that may apply		
		SECTION C **PART 23.4 -** Waste Management

Objectives

1 *To ensure basement car parking design is of high efficiency and ecologically sustainable.*

2 *To provide safe and secure access for building users within the car park areas.*

3 *To minimise visitor parking on the street.*



Figure 22.3-1:
Secure basement car parking.



Figure 22.3-2:
Ventilation grilles to basement car park are well integrated with overall facade design.

Controls

1 A logical and efficient structural grid must be provided to the basement car park areas.

2 The minimum height between floor level and an overhead obstruction is to be 2.2m, except for the following:

i) 2.5m for parking area for people with a disability;

ii) 2.6m for residential waste collection and manoeuvring area; and

iii) 4.5m for commercial waste collection and manoeuvring area.

3 Where natural ventilation is not possible, a ventilation system for the basement car park is to be provided and designed in accordance with *AS1668.2 The use of ventilation and air conditioning in buildings - Ventilation design for indoor air contaminant control*. Monitoring of CO^2 and variable speed fans are to be provided with any basement car park mechanical ventilation systems.

4 Basements must be fully tanked to prevent unnecessary subsurface or groundwater extraction.

5 Unimpeded access to visitor parking and waste and recycling rooms located within a secure basement parking must be maintained.

6 Where ventilation grilles or screening devices are provided they are to be recessed and integrated into the overall facade and landscape design of the development.

7 Vehicle access ways to basement car parking must not be located in direct proximity to doors or windows of habitable rooms.

8 Where visitor parking is not separated from residential parking by a barrier, a light colour palette is to be used for the interior of the car park and lines of sight are to be open and avoid concealment and entrapment areas.

22.4 VISITOR PARKING

Objectives

1 *To provide well designed car parking for all visitors.*

2 *To provide parking for visitors with a disability.*

Controls

This section applies where visitor parking is required by this DCP.

1 Where visitor parking is required by this DCP, the spaces are to be provided on site and clearly marked.

2 Visitor parking located behind a security grille require an intercom system to gain entry.

3 At least one visitor parking space it to be accessible, designed in accordance with *AS2890.6*.



Figure 22.4-1:
Basement visitor parking provided in front of security grille.

22.5 PARKING FOR PEOPLE WITH A DISABILITY

Objectives

1 *To provide well designed, clearly identified and accessible car parking spaces for people with disabilities.*

Controls

1 Accessible car parking spaces are to be level and have a continuous path of travel to the building's principal entrance or lift.

2 Accessible car parking spaces are to be identified by a sign incorporating the international symbol specified in AS1428 and be designed in accordance with the provisions of AS2890.6.

3 Appropriate international symbols for the disabled must be displayed/used where appropriate to assist in direction to ramps, lifts etc.

4 Car parking spaces for residential development (excluding single dwellings) are to be designed in accordance with the requirements of the *Livable Housing Guidelines* as stated within Part 6 Multi-Dwelling Housing, Part 7 Residential Flat Buildings and Part 8 Mixed Development.

5 Provision of accessible car parking for non-residential development is to comply with the following minimum rates, rounded up to the nearest whole number:

Type of Facility	Minimum Rate of Provision
Retail/commercial	1-2%
Civic/community centres	2-3%
Recreational facilities	2-3%
Educational establishment: schools	2-3%
Educational establishment: tertiary institutions	2%
Entertainment facilities	3-4%
Hospitals	3-4%
Medical centres	3%

Note: for parking with 50 or more spaces, the minimum provision is one space.

6 For other land uses/facilities, the minimum number of spaces should be at least 1%, unless supported by a merit assessment.

22.6 PEDESTRIAN MOVEMENT WITHIN CAR PARKS

Objectives

1 To ensure all car parks provide a safe pedestrian environment.

Controls

1 Marked pedestrian pathways, with clear sight lines and appropriate energy efficient lighting must be provided in all car parks. See *Austroads Guide to Traffic Management Part 11 - Parking*.

2 Pedestrian pathways, entrances, stairway and lift areas must be clearly visible, conveniently located, well lit and have minimal conflict with vehicular traffic.

3 All pathways and ramps within car parks must conform to the minimum dimensional requirements set out in *AS1428.1*.

4 All pedestrian path surfaces within car parks are to be stable, even and constructed of slip resistant material.

22.7 BICYCLE PARKING AND FACILITIES

Objectives

1 To provide well designed bicycle parking and facilities that are functional and secure.





Figure 22.7-1: Bicycle Stands

Controls

1 Bicycle parking and storage facilities are to be designed in accordance with *AS2890.3* to ensure:

i) both wheels and frames can be locked to the device without damaging the bike;

ii) easy access from a bicycle lane or roadway with appropriate signage;

iii) access paths have a minimum width of 1.5m to accommodate a person pushing a bicycle, and adequate sight lines for safety.

PART 22R

22R References

22R.1 Car Parking Rates

REFERENCES

22R.1 CAR PARKING RATES

On-site parking is to be provided at the minimum rates set out in the schedule below.

Where non-residential development is within 400m of a railway station and within a commercial centre, refer to specific parking requirements under building types in Section A of this DCP.

Reference should be made to the KLEP (Local Centres) 2012 for land use definitions.

In the calculation of the parking spaces, overall requirement figures are to be rounded up to the nearest integer.

LAND USE	PARKING RATE	NOTE
Commercial		
Offices and Business Premises	1 space per 33m^2 gross floor area (GFA) plus 1 space if resident manager or caretaker. Suggested split: 90%: employee parking 10% vistor parking	For development in excess of 200m^2 gross floor area, 1 courier space to be provided in a convenient location. Servicing facilities to be provided to satisfy Council's requirements.
Retail		
Shops	1 space per 17m^2 gross floor area. For minor additions to existing shops or conversion of existing shops, 1 space per 28m^2.	1 space per 17m^2 may be considered for reduction to 1 space per 26m^2, and 1 space per 28m^2 may be reduced to 1 space per 35m^2 where development within 400m radius of a railway station ticket office as follows For developments over 10,000m^2 gross floor area a lower parking rate might be considered. Servicing facilities to be provided to satisfy Council's requirements.
Service Stations	6 spaces per work bay plus 1 space per 20m^2 gross floor area of convenience store. Additional parking to be provided if food and drink premises are added.	Recommended rates assume work bays and/or convenience store. For basic service stations without these facilities, 1 space per staff member to be provided. Total parking might be reduced where it can be demonstrated that the times of peak demand for the facilities do not coincide. Spaces beside petrol pumps are not to be included in calculating the parking requirement.
Motor Showrooms	1.5 spaces per 200m^2 of site area plus 6 spaces per work bay.	Area required on-site for articulated car transporters to manoeuvre and unload.

22R.1 CAR PARKING RATES (continued)

Markets	2 spaces per stall.	Higher parking provision would be desirable, at 2.5 spaces per stall, but needs to be considered in the context of the frequency of use and parking available in the area.
Bulky Goods Retail Stores	1 space per 28m^2 gross floor area.	Parking provision might be considered at a lower rate if supported by a traffic impact study.
Landscape and Garden Supplies	1 space per 200m^2 site area, within a minimum of 15 spaces.	
Milk bars, takeaway food shops and the like Drive-in or take-away food outlets: a) 12 spaces per 100m^2 gross floor area b) With no on-site seating or drive-through facilities c) With on-site seating but no drive-through facilities d) With on-site seating and drive-through facilities	 The greater of: 1 space per 5 seats (internal + external) or 1 space per 2 seats (internal seating only). The greater of: 1 space per 2 seats (internal seating only) or 1 space per 3 seats (internal + external).	
Restaurants, cafes, coffee shops, new development a) General b) If gross floor area less than 100m^2 c) If proposed to operate outside of retail business hours	 1 space per 17m^2 gross floor area. For minor additions to existing shops or conversion of existing premises to shops, 1 space per 28m^2. The parking provision in a) above is desirable but Council will consider a reduction if a parking study indicates that there is parking available in adjacent off-street or on-street parking areas at the time of trading of the proposed development. The parking provision in a) above is desirable but Council will consider a reduction if a parking study indicates that there is parking available in adjacent off-street or on-street parking areas at the time of trading of the proposed development. The minimum parking to be provided is 1 space per 17m^2 (the shops rate). Shop rate applicable if onsite car parking can be provided.	New development relates to a new building or complex that is designed or designed to be adapted for a coffee shop, café or restaurant.

22R.1 CAR PARKING RATES (continued)

d) Coffee shops, cafes and restaurants as a change of use only of an existing building including extensions of the building	If no on site car parking available for existing building or limited on site car parking available Council will consider existing use rights provisions.	This category relates to changes of use or minor extensions of existing older buildings only.
e) Registered clubs	Because of the variation factors affecting club parking, each situation will be treated on its merits. A traffic assessment report must be prepared to assess the parking requirements based on the facilities to be provided and the parking demands of similar developments.	

22R.1 CAR PARKING RATES (continued)

LAND USE	PARKING RATE	NOTE
Recreational and Tourist Facilities		
Squash and Tennis Courts	3 spaces per court plus 1 space per 2 staff.	Additional parking might be necessary if regular spectator attractions are to be promoted.
Bowling Alleys	3 spaces per alley plus 1 space per 2 staff.	Additional parking might be necessary if regular spectator attractions are to be promoted.
Gymnasiums	1 space per 17m^2 gross floor area.	Additional parking might be necessary if regular spectator attractions are to be promoted.
Swimming Pools	Requirement will be assessed on merit.	Additional parking might be necessary if regular spectator attractions are to be promoted. Independent traffic report required.
Warehouses	Each application will be treated on its merits. A traffic assessment study should be submitted, also covering service vehicle requirements.	
Vehicle Repair Stations and Vehicle Body Repair Workshops	12 spaces plus 1 space per 70m^2 site area.	
Health and Community Services		
Health consulting rooms	1 space per 40m^2 gross floor area.	Parking spaces in excess of residential parking requirement are to be designated as visitor parking.
Medical Centres	1 space per 25m^2 gross floor area.	Parking facilities for patients must be suitably signposted and provided in a convenient location.
Hospitals	1 space per 3 beds plus 1 space per 2 day-shift staff or practitioners plus 1 ambulance space. 1 space per 1 full time night-shift employee.	Rates apply to either public or private hospitals. The day-shift staff are the total on-site at any one time, including overlaps between shifts if such overlaps occur. Where Medical Centres are attached to hospitals, additional parking would be required at the rate for Medical Centres.
Child Care Centres	1 space per 4 children in care	Rate includes staff parking. Bulk of parking should be in a convenient location, allowing safe setdown / pick up and movement of children. Provision is also to be made for bus services.

22R.1 CAR PARKING RATES (continued)

Schools	1 space per equivalent full-time employee plus 1 space per 8 Year 12 students. Where an auditorium or similar rooms are proposed, additional parking might be required. Provision for on site set down / pick up of students and a set down / pick up management plan is required.	The number of equivalent full time employees should be the maximum number at the school at any one time. A parking impact assessment should be undertaken to quantify the total parking required. Provision is to be made for bus services in all applications made by schools.
Tertiary Institutions	1 space per equivalent full time employee plus 1 space per 3 students.	The student parking might be reduced if a parking impact study can prove a lower rate. Provision is to be made for bus services.
Places of Public Worship, Funeral Homes	Each application will be treated on its merits, with a parking assessment report required. As a guide, the provision of 1 space per 6 seats is recommended. The need for additional parking for church halls should be assessed on merit. The parking study should take into account the supply of and demand for parking in the vicinity of the site at the time of the proposed use of the site.	
Entertainment Facilities, Public Halls, Function Centres	Minimum parking provision to be 1 space per 10 seats, for day time parking. Recommended parking provision is 1 space per 6 seats, for Friday / Saturday evening.	The recommended level of parking might be reduced, at the discretion of Council, if it can be proven that there is adequate parking available in the vicinity of the site on Friday and Saturday evening.

22R.1 CAR PARKING RATES (continued)

LAND USE	PARKING RATE	NOTE
Residential		
Dwelling-houses	2 spaces for single occupancy. Dual occupancy under 125m^2: 1 space per dwelling. Dual occupancy over 125m^2: 2 spaces per dwelling.	
Multi-dwelling housing	1 bedroom unit: 1 space. 2 bedroom unit: minimum multiple of 1.25 spaces per unit. 3 bedroom unit: minimum multiple 1.5 spaces per unit. Visitor parking: 1 space per 4 units.	Spaces must include a minimum of 1 covered space per unit within the confines of the building for exclusive resident use. Visitor parking to be clearly signposted, convenient to entry, not obscured and not used by residents. Access requirements for furniture vans and trucks should be considered.
Residential flat buildings, and residential component of mixed use development	Resident parking: Studio unit: 0.5 spaces per unit 1 bedroom unit: 1 space per unit 2 bedroom unit: 1.25 space per unit 3 bedroom unit: 2 spaces per unit Visitor parking: 1 space per 4 units The above are minimum requirements unless Council is satisfied on the merit basis there are particular circumstances that warrant reduction of the above rates. Note: Studies or the like will be considered as bedrooms for the purpose of this DCP.	Spaces must include a minimum of 1 covered space per unit within the confines of the building for exclusive resident use. Visitor parking to be clearly signposted, convenient to entry, not obscured and not used by residents. Access requirements for furniture vans and trucks should be considered.
Boarding Houses, Group Homes, Hostels	1 space per staff. Parking rate to be assessed on merit of application.	Assessment should take into account the nature of the dwelling and its proposed residents.
Seniors Housing	Provisions of Seniors Living Policy apply. The following parking provision is recommended: **Resident funded development** 2 spaces per 3 self contained units plus 1 visitor space for every 5 units. **Subsidised developments** 1 space per 10 self contained units plus 1 visitor space for every 10 units.	Disabled person parking to be provided as per Seniors Living Policy. For self contained units, additional visitor parking will not be required if at least half the spaces for residents are unassigned and accessible to visitors.

	Hostels, nursing and convalescent homes 1 space per 10 beds for visitors, plus 1.5 spaces per 2 employees, plus 1 space for ambulance	Hostels of more than 60 residents shall provide a mini-bus service.
Casual Accommodation		
Hotel Accommodation	1 space per unit or bedroom. Plus 1 space per full time staff plus 1 space if resident manager. Plus if public restaurant or function room included, 1 space per 3 seats.	Discounts on the parking for restaurants and function rooms might be considered if suitable proof is provided that the peak parking demand would not be fully additive.
Pubs	1 space per unit or bedroom. Plus 1.5 spaces per 2 full time staff plus 1 space if resident manager. Additional parking will be provided for bar, lounge, restaurant and other licensed areas.	A traffic assessment report must be prepared that assesses the parking that will be required, with the assessment based on the facilities to be provided and the parking demands of similar developments.
Caravan Park	1 space per van site.	Plus adequate parking for visitors, boats and trailers.

Other Land Uses

The parking requirements of land uses not specified above are to be determined on merit, preferably with a traffic impact assessment submitted with the application.

PART 23

GENERAL BUILDING DESIGN AND SUSTAINABILITY

GENERAL BUILDING DESIGN AND SUSTAINABILITY

Introduction

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23.3 Sustainability of Building Materials

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23R References

23R.1 Examples of ESD Measures

23R.2 Green Star Rating Information Sheet

23R.3 Checklist of ESD Measures to be Submitted with Development Application and Updated for CC Approval

23R.4 Council's Standard Bin Characteristics

23R.5 Council's Collection vehicle characteristics

23R.6 Vehicle Access/Turning Circles

23R.7 What is a Waste Management Plan?

23R.8 Waste Management Plan

23R.9 Waste Guidelines

INTRODUCTION

This Part guides development in meeting the and objectives within KLEP (Local Centres) 2012. This Part applies to all development types whether or not it is individually specified in *Section A of this DCP.* It also supplements the objectives and controls for each development type in Section A and should be read with the section on Building Design and Sustainability for the relevant development type.

Each section within this Part applies to a range of development types, and some sections to all development. It provides a consistent area wide approach to issues that developments must address. These issues include, but are not limited to, various aspects of sustainability, amenity and quality streets and public areas.

23.1 SOCIAL IMPACT

Objectives

1 *To ensure that development minimises adverse social impacts.*

2 *To ensure that social considerations are an integral part of development proposals.*

Controls

1 Proposals must consider the impacts of the development on nearby residents and users of the site.

Where relevant, particular attention is to be paid to:

- Children;
- Young people;
- Women;
- Older people;
- People with a disability;
- People from culturally and linguistically diverse background;
- Aboriginal and Torres Strait Islander people.

2 A Social Impact Statement will be required in the case of proposals which are likely to have a significant social impact because they are likely:

i) To contribute to social inequity;

ii) To increase risk to public safety; or

iii) To threaten the existing sense of community identity or cohesiveness.

Note: Council may require a social impact statement (SIS) by an appropriately qualified and experienced social impact practitioner. Council will consider the scale of the development and the extent of potential adverse impact (geographically and over time) in determining the need for an SIS. Examples of developments that may require an SIS include major retail centre, major health or education institutions, sex services premises, pub, entertainment facility, late night trading venue, hazardous or offensive uses; strata subdivision of a low rental residential building (of 6 or more dwellings).

3 A Social Impact Statement must:

i) Support socially responsible development and decision-making, contributing to the determination of best policy or development alternatives;

ii) Acknowledge the values of different sectors of society;

iii) Assess the distributional equity of impacts in regard to both intra-generational equity and inter-generational equity;

iv) Identify impacts that are directly related to the proposal (demonstrate the connection between the intervention and the likely impact);

v) Address how net social benefit can be enhanced through the proposal and how negative social outcomes can be ameliorated and managed through mitigating and monitoring measures; and

vi) Demonstrate rigour and a social science base in presenting evidence for the assessment and recommendations.

Note: See Council's Social Impact Assessment Policy for more detailed guidelines.

23.2 GREEN BUILDINGS

Objectives

1 *To ensure that development minimises the use of non-renewable energy resources and water consumption.*

2 *To utilise an integrated sustainability assessment tool for gauging building sustainability.*

3 *To develop green buildings that incorporate innovative design, construction and operational practices that significantly reduce, or eliminate, the negative impact of development on the environment and building occupants.*

4 *To ensure commercial buildings deliver lower operating costs from reduced energy and alternative resource consumption, and so represent better life cycle value.*

5 *To ensure that all non-residential buildings consider and incorporate Ecologically Sustainable Design (ESD) systems and measures.*

Controls

This section applies to all buildings that are not required to comply with BASIX standards.

All non-residential buildings are required to incorporate Ecologically Sustainable Design measures as stated in Control 1, and to achieve Green Star rated buildings to Green Building Council of Australia (GBCA) standards.

This will enable buildings to easily achieve the ongoing mandatory performance ratings required under the Building Energy Efficiency Disclosure Act 2010 (refer to the website for details: *www.cbd.gov.au*.)

The Green Building Council of Australia (GBCA) has developed the following rating tools:

- *Green Star - Design & As Built:* for building design and construction;
- *Green Star - Interiors:* for fitout design and construction;
- *Green Star - Communities:* for precinct planning and development;
- *Green Star - Performance:* for building operations and maintenance.

All non-residential buildings with a total gross floor area above 2,000m^2 are required to obtain certification under the Green Building Council of Australia *Green Star - Design & As Built'*rating tool to provide buildings with a sustainable structure, architecture, and performance, incorporating measures to reduce water and energy consumption which will result in a reduction of carbon emissions and building running costs.

Where developments involve large master planned sites, use of the *Green Star - Communities* rating tool is encouraged. Where large interior refurbishments are being undertaken, the use of the *Green Star - Interiors* rating tool is encouraged.

The GBCA *Green Star - Design & As Built* rating will entitle the developer, architect and team to publicise their building as Green Star rated early in the design development stage (via the 'Design' portion of the Certification) and for the life of the building (via the 'As Built' portion of the Certification). In addition the building will recieve publicity and marketing through the GBCA and Ku-ring-gai Council's media. Council and GCBA will also publicise developments that achieve ratings under the *Interiors*, *Communities* and *Performance* rating tools.

23.2 GREEN BUILDINGS (continued)

Controls

General

1 All new non residential developments are to include Ecologically Sustainable Design (ESD) measures in the following areas, and list them under these titles in the required ESD report and checklist:

i) Water Efficiency:
- provide systems to minimise mains water usage.

ii) Energy Generation:
- building design is to demonstrate a reduced reliance on mains power and provision of alternate energy sources.

iii) Heating and Cooling:
- use of mechanical air conditioning and heating is to be minimised. Where it is unavoidable, the systems are to be of a high efficiency in technology choice to reduce peak energy demand.

iv) Lighting:
- buildings are to be designed to reduce the need for artificial light use.

Note: Refer to *23R of this Part* for examples of measures of the above.



Figure 23.2-1:
Photovoltaic cells integrated into the awning design.

23.2 GREEN BUILDINGS (continued)

Controls

Green Star Rating

Buildings less than 2000m² gross floor area

2 All new buildings that are less than 2000m² are to provide the following documentation at Development Application (DA) stage:

i) Ecologically Sustainable Design (ESD) Report:
- prepared by a GBCA Accredited Professional, verifing that the elements/systems included in the development will, in the view of that professional, result in buildings with an ESD level equivalent to a 4, 5 or 6 Star Rating under the GBCA *Green Star - Design & As Built* rating tool.

ii) Annotated Development Application (DA) Drawings:
- clearly indicating the elements/systems described in the ESD Report, including the requirements in 23.2(1) of this section.

iii) A signed Statement of Commitment from the applicant to develop and implement the elements/systems described in the ESD Report into the Construction Certificate (CC) stage and final built form.

Note: Applicants are advised to consult with a GBCA Accredited Professional at the onset of the design process to ensure the building supports ESD principles at the outset.

Refer to *www.gbca.org.au* for a list of Green Star Accredited Professionals.

Note: Approved DAs will have a *Condition of Consent* requiring the applicant to include the following documentation as part of their CC submission:

i. An updated ESD Report by the applicant's Green Star Accredited Professional describing elements/systems incorporated to maintain the ESD principles that were approved at DA.

ii. A Checklist Table of each ESD system/element included in the ESD Report to clearly state systems incorporated (refer to 23R.3 *of this Part* for example of Checklist);

iii. Annotated CC Drawings clearly indicating elements/systems described in the ESD Report.

Buildings greater than 2000m² gross floor area

3 Where the total allowable gross floor area on a single site is above 2,000m² but below 5,000m², all new buildings are to achieve 4 Star Green Star ('Best Practice') Design Rating under the GBCA *Green Star - Design & As Built* rating tool.

4 Where the total allowable gross floor area on a single site is 5,000m² or greater, buildings are to achieve a 5 Star Green Star ('Australian Excellence') Design Rating under the GBCA *Green Star - Design & As Built* rating tool.

Note: Refer to *23R.2 of this Part* for the Green Star Information Sheet.

Note: Refer to *www.gbca.org.au* for the latest version of the GBCA's Green Star Rating Tools.

23.2 GREEN BUILDINGS (continued)

Controls

5 The following documentation is required for Development Application (DA) submission:

i) Proof of registration of the proposal with GBCA for a *Green Star - Design & As Built* Certification; and GBCA Certification of the 'Design' component of the Development Application;

ii) A signed Statement of Commitment from the applicant to implement and achieve Certification for both components of the *Green Star - Design & As Built* rating tool.

iii) Ecologically Sustainable Design (ESD) Report prepared by GBCA Accredited Professional, stating the Green Star point distribution for the proposal, and the strategy, methods and systems proposed to achieve the Green Star rating, including the requirements in 23.2(1) of this section;

iv) Annotated Development Application Drawings clearly indicating the Green Star rating elements described in the ESD Report.

Note: The signed Statement of Commitment binds the applicant to complete the consultation process with their GBCA Accredited Professional to complete formal GBCA Certification for the 'As Built' component of the GBCA *Green Star - Design & As Built* Certification.

Refer to *www.gbca.org.au* for a list of Green Star Accredited Professionals.

Note: Approved DAs will have a Condition of Consent requiring the applicant to include the following documentation as part of their Construction Certificate submission:

i. An updated Credit Summary and ESD Report describing elements/ systems incorporated to achieve the nominated Green Star rating;

ii. A Checklist Table of each ESD system/element (refer to *23R.3 of this Part* for example of Checklist);

iii. Annotated Construction Certificate Drawings clearly indicating elements/systems described in the ESD Report including the requirements of 23.2(1) in this section;

iv. A copy of the letter and invoices from the GBCA to the applicant, confirming the project is registered and will progress in assessment of the 'As Built' component of the *Green Star - Design and As Built* Certification.

Note: Approved DAs will have a Condition of Consent requiring the applicant to submit to Council the GBCA *Green Star Design & As Built* Certification, showing the 'As Built' Certification prior to the release of the Occupation Certificate.

23.3 SUSTAINABILITY OF BUILDING MATERIALS

Objectives

1 *To provide good indoor air quality.*

2 *To limit pollution and protect public health and comfort.*

3 *To select materials and products which minimise environmental impact throughout a building's life cycle*

4 *To reduce the consumption of natural and non-renewable, resources.*

5 *To ensure material selection has been equally driven by environmental sustainability, safety, commercial competitiveness and quality.*

6 *To promote use of materials and finishes that contribute to the design of innovative buildings.*



Figure 23.3-1
Recycled timber wall as a feature in the entry lobby.

Controls

1 Development proposals must consider the following in the selection of building materials:

i) recycled or recyclable materials with low embodied energy;

ii) materials that come from renewable sources;

iii) materials that generate a lower environmental cost over time;

iv) materials with a low life cycle cost and/or high durability;

v) production methods with a low environmental impact.

Note: Generally, non-recycled metals contain the highest embodied energy, followed by plastics and other materials with a high chemical content. Natural construction materials such as timber, brick and render contain the least embodied energy. To reduce the embodied energy of a typical building structure, specify:

i. metal produced from post-consumer waste

ii. concrete blends that include a percentage of recycled content (for example, cement extender including fly ash or blast furnace slag)

iii. concrete that incorporates recycled aggregate wherever possible

iv. the sourcing of locally produced materials and products

2 Where the use of timber is proposed, only FSC, AFS or PEFC certified timbers may be specified for construction or finishing. Medium Density Fibreboard (MDF) and particleboard must not be specified as a construction material for the development.

3 The use of alternatives to PVC piping is highly encouraged including Colorbond (above ground only), and HDPE where appropriate.

4 The use of construction materials and chemicals with toxic components must be avoided, to facilitate recycling and reduce pollution.

5 Structures must be designed with physical, rather than chemical, termite measures. This can be achieved by:

i) appropriate materials and construction design;

ii) physical barriers;

iii) suspended floor systems.

6 Low Volatile Organic Compounds (VOC) are to be used throughout the building interior (carpets, paints, adhesives, sealants and all other finishes), and low emission building materials are to be used across the site.

7 Avoid the use of ozone depleting products and materials, or products and materials manufactured using ozone depleting substances.

8 Avoid materials likely to contribute to poor internal air quality, such as those generating formaldehyde, or those that may create a breathing hazard in the event of fire, such as polyurethane.

23.4 MATERIALS AND FINISHES

Objectives

1 *To reflect and reinforce the local character of Ku-ring-gai.*

2 *To complement the streetscape and natural environment.*

3 *To promote the use of high quality materials, finishes and colours for building facade articulation design and visual interest.*

4 *To ensure the use of materials, finishes and colours creates well proportioned facades and minimises the visual bulk.*

5 *To encourage the use of a subdued palette of colours and limited range of hues for building consistency across the LGA.*

Controls

9 The requirements below apply only to non-residential development:

i) use heavy weight building materials, such as concrete, as thermal mass on roofs and/or walls. Where lighter weight materials are used they are to be well insulated.

ii) encourage the use of photovoltaic cells which can be mounted as panels, or used as an integrated building cladding or sun shading.

iii) use light coloured internal finishes to improve internal reflections and minimise lighting use.

Materials and Finishes

10 External walls must be constructed of high quality and durable materials and finishes.

Note: Material and finishes selection is to be made in accordance with objectives and controls as stated in *23.4 of this Part* to ensure low environmental impact.

11 Reuse or recycling of existing local materials such as sandstone and brick is encouraged.

12 Large, unbroken expanses of any single material and finish (rendered or not) to building facades must be avoided.

Note: Refer to *Parts 6-10 of this DCP* for relevant building facade articulation controls.

13 New development is to avoid extensive use of highly reflective or gloss materials on the exterior of buildings.

14 For buildings of 3 storeys and above, a large expanse of sandstone or face brick is not to be used on the upper levels of the buildings.



Figure 23.4-1:
Use of lightweight materials to minimise bulk and scale of building.

23.4 MATERIALS AND FINISHES (continued)

Controls

15 The exterior finish material (eg. sandstone or brick) must be integral to the overall building façade design and must not appear to be cosmetic.





Figure 23.4-3:
Louvres and sliding panels as an integrated facade element.

16 Highly contrasting coloured bricks are to be restricted to use on building elements such as sills, window heads, string courses and to assist in the division of the building into bays.

17 For buildings of 3 storeys and above, lightweight materials and finishes (eg. timber and copper/steel) are encouraged for the upper levels of buildings to assist in minimising the bulk and scale of the building.

18 Where louvres are used, they are to be an integral element in the building façade design (e.g. west facing windows).

19 Where building cladding is used, consider dual purpose solutions. For example, use of photovoltaic cells mounted on panels used for cladding.

20 Where additions and alterations are proposed, external materials and finishes must complement the existing building.





Figure 23.4-2:
A mix of materials, finishes and colours for building facade.

Colours

21 The selection of a colour scheme for new development and in the restoration of existing facades must comply with the following guidelines:

i) Base colours for major areas of building façade are to be light in tone (eg. earth tone) with minimal colour intensity (or hue) eg. off white or grey colours. Larger expanses of bold colour, black and white must be avoided, as these detract from the prominence of other façade details. Contrasting tints, tones and shades are to be restricted to small areas. See *Figure 23.8-4*.

ii) Highlight colours to window and door mouldings, string courses, parapet details and the like, are to be in sufficient contrast to the base colour. Strong colours to large sections of the building must be avoided. Details should be finished in a matt to semi gloss range. See *Figure 23.8-4*

23.4 MATERIALS AND FINISHES (continued)

Controls

iii) Trim colours for window frames and awning fascias are to be a darker contrast to base and highlight colours. Window frames should be finished in either a semi gloss or full gloss.

22 Natural earth tones are to be used on building facades in close proximity to bushland.

23 For buildings of 3 storeys or above, recessive colours are encouraged for the upper levels of buildings to assist in minimising the bulk and scale of the building. Refer to *Figure 23.8-4*.

24 When repainting existing buildings, colours should generally be evocative of the era of the building.

25 For commercial/office development, the use of corporate colours to identify a business name is to be limited to signage, and must not be used as the main building façade colour.

26 Where buildings colours are representational of a company or brand, the colour scheme will be accepted by Council provided the built form has been designed to addressed the site attributes and constraints and the surrounding urban fabric. Stock standard building forms (representational of a company) placed onto a site regardless of the context will not be accepted.



Figure 23.4-4:
Preferred selection of colour schemes.

23.5 ROOF TERRACES AND PODIUMS

This section does not apply to single dwellings

Objectives

1 *To provide high quality of private and public common open space on roof terraces and podiums.*

2 *To design roof terraces so that they contribute to the streetscape.*

3 *To encourage use of low maintenance planting and low water use on roof terraces and podiums with appropriate support systems.*



Figure 23.5-1:
Roof top recreation area.



Figure 23.5-2:
Roof top public parkland.



Figure 23.5-3:
Roof top vegetable garden.

Controls

1 All roof terraces and podiums must provide appropriate building systems to make them trafficable, and to support landscaping.

2 Roof and terrace common open areas are to incorporate sun shading devices, wind screens and facilities such as BBQ and kitchenette area with drinking water to encourage usage.

3 Where artificial lighting is required, energy efficient lights must be used in conjunction with timers or daylight controls. All light spill is prohibited.

4 Roof terraces and podiums must provide soft landscaping areas that complement the appearance of the building, soften the edges of the building, and reduce the scale of raised terraces and other built elements such as services.

5 Robust and drought tolerant plant material must be used to minimise maintenance and ensure long term survival.

Note: Communal produce gardens are encouraged.

6 Roof terraces and podiums are to be designed for optimum conditions for plant growth by appropriate solar access, soil mix, and the provision of water connections and drainage.

7 Minimum soil provision for a range of plant sizes must be in accordance with the following:

i) large trees (canopy diameter of up to 16m at maturity)
- minimum soil volume 150m^3
- minimum soil depth 1.3m
- minimum soil area 10m x 10m area or equivalent

ii) medium trees (8m canopy diameter at maturity)
- minimum soil volume 36m^3
- minimum soil depth 1m
- approximate soil area 6m x 6m or equivalent

iii) small trees (4m canopy diameter at maturity)
- minimum soil volume 11m^3
- minimum soil depth 0.8m
- approximate soil area 3.5m x 3.5m or equivalent

iv) shrubs
- minimum soil depth 0.5-0.6m

v) ground cover
- minimum soil depth 0.3-0.45m

vi) turf
- minimum soil depth 0.1-0.3m

Note: Any subsurface drainage requirements are in addition to the minimum soil depths quoted above.

Note: Council will require a long term maintenance plan for both the greenery and the waterproofing.

23.5 ROOF TERRACES AND PODIUMS (continued)

Controls

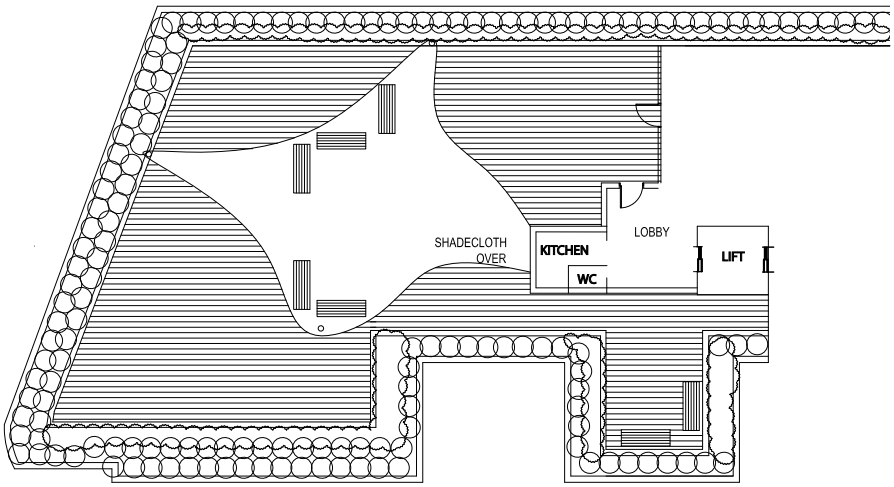


Figure 23.5-4: Roof terrace design

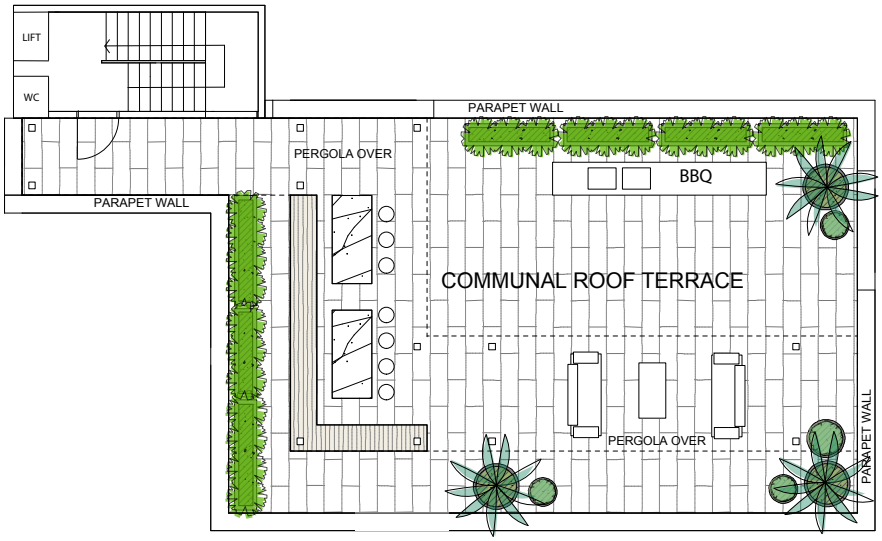


Figure 23.5-5: Roof terrace design

23.6 BUILDING SERVICES

Objectives

1 *To ensure visually intrusive service elements are located away from the streetscape.*

2 *To ensure that proposed or future service provision does not detract from the visual or general amenity of the building users.*

Controls

1 All applicants must consult with service providers such as energy, electricity, gas, water, telephone and fire.

2 Services and structures required by the providers are to be located within basements, or concealed within the facade, with appropriate access. Where this is not possible, the proposal must demonstrate an alternative method of minimising street impact, such as screening with landscape or built elements. Particular care should be taken in mixed use precincts to ensure substations and fire hydrants are not visible from the primary street and principal active street frontages.

3 Ventilation stacks are to be concealed within the building. Where they exhaust at street level (eg. from basements) they should be integrated within the design of the site. (See *Figure 23.3-1*)

4 All new developments designed to allow for commercial uses must include an internal ventilation shaft to ensure future alterations do not place the shaft in an unsuitable location.

5 With the exception of dwelling houses, all buildings must accommodate proposed or future air conditioning units within the basement or on rooftops, with provision of associated vertical/ horizontal stacks to all sections of the building.

6 Air conditioning units located within basements must be screened and have adequate ventilation.

7 Air conditioning units located on the roof will only be permitted where they are well screened, integrated into the building form and do not result in adverse noise impacts on neighbouring occupants.



Figure 23.6-1 Public art used to hide ventilation stacks

23.7 WASTE MANAGEMENT

Objectives

1 *To enable efficient, effective and sustainable waste management practices.*

2 *To ensure waste collection and storage within the site that does not affect the amenity of residents with regard to odour, visual appearance or noise disturbance.*

3 *To ensure waste and recycling storage areas are designed and constructed to meet the requirements of the building's use and its occupants.*

4 *To ensure design and management of waste and recycling facilities protect public health.*

Controls

General

1 All waste and recycling facilities must comply with the BCA and all relevant Australian Standards.

2 All waste and recycling storage containers must be stored within the boundary of the subject site.

3 All putrescible and non-putrescible waste materials stored in any waste and recycling room or at centralised collection points must be contained in approved rigid containers supplied by the Council.

4 During the design of the development, waste must be minimised by:

i) using recycled materials, selecting materials that reduce waste or do not require disposal, or can be reused or recycled in the future; and

ii) designing with minimal site disturbance by avoiding unnecessary excavation or fill.

5 No compaction equipment is to be used for any sized bin.

Storage Room

6 Sufficient space must be provided within the premises for the storage and manoeuvring of the number of bins required to store the volume of waste and recycling materials.

7 Sufficient space must be provided to adequately house any additional equipment to handle or manage the waste generated.

8 For buildings exceeding four (4) storeys which contain a residential component; where a chute system is proposed, a fully enclosed waste and recycling materials compartment must be provided within each storey of the building. The facility must be designed to contain the waste chute hopper and the number of recycling storage bins equivalent to 2 x 240 litre bins for every 4 units per storey.

Access to collection point

This section does not apply to residential developments of 4 dwellings or less, which do not have an internal collection point.

9 The location of the waste and recycling room must be conveniently accessible and have unimpeded access for both occupants and collection service operators. In the event that the proposed development is protected by a security system and/or locked gates, the waste and recycling room/s must have unimpeded access for the collection service providers. Where security gates are provided to the development, gates must be accessible by Council's master key.

10 The waste and recycling collection point must be located on a level surface away from gradients and vehicle ramps, with the path of travel being free from any floor obstructions such as steps to allow for the transfer of wheelie bins to and from the storage room to the collection vehicle.

23.7 WASTE MANAGEMENT (continued)

Controls

11 The vehicle access road leading to and from the collection point in a waste and recycling room must have a minimum finished floor to ceiling height of 2.6m for residential waste rooms and 4.5m for commercial waste rooms for the entire length of travel within the building. This clearance is to be kept free of any overhead conduits, ducting, services or other obstructions.

12 The Waste Management Plan (WMP) must describe how the waste management system is to be managed and who is responsible for each stage of the process. (Refer to Waste Management Plan, *23R.8 of this Part*)

Construction of waste and recycling rooms

13 The floor of any waste and recycling room must be:

i) constructed of either concrete which is at least 75mm thick; or other equivalent material; and

ii) graded and drained to a floor waste which is connected to the sewer.

14 The walls of any waste room, recycling room and waste service compartment are to be constructed of solid impervious material and shall be cement rendered internally to a smooth even surface coved at all intersections.

15 All waste and recycling rooms must be provided with an adequate supply of hot and cold water mixed through a centralised mixing valve with hose cock. This does not include waste and recycling service compartments located on residential floors of multi-occupancy dwellings.

Note: This control is to aid in cleaning of the area.

16 A close-fitting and self-closing door that can be opened from within the room must be fitted to all waste and recycling rooms.

17 In the event that Council permits the installation of a roller shutter door (under special circumstance only), a sign must be erected in a conspicuous position drawing attention to the fact the door must be kept closed at all times when not in use.

18 All waste and recycling rooms must be constructed to prevent the entry of vermin (eg. no gaps under access doors etc).

19 All waste and recycling rooms must be ventilated by either:

i) mechanical ventilation system exhausting at a rate of 5L/s per m^2 of floor area, with a minimum rate of 100L/s; or

ii) permanent, unobstructed natural ventilation openings direct to the building exterior, not less than one-twentieth (1/20th) of the floor area.

23.7 WASTE MANAGEMENT (continued)

Controls

20 Meters and piping are not to be located in the waste and recycling room.

21 All waste and recycling rooms must be provided with artificial light controlled by switches located both outside and inside the rooms.

22 Clearly printed “NO STANDING” signs must be affixed to the external face of each waste and recycling room.

23 Clearly printed signage must be affixed in all communal waste collection and storage areas, specifying which materials are acceptable in the recycling system and identifying the location of waste and recycling storage areas, as well as waste and recycling service compartments.

24 Waste management systems must not be visible from outside the building. Where this is unavoidable and Council is in agreement, it must be designed to be consistent with the overall appearance of the development.

Residential Buildings

25 Centralised waste collection points are required in the following circumstances:

i) Attached dwellings where the number exceeds four dwellings in total; and

ii) Where site characteristics (eg. steep sites, narrow street frontage) make access to the street difficult for individual unit holders and where placement of bins on the street frontage is assessed as dangerous for either the public or service personnel, or would have a detrimental effect on the street amenity.

Low / Medium Scale Residential

This section applies to single dwellings, including both the principal and secondary dwellings; dual occupancy development whether attached or detached; and small scale multi-dwelling housing where the number does not exceed four dwellings in total.

26 Council’s standard waste and recycling service is:

Waste Type	Bin Type
Waste (garbage)	1 x 120L
Co-mingled recycling	1 x 240L
Recycling of paper and cardboard	1 x 240L

23.7 WASTE MANAGEMENT (continued)

Controls

Green waste (communal except for single dwellings) (subject to Owners Corporation Agreement on a fee for service basis)	1 x 360L

27 Developments must allocate, within each property boundary, an area for storing Council specified waste and recycling bins, preferably located at the rear of the premises to minimise visual clutter. The storage area is to be a minimum of 3m from openable windows and integrated with the landscaping. Refer to *23R.5 of this Part* for bin characteristics.

28 An area is to be nominated for on-site composting.

Multi-Dwelling Housing

This section applies to multi-dwelling development, such as attached dwellings, townhouses and villas, where basement car parking is not provided and dwellings are separately accessed via a private access road, or where centralised arrangements are not required under *23.4 (25) of this Part*.

29 Space is to be provided for:

Waste Type	Bin Type
Waste (garbage)	1 x 120L
Co-mingled recycling	1 x 240L
Recycling of paper and cardboard	1 x 240L
Green waste (communal) (subject to Owners Corporation Agreement on a fee for service basis)	1 x 360L

Note: To check the service level for the relevant collection zone contact Council's Customer Service Section. Waste is collected weekly while all other waste types are collected on a fortnightly basis.

30 All new dwellings must be designed so as to allow the internal accommodation of one receptacle to collect waste and two receptacles to collect recycling materials, each with the capacity to store one day's worth of material.

31 All such developments must allocate, within each property boundary, an area for storing Council specified waste and recycling bins, preferably located at the rear of the buildings to minimise visual clutter. The storage area is to be a minimum of 3m from openable windows and integrated with the landscaping. Refer to *23R.5 of this Part* for bin characteristics.

32 An area is to be nominated for on-site communal composting.

33 Centralised collection points are to be provided, directly accessible from the street/rear lane and/or the internal road. Collection points must be located a minimum of 12m from any openable window. One collection point is to serve a maximum of 6 units.

23.7 WASTE MANAGEMENT (continued)

Controls

34 Where on site collection points are provided, the full path of travel to and from the collection points is to be designed to allow a 6m rigid vehicle, weighing GVM 7 tonnes, to enter and exit the development in a forward direction.

35 The maximum grade of any access road leading to a waste and recycling room must be not more than 1:5 (20%). The turning area at the base of any ramp must be sufficient to allow for the manoeuvre of a 6.0m rigid vehicle to exit the building in a forward direction.

36 A path shall be established for wheeling bins to the collection point; it must be level and free of steps or kerbs.

Medium / High Density Housing

This section applies to attached dwellings where the number exceeds four dwellings in total (eg. residential flat building, multi-dwelling housing) where basement parking is provided.

37 Council's standard waste and recycling service for multi-dwelling housing and residential flat development, where the number of units exceeds four is as follows:

Waste Type	Number of Units	Number of Bin/s
Waste (garbage)	N/A	1 x 120L MGB per unit dwelling or 1 x 240L MB per 2 units
Co-mingled recycling of glass, steel and aluminium cans and plastic etc	For every 4 units or part thereof.	1 x 240L MGB (communal)
Recycling of paper and cardboard	For every 4 units or part thereof.	1 x 240L MGB (communal)
Green waste	Optional	Please contact Council's Waste Service Team to discuss options. Green waste bins will be subject to Owners Corporation Agreement on a fee for service basis. Green waste bins will be serviced from the street frontage due to the small number of bins involved.

Note: To check the service level for the relevant collection zone contact Council's Customer Service Section. All bins are collected weekly except green waste bins. Please contact Council's Waste Service Team to discuss options.

23.7 WASTE MANAGEMENT (continued)

Controls

38 All new dwellings must be designed so as to allow the internal accommodation of one receptacle to collect waste and another to collect recycling, each with the capacity to store one day's worth of materials.

39 Centralised waste and recycling rooms must be provided in the basement that has sufficient capacity to store all waste and recycling likely to be generated in the entire building in a week.

40 The full path of travel to and from the waste and recycling room is to be designed to allow a 6m rigid vehicle, weighing GVM 7 tonnes, to enter and exit the development in a forward direction.

41 The maximum grade of any access road leading to a waste and recycling room must be not more than 1:5 (20%). The turning area at the base of any ramp must be sufficient to allow for the manoeuvre of a 6.0m rigid vehicle to exit the building in a forward direction.

42 The minimum floor to ceiling height within the vehicle accessway leading to and from the waste and recycling room(s) must be 2.6m for the entire length of travel required within the development.

Note: Prior to pouring of the ground floor slab, the applicant will be required to obtain confirmation from Council engineers that 2.6m headroom has been provided.

43 Noise attenuation measures are required to ensure that the use of, and collection from, the waste and recycling room do not give rise to "offensive noise" as defined under the *Protection of the Environment Operations Act 1997.*

44 An area is to be nominated for on-site communal composting.

Mixed Use Buildings

45 In a mixed use development, the waste handling, storage and collection system from residential waste and commercial waste must be completely separate and self-contained.

46 There must be at least two separate centralised waste and recycling storage areas, one for residential waste and one for commercial. The WMP shall identify the collection points and management systems for both residential and commercial waste streams.

47 An area must be nominated on relevant plans for on-site composting and/or worm farm if the proposal has a residential component.

48 Where there is a residential component, any new dwellings must be designed so as to allow the internal accommodation of one receptacle to collect waste and another to collect recyclable materials, each with the capacity to store one day's worth of materials.

23.7 WASTE MANAGEMENT (continued)

Controls

Other Development Types

This section applies to other development types not covered by controls 25 to 48 above. It applies to any development that incorporates a commercial, business or light industrial use (eg. retail premises, offices, hospitals, restaurants and food retailers, light industries, residential care facilities and the like).

49 Buildings must have a dedicated and enclosed waste and recycling room(s) which has adequate storage area to meet the generation rates (refer to *23R.10 of this Part*).

50 Centralised collection points are to be provided, directly accessible from the street/rear lane and/or the internal road. Collection points must be located a minimum of 12m from any openable window. One collection point is to serve a maximum of 6 units.

51 Where on site collection points are provided, the full path of travel to and from the collection points is to be designed to allow an appropriately sized rigid vehicle to enter and exit the development in a forward position. The design and location of the waste and recycling room must allow for adequate access for the relevant vehicle size, including manoeuvring and loading.

Note: Standard sizes include a 6m rigid vehicle, weighing GVM 7 tonnes and an 11m rigid vehicle, weighing GVM of 22 tonnes. The size will be dependent on the the intended usage and quantity of waste generated by the development type. Consultation with Council's waste section early in the design phase to ascertain the relevant vehicle size is strongly recommended.

52 A path shall be established for wheeling bins to the collection point; it must be level and free of steps or kerbs.

53 The size and design of the waste and recycling rooms must be based on the following criteria:

i) the proposed and potential land use of the building;

ii) the floor area of the building;

iii) the number of separate occupancies contained within the development;

iv) waste and recycling generation rates associated with the land use;

v) type and amount of waste/recycling to be produced;

vi) the number and sizes of bins required to contain waste/recycling materials likely to be generated during the period between collections; and

vii) the size and design of the waste/recycling storage is to allow for future changes of use.

23.7 WASTE MANAGEMENT (continued)

Controls

54 If Council is to collect commercial waste from the premises, the minimum floor to ceiling height within the vehicle accessway leading to and from the waste and recycling room(s) must be 4.6m for the entire length of travel required within the development. Otherwise, any development application is to be accompanied by documentary evidence from at least three contractors giving the dimensions of their vehicles and confirming that they are willing to collect waste from the building after construction.

55 For recycling materials, clinical, medical or liquid waste, the design must reflect the separate storage, operation and management of these waste materials within the development.

56 In the event of the generation of:

i) more than 1.5m^3 per day of food waste, other than unprocessed or uncooked fruit and vegetables; or

ii) organic veterinary or medical waste;

stored waste must be refrigerated unless collected daily.

57 Where refrigeration is required:

i) the temperature must be maintained at or below 5°C;

ii) all refrigeration equipment must be installed with sufficient space for cleaning both the equipment and the storage area;

iii) the floors walls and ceiling of the refrigerated waste room must be constructed of a smooth impervious material and coved at all intersections;

iv) the floor of the refrigerated waste room must be graded to the doorway and a floor waste, designed in accordance with Sydney Water guidelines, shall be located outside the room as close as practicable to the doorway; and

v) noise attenuation measures must be put in place to ensure that the noise generated by the refrigeration equipment associated with the waste and recycling room shall not give rise to “offensive noise” as defined under the *Protection of the Environment Operations Act 1997*.

58 In circumstances involving the use of baling equipment for paper and cardboard, sufficient area must be provided for the storage of a minimum of four (4) bales without impacting on the access and service conditions for collection materials for each day.

59 Where liquid wastes such as oils are generated by the business, a separate bunded storage area for these wastes must be provided with drainage directed to a grease trap. The bunded area is to be weather protected and have a capacity not less than 20% of the storage contents to contain any spill.

Note: Liquid waste from grease traps must only be removed by licensed waste contractors approved by Sydney Water Corporation and the NSW Environment Protection Authority.

23.7 WASTE MANAGEMENT (continued)

Controls

60 Any construction for food premises must be in accordance with the 'National Code for the Construction and Fit-out of Food Premises'

Note: Contact Council for a copy of this Code and advice on the construction of food premises.

61 For retail premises, light industry, hospitals, residential care facilities, a waste service compartment must:

i) be provided on each storey of the building;

ii) have the capacity to store at least one day's volume of waste and recycling likely to be generated on that floor; and

iii) provide for the separation of paper and cardboard for recycling on each storey.

62 If more than $10m^3$ of waste and recycling is likely to be generated per day, then the central waste and recycling room must be separate from the goods receival dock.

63 Separate space and collection arrangements must be made for clinical/hazardous waste.

64 For offices, provision must be made on each floor and in the central waste and recycling storage area, for the separation and storage of all recyclable materials such as cardboard, paper and paper products likely to arise on the premises.

23.8 GENERAL ACOUSTIC PRIVACY

Further controls that may apply:		
	SECTION B **PART 20 -** Development Near Road or Rail Noise	

Objectives

1 *To ensure high standards of acoustic privacy for all occupants of the development.*

2 *To minimise the impact of the development on the acoustic privacy of neighbouring developments.*

3 *To ensure housing adjoining main roads is designed and constructed to minimise the impact of external noise and facilitate comfortable living conditions for residents.*

4 *To ensure measures to address acoustic privacy have regard to the existing or desired future character of the street.*

Service and circulation areas used to buffer noise sensitive areas.

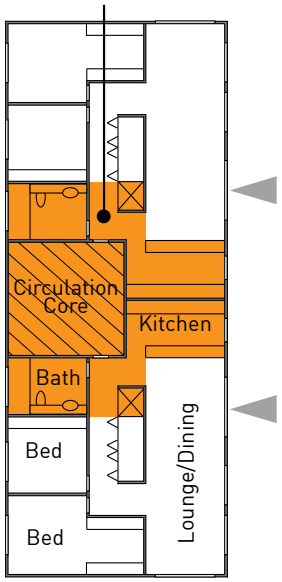


Figure 23.8-1:
Buffer zone to minimise noise pollution.

Controls

1 Development is to be designed to minimise the impact of external noise sources (eg busy roads, railways, swimming pools, heavy vehicle entries) on the internal and external spaces used by occupants.

2 Balconies and other external building elements are to be designed and located to minimise infiltration and reflection of noise onto the facade.

3 Buildings must be designed to minimise noise transmission by, but not limited to:

i) careful siting and orientation of the building;

ii) locating bedrooms away from both internal and external noise generators of a development, eg by using storage or circulation areas as a buffer or grouping room uses according to the noise level generated.

Note: Internal noise generators include, but are not limited to - kitchens, laundries and living areas

External noise generators include, but are not limited to - traffic, railway line, vehicle entries and mechanical equipment; pool pumps, air conditioning units, garbage collection areas, tennis courts.

iii) fitting out building services with appropriate acoustic insulation;

iv) incorporating appropriate noise shielding or attenuation techniques into the design and construction of the development.

4 Measures such as mounding or high solid fencing will only be permitted where they are compatible with the streetscape.

5 When designing and siting active open space areas (eg BBQ areas, swimming pools, communal areas etc) regard must be paid to potential noise impacts on adjacent rooms and buildings, such as bedrooms.

6 The noise level from air conditioning systems is not to exceed the Laeq 15 minute by 5dBA measured at any bedroom window.

23.9 GENERAL VISUAL PRIVACY

Objectives

1 *To ensure the impact of development on the visual privacy of neighbouring occupants is minimised.*

2 *To ensure that the level of visual privacy to principal living areas and private open spaces is appropriate to the development type.*

3 *To ensure high standards of visual privacy for all occupants within low density residential development.*

4 *To ensure visual privacy measures do not compromise outlook, ventilation and solar access or the functioning of internal and external spaces.*

Controls

1 Private open spaces and principal living spaces of the proposed dwelling/s and adjacent dwellings are to be protected from direct or unreasonable overlooking from all new residential and non-residential developments. Siting and design measures to achieve this include:

i) use of distance or slope;

ii) appropriate dwelling layout;

iii) off-setting windows in relation to adjacent windows;

iv) use of obscure glass or highlight windows;

v) screening devices such as fences, louvres, translucent screens, perforated panels, trellises and courtyard walls;

vi) using louvres/screen panels to windows and balconies (see Figure 23.9-1);

vii) using solid or semi-transparent balustrades or screens to balconies or terraces (see Figure 23.9-2);

viii) off setting balconies in relation to adjacent balconies;

ix) using recessed balconies and/or vertical fins between adjacent private balconies;

x) using deep sills with planter boxes or incorporating planter boxes into walls or balustrades (see Figure 23.9-3).

xi) providing vegetation as a screen between spaces;

xii) utilising pergolas or shading devices to limit overlooking of lower building levels or communal and private open space.



Figure 23.9-1:
Balconies with sliding panels to increase visual privacy.



Figure 23.9-2:
Use of a mix of solid and transparent balustrades on different levels to ensure visual privacy.

23.9 VISUAL PRIVACY(continued)

Controls

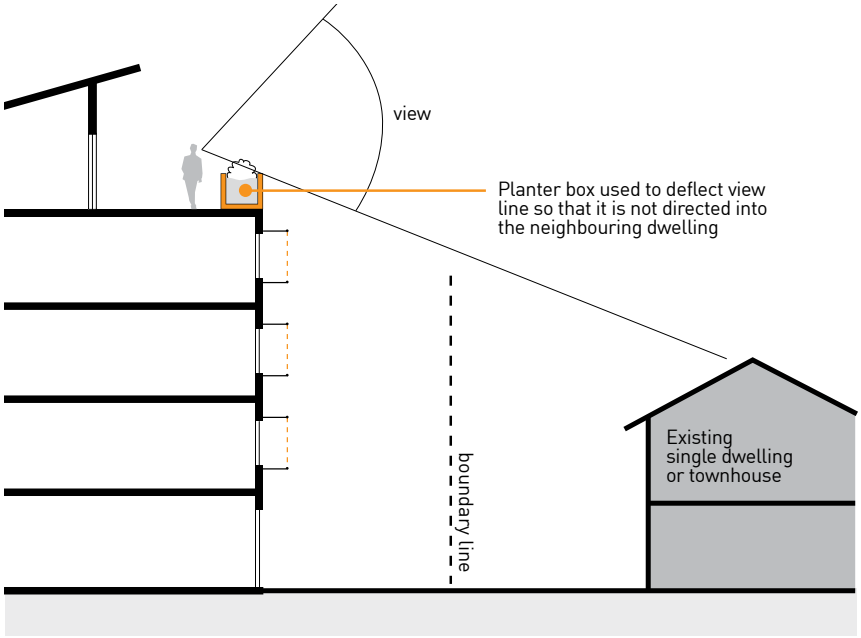


Figure 23.9-3: Incorporation of planter boxes into walls or balustrades for visual privacy.

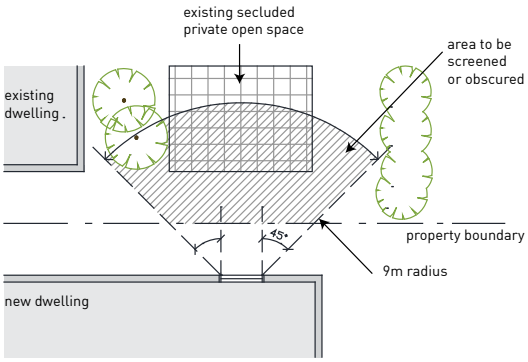


Figure 23.9.4: Designs incorporating screening to protect residents of the development.

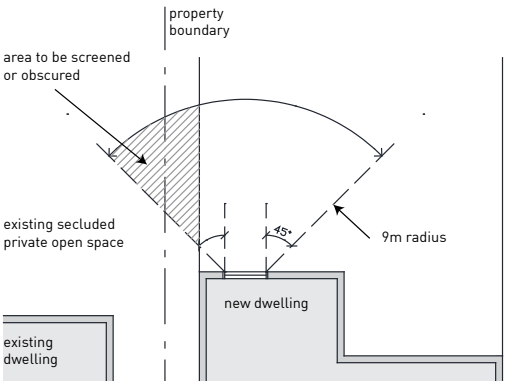


Figure 23.9.5: Area of neighbouring development to be protected from overlooking..

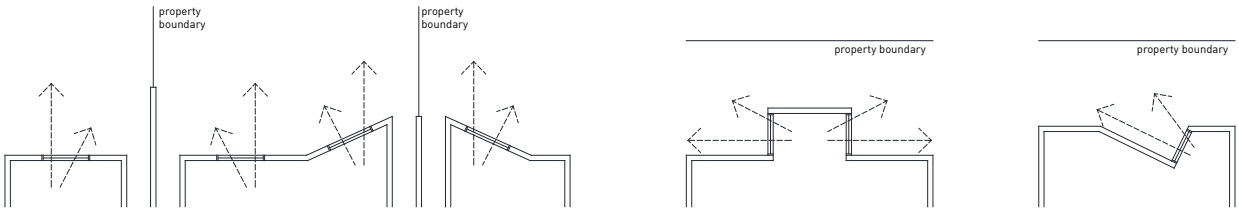


Figure 23.9.6: Arrangement of windows to avoid overlooking of adjacent open space or living areas

23.9 VISUAL PRIVACY(continued)

Controls

2 For low density residential development first floor decks, balconies and roof top terraces are not permitted where they unreasonably overlook or would directly overlook principal living spaces or private open space and the impact cannot be adequately mitigated.

3 Continuous transparent balustrades are not permitted to balconies or terraces for the lower 3 storeys.

23.10 CONSTRUCTION, DEMOLITION AND DISPOSAL

Objectives

1 *To preserve the various natural elements and habitats such as soil profile, vegetation, natural rock shelves and watercourses.*

2 *To protect existing trees and the natural elements of the site, including soil profile, vegetation, rock outcrops and water courses.*

3 *To reduce the volume and cost of construction and demolition waste material.*

4 *To protect neighbouring structures and minimise disturbance to neighbouring and downstream properties.*

5 *To ensure regular rainfall events do not adversely affect water quality.*

6 *To protect the sensitive Hawkesbury Sandstone communities in the LGA.*

7 *To prevent cumulative impacts from pollutants, (such as excess nutrients, sediment) on downstream ecosystems.*

8 *To maintain visual amenity of the locality and the natural environment.*

Controls

Environmental Site Management Plan

1 Site disturbance during construction or demolition must be minimised by:

i) avoiding excavation beyond the building area;

ii) restricting machinery and vehicle movement to the building footprint and access corridor;

iii) locating service lines close to the building or within previously excavated areas where possible; and

iv) locating storage areas to areas outside the tree protection zones of trees to be retained.

2 An environmental site management plan showing tree protection areas, machinery usage zones, storage areas, site sheds and location of stormwater pollution barriers is to be submitted with the application as per Councils DA Guide.

Waste Management Control

3 A Waste Management Plan (WMP) must be submitted with the application, in accordance with *23R.8 of this Part*. Evidence such as weighbridge dockets, copies of invoices or some other form of written evidence will be required to be submitted to Council on completion of the development to verify the quantities and destination of waste and recycling materials generated during works (either demolition and or construction).

Note: Plans and drawings of the proposed development that highlight the location of and space allocated to the waste management facilities and the nominated waste collection point must be attached to the WMP. The path of access for both users and collection vehicles must also be highlighted.

4 Provide source separation facilities on building sites so that different waste streams may be easily separated during construction and demolition to encourage the reuse and recycling of materials.

Stormwater Quality Control During Construction

5 Manage soil, water and materials on construction sites to prevent erosion, sedimentation and pollution of waterbodies and the natural environment.

6 Manage the quality and quantity of post-construction stormwater runoff from the site to protect downstream ecological communities, to prevent altered nutrient regimes and to reduce litter entering the waterways.

7 Control erosion and sedimentation by:

i) minimising the extent of disturbance;

ii) rapidly stabilising the disturbed areas;

iii) diverting clean runoff around work areas; and

iv) trapping eroded sediment as close to the source as is practical.

23.10 CONSTRUCTION DEMOLITION AND DISPOSAL (continued)

Controls

8 Provide for appropriate management of wastes, chemicals and fuel through:

i) Appropriate storage and handling to prevent discharge of pollutants to waterways;

ii) On-site containment of waste water from construction activities;

iii) Appropriate storage and disposal of waste materials; and

iv) Appropriate management and disposal of waste water.

Note: Under the *POEO Act 1997*, owners and builders have a responsibility to notify Council or the Environment Protection Authority (NSW Office of Environment and Heritage) of any harmful pollution incident as soon as is practicable.Allowing pollutants (including sediment) to enter any waterway is an offence under the *Protection of the Environment Operations Act 1997*.

Failure to notify could result in a maximum fine of $250,000 for corporations and $120,000 for individuals.

Erosion and sediment control

9 All activities that have the potential to pollute must comply with the requirements of the Protection of the Environment Operations Act

10 All development applications must be accompanied by an 'Erosion and Sediment Control Plan' (ESCP) that describes the measures undertaken at development sites to minimise land disturbance and to control sediment pollution. The ESCP shall be prepared in accordance with "Managing Urban Stormwater, Soil and Construction, 2006 (Landcom)".

11 Disturbance to existing vegetation should be minimised when installing controls, especially along watercourses, on highly erosive lands and in high-conservation-value areas.

12 Where land disturbance activities occur in riparian zones (Category 1 and 2) or watercourses, a separate Vegetation Management Plan may be required. This plan is to cover all disturbed lands within the riparian zone. It should address revegetation, bush regeneration and weed control. It should ensure that previously stored topsoil is respread over disturbed lands and the litter layer is restored. Any imported topsoil must be weed free.

Note: Under the POEO Act 1997, it is an offence to store hazardous and dangerous liquids (including oils, solvents, fuels, acids and paints) in such away as to allow any water pollution incident to occur. Also you need to be in accordance with the Ku-ring-gai Council DA guide.

23.10 CONSTRUCTION DEMOLITION AND DISPOSAL (continued)

Controls

13 All disturbed areas should be rehabilitated as soon as possible after excavation or completion of the construction period. This includes, but may not be limited to:

i) restoration of all surfaces to their original condition (or as specified);

ii) re-establishment of surface stability with suitable cover to achieve a permanent C-factor of less than 0.1 (equivalent to 60 per cent ground cover) within 20 working days from the start of works.

14 Disturbance to existing vegetation should be minimised when installing controls, especially along watercourses, on highly erosive lands and in biodiversity significant areas.

PART 23R

REFERENCES

23R References

23R.1 Examples of ESD Measures

23R.2 Green Star Rating Information Sheet

23R.3 Checklist of ESD Measures to be Submitted with Development Application and Updated for CC Approval

23R.4 Council's Standard Bin Characteristics

23R.5 Council's Collection vehicle characteristics

23R.6 Vehicle Access/Turning Circles

23R.7 What is a Waste Management Plan?

23R.8 Waste Management Plan

23R.9 Waste Guidelines

23R.1 EXAMPLES OF ESD MEASURES

Water Efficiency

These measures ensure all non-residential buildings implement systems of water collection and recycling. Systems to minimise mains water usage may include:

i) on-site rainwater collection and on-site waste water treatment to provide recycled water for use within the development;

ii) provide low flush toilets and water efficient fixtures and fittings, including waterless urinals;

iii) utilise water efficient landscape principles, such as the selection of low water usage species, including local species, and the use of tree foliage to create on ground shade and windbreaks.

Energy Generation

These measures encourage implementation of systems that provide alternative energy sources. Energy generation measures may include:

i) solar louvres (powered by photovoltaic cells) that track the sun to supply building use;

ii) solar hot water system;

iii) solar energy collection technology such as solar heat pumps for hot water and photovoltaic cells;

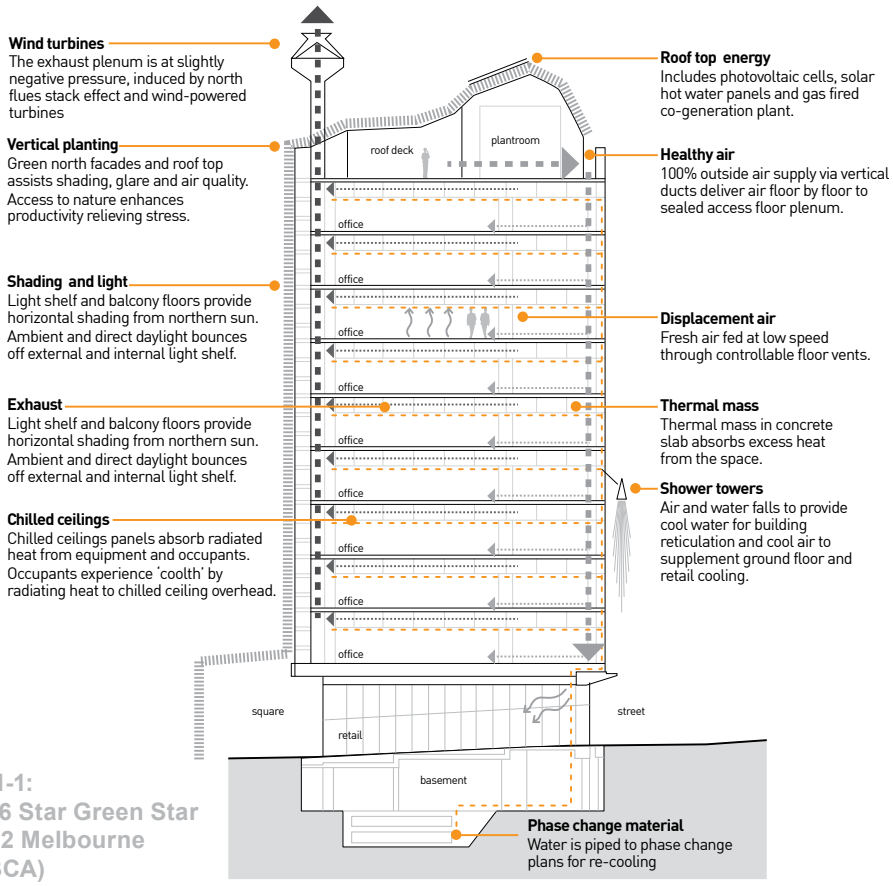


Figure 23R.1-1: Example of 6 Star Green Star Building CH2 Melbourne (Source: GBCA)

23R.1 EXAMPLES OF ESD MEASURES (continued)

i) use of photovoltaic cells which can be mounted as panels, or used as an integrated building cladding as shading device;

ii) use of co-generation or tri-generation plants located within the basement to service the whole building; and

iii) wind turbine technology.

Heating and Cooling

These measures reduce the heat and carbon output of non-residential buildings. Alternative heating and cooling measures may include (refer to *Figure 23R.1-2*):

i) displacement ventilation with low level air delivery and high level air exhaust to create air change effectiveness;

ii) thermal chimneys in atriums to draw warm air up and out of work areas;

iii) new generation cooling systems such as chilled ceiling beams;

iv) active mass cooling system utilising thermo-active slabs and concrete core conditioning;

v) radiant slab heating to provide energy efficient thermal comfort;

vi) night purge systems to cool and clear stale air within the building;

vii) roof surfaces with a sheen finish that reduce heat gain in summer (only where they do not impact on the amenity of neighbour in terms of glare and reflectivity);

viii) roof gardens and landscaped terraces which provide thermal insulation;

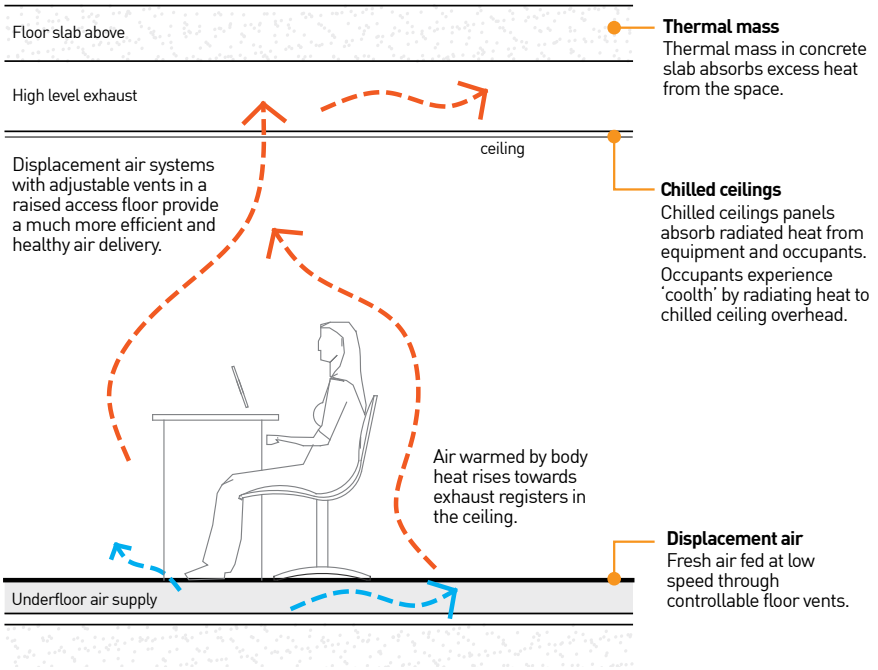


Figure 23R.1-2:
A displacement air system. Removing contaminants efficiently with 100% fresh air supply, resulting in a healthier work environment.

23R.1 EXAMPLES OF ESD MEASURES (continued)

ix) use of tri-generation plants located within the building basement;

x) use of vertical planting to shade building elevations;

xi) insulation and ventilation of roof spaces; and

xii) use of heavy weight building materials, such as concrete, for thermal mass on flat roofs and/or walls. Where lighter weight materials are used they are to be well insulated.

Lighting

These measures reduce the energy uptake for lighting systems within non-residential building sites. Measures to reduce artificial light use may include (refer to *Figure 23R.1-3*):

i) considering internal building use relative to window location;

ii) consider fenestration with high performance glazing with spectrally selective glass that allows views and a high degree of diffused natural light into the workspace without glare;

iii) select and position light fittings to minimise energy consumption. For example create separate lighting zones for areas close to and further away from windows;

iv) lighting used in common areas such as entries, corridors, car parks and communal open space areas must utilise daylight sensor control, movement detectors, automated dimmers and timers. Lightspill must be controlle;.

v) improve internal natural light reflection and minimise lighting use by using light coloured internal finishes;

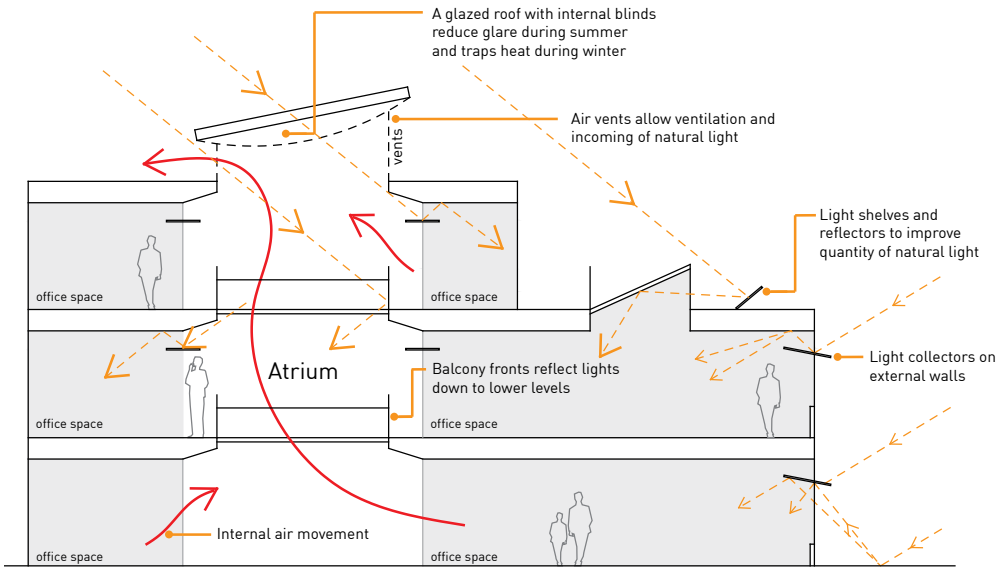


Figure 23R.1-3:
Lighting and ventilation.

23R.2 GREEN STAR RATING INFORMATION SHEET

What is the Green Rating Star environmental rating system?

The Green Star environmental rating system for buildings was developed by the Green Building Council of Australia (GBCA). Green star is a comprehensive rating system for evaluating the environmental design and performance of Australian buildings based on a number of categories. The nine categories included within all Green star rating tools are:

- Management
- Indoor Environmental Quality
- Energy
- Transport
- Water
- Materials
- Land use and Ecology
- Emissions
- Innovation

These categories are divided into credits, each of which addresses an initiative that improves or has potential to improve environmental performance. Points are awarded in each credit for actions that demonstrate that the project has met the overall objectives of Green Star. Once all claimed credits in each category are assessed, a percentage score is calculated and Green Star environmental weighting factors are then applied.

What do Green Star ratings mean?

Green Star rating tools use stars to measure performance:

i) 4 Star Green Star Certified rating (score 45-59) signifies 'Best Practice' in environmentally sustainable design and/or construction;

ii) 5 Star Green Star Certified rating (score 60-74) signifies 'Australian Excellence' in environmentally sustainable design and/or construction;

iii) 6 Star Green Star Certified rating (score 75-100) signifies 'World Leadership' in environmentally sustainable design and/or construction.

Projects that obtain a 4 Star rating or above using the GBCA rating tools, are eligible to apply for formal certification through the GBCA, following which they are permitted to advertise their status as "green buildings".

Why should buildings have a Green Star Rating?

Green Star Rating confirms that the building is designed with sustainable principles that will contribute to the reduction of carbon emissions and the preservation of non-renewable material sources. It also sets up a system of ongoing sustainable management that enables the ongoing operation of the building to remain sustainable. In addition, there are many business benefits of Green Star buildings as outlined below:

23R.2 GREEN STAR RATING INFORMATION SHEET (continued)

Lower operating costs

Green buildings are built for high energy and water efficiency, so they are cheaper to operate. Green buildings achieve energy savings of at least 20-30% when compared with industry standards, and sometimes much more.

The Szencorp Building at 40 Albert Road in South Melbourne, for instance, was the first existing office refurbishment in Australia to be awarded a 6 Green Star - Office Design rating, and has reported energy savings of over 70% after two years of operation.

Higher return on investment

Green buildings deliver a higher return on investment. The McGraw Hill Construction Report (2007) found that building green increases a property's value by 7.5% and improves the return on investment by 6.6%. the Royal Institution of Chartered Surveyors' report Green Value: Growing Buildings, Growing Assets (2006) confirms this, revealing that green building practices improve an asset's value by securing tenants more quickly, commanding higher rents or prices, enjoying lower tenant turnover, costing less to operate and maintain, attracting grants, subsidies and other inducements, and improving business productivity for occupants, which affects churn, renewals, inducements and fitting out costs.

Greater tenant attraction

More tenants are seeking environmentally sustainable , healthy and productive workspaces that demonstrate their commitment to corporate social responsibility.

The BCI Australia Green Building Market Report (2008) found that client demand is one of the primary drivers for committing to green building, with 65% of respondents nominating it as an important factor. In return, owners are rewarded with decreased vacancy periods and a subsequent increase in occupancy ratios of 3.5%.

Enhanced marketability

The owners of Australia's first Green Star certified project at 8 Brindabella Circuit in Canberra say they could not put a financial figure on the amount of free publicity they have received from their green building, both through their Green Star certification and their subsequent environmental awards. In fact, the owners have needed to completely rethink their marketing strategy, as they now have a waiting list of prospective tenants.

Productivity benefits

Green buildings consistently outperform non-green buildings in terms of comfort and productivity. Natural light, fresh air and access to views of the outdoors, as well as control over their own individual workspace temperature and lighting, can directly affect productivity.

23R.2 GREEN STAR RATING INFORMATION SHEET (continued)

For example, a post-refurbishment study of 500 Collins Street in Melbourne found a 9% increase in typing speeds of secretaries and a 7% increase in lawyers' billings ratio despite a 12% decline in the average monthly hours worked. At the City of Melbourne's 6 Star CH2 building, productivity has risen by an impressive 10.9% since staff moved into their green office, with an estimated annual cost savings of $2 million.

Note: Refer to *www.gbca.org.au* for more information

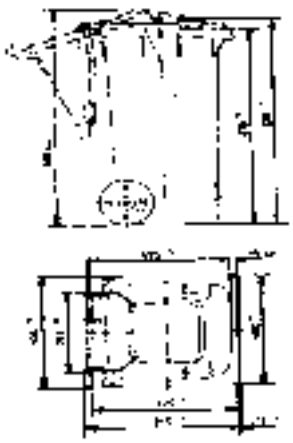
23R.3 CHECKLIST OF ESD MEASURES TO BE SUBMITTED WITH DEVELOPMENT APPLICATION AND UPDATED FOR CC APPROVAL

CHECKLIST OF ESD MEASURES

Project details:

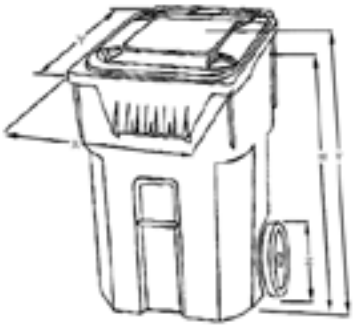
From updated Credit Summary			From updated ESD Report			From proposed Schedule of Works	CERTIFIER CHECK
Category	Title	Points achieved	Description of system/element	Location in building	DWG Ref.	Estimated Installation dates for system/element	

23R.4 COUNCIL'S STANDARD BIN CHARACTERISTICS

<table>
<tr><th>Bin Type</th><th>Characteristics</th><th>Uses</th></tr>
<tr><td>120 Litre MGB</td><td></td><td>Landfill Collection

Used for domestic waste that cannot be recycled. Contents to be taken to landfill.</td></tr>
<tr><td>240 Litre MGB</td><td></td><td>Co-mingled/Paper Recycling

Used for the storage of material that can be recycled.

Two bins are supplied, one for paper and cardboard while the other is for co-mingled material such as plastics, metal and aluminum cans.</td></tr>
<tr><td>360 Litre MGB</td><td>
<table>
<tr><td>Dimensions</td><td></td><td></td></tr>
<tr><td>Overall Height</td><td>V</td><td>1171mm</td></tr>
<tr><td>Cart Body Height</td><td>W</td><td>1088mm</td></tr>
<tr><td>Overall Width</td><td>X</td><td>704mm</td></tr>
<tr><td>Overall Depth</td><td>Y</td><td>803mm</td></tr>
<tr><td>Wheel Diameter</td><td>Z</td><td>305mm</td></tr>
<tr><td>Load Rating</td><td></td><td>154Kg</td></tr>
</table></td><td>Vegetation Recycling

Used for the storage of vegetation material for recycling as garden mulch or similar.</td></tr>
</table>

23R.5 COUNCIL'S COLLECTION VEHICLE CHARACTERISTICS

Waste collection vehicles may be side loading, rear end loading or top loading. The size of the vehicle varies according to the collection service. Thus it is impossible to specify what constitutes the definitive garbage truck. Developers must consult with Council regarding the type of vehicle to be used for the development if the development is to be serviced by Council collection vehicles.

The following characteristics represent the typical collection vehicle used by Council; however these are for guidance only.

Any turning circle considerations must also include allowances for driver steering error and overhangs. The steering error allowances shall be at least 0.6 metres (absolute minimum) on both sides of the theoretical wheel path, and 1m as a desirable minimum.

1 Collection from Enclosures

Collection vehicles may enter building basements for the collection of waste and/or recyclables provided the following requirements are met:

i) the gradient of the ramp access to basement should not exceed 1:5;

ii) the height to the structural members and upper floor ceiling should allow for a typical collection vehicle travel height / operational height consistent with type of vehicle employed;

iii) the provision of space clear of structural members or vehicle parking spaces is adequate to allow the typical three-point turn of collection vehicles; and

iv) the basement floor should be of industrial-type strength pavement and designed for a maximum wheel loading of 7 tonnes per axle in order to accommodate waste and recycling collection trucks.

23R.6 VEHICLE ACCESS/TURNING CIRCLES

Best design practice for access and egress from a development calls for a separate entrance and exit to allow the collection vehicle to travel in a forward direction at all times. Where there is a requirement for collection vehicles to turn at a cul-de-sac head within a development, the design should incorporate a bowl, 'T', or 'Y' shaped arrangement.

1 The design aspects that shall be taken into account include the following:

i) placement of waste and recycling bins outside each home, or in a common collection area;

ii) the presence of parked cars on access roads;

iii) trucks should only be expected to make a three-point turn to complete a U-turn; and

iv) allow for collection vehicle overhang and possible interference with bins and road furniture.

2 Internal Road Geometry

The design parameters covered in *AS2890.2 Off Street Parking – Part 2 Commercial Vehicle Facility* must be complied with.

23R.7 WHAT IS A WASTE MANAGEMENT PLAN?

1 A waste management plan (WMP) is a checklist that provides Council with details of the following:

i) the volume and type of waste to be generated;

ii) how the waste is to be stored and treated on site;

iii) how and where the non-reusable, or recyclable residual, is to be disposed of; and

iv) how ongoing waste management for the site will operate.

Completion of the WMP will help to determine what materials are on the site and how and where they will be stored, re-used/recycled and eventually disposed of. A list of local outlets and other waste disposal facilities can be obtained from Council's '*Register of Waster Receiving Facilities for Waste Planning*' and from the Waste Service NSW recycling directory.

A copy of the proforma WMP follows. Further copies can be obtained from Council's Customer Service counter or from Council's website – *www.kmc.gov.au*.

23R.8 WASTE MANAGEMENT PLAN

To be completed for all Developer Applications:

To facilitate sustainable waste management and waste reduction, Council requires on-site sorting and storage of waste products pending re-use or collection. Completing this proforma will assist you in identifying the type of waste that will be generated and in advising Council how you intend to reuse, recycle or dispose of your waste.

The information provided on the proforma (and on your accompanied plans) will be assessed against the design objectives of the DCP (e.g. to maximise reuse and minimise disposal where possible) and the relevant controls for your particular use.

If space is insufficient in the table please provide attachments.

Outline of Proposal

Applicant's Name & Address: _____

_____

Phone: _____Fax: _____

Site Address: _____

Buildings & other structures currently on the site: _____

_____

_____

Builders Name & Address: _____

_____

Brief Description of Proposal: _____

_____

_____

_____

The details provided on this form are your intentions for managing waste relating to this project.

Signature of Applicant: _____ Date: _____

23R.8 WASTE MANAGEMENT PLAN (continued)

Section One: To be completed for all Development Applications involving demolition (including major renovations and excavation), single-dwellings, dual occupancy and non-habitable building or structure.

	Weight/ Volume	Reuse/Recycling On site	Off site/Recycling Specify name & address of contractor/recycling outlet	Disposal Specify name & address of contractor/recycling outlet
Timber		☐ Chip for landscaping on site ☐ Reuse ☐ Other _____	☐ Deliver to second hand building yard _____ ☐ Other _____	☐ Landfill _____ ☐ Other _____
Plasterboard		☐ Mulch on site ☐ Other _____	☐ Return good quality remnants to _____ ☐ Other _____	☐ Landfill _____ ☐ Other _____
Bricks/Tiles/ Concrete		☐ Crush and use in landscaping ☐ Use for fill behind retaining walls ☐ Store on site for future use ☐ Other _____	☐ Deliver to second hand building centre _____ ☐ Other _____	☐ Landfill _____ ☐ Other _____
Organics (green waste, vegetation etc.)		☐ Mulch on site for landscaping ☐ Other _____	☐ Deliver to recycling centre or mulch company _____ ☐ Other _____	☐ Landfill _____ ☐ Other _____
Fill		☐ Used in landscaping ☐ Other: _____	☐ Other _____	☐ Landfill _____ ☐ Other _____

	Weight/ Volume	Reuse/Recycling On site	Off site/Recycling Specify name & address of contractor/recycling outlet	Disposal Specify name & address of contractor/recycling outlet
Metal (e.g. steel, aluminum etc)			☐ Deliver to second hand building centre _____ ☐Metal Recycler _____ ☐ Other _____	☐ Landfill _____ ☐ Other _____
Plastics – recyclable			☐ Deliver to recycling company _____ ☐ Other _____	☐ Landfill _____ ☐ Other _____
Plastics – non-recyclable			☐Return to manufacturer _____ ☐ Other _____	☐ Landfill _____ ☐ Other _____
Contaminated material (e.g. asbestos)			☐ Approved recycling Company _____ ☐ Other _____	☐Approved Landfill _____ ☐ Other_____

Section Two: Construction Stage (To be completed and submitted with all Development Applications for all other developments not included in Section One).

Materials on-site		Destination		
		Reuse and Recycling		Disposal
Expected Waste Materials	Est. Volume (m^3)	ON-SITE • Specify proposed reuse or on-site recycling methods • See *Waste Guidelines* for suggestions	OFF-SITE • Specify contractor and recycling outlet • See *Waste Guidelines* for suggestions • Refer to *Register of Waste Receiving Facilities for Waste Planning* for outlets.	LANDFILL • Specify contractor and landfill site • Refer to *Register of Waste Receiving Facilities for Waste Planning* for outlets.
Excavation Material				
Green Waste				
Bricks				
Concrete				
Timber – please specify				
Plasterboard				
Metals – please specify				
Other – please specify				

Note: Details of site area to be used for on-site separation, treatment and storage (including weather protection) must be provided on the plan drawings accompanying your application.

23R.8 WASTE MANAGEMENT PLAN (continued)

Section Three: Use of Premises (Occupation Stage) (To be completed and submitted with all development Applications with Section Two).

Type of waste material to be Generated	Proposed on-site storage & Treatment facilities	Destination
Please specify. For example – glass, paper, food waste, off cuts etc.	For example – • Waste storage and recycling area • On-site composting • Compaction equipment	Specify contractor name & address • Recycling • Disposal

Note: Details of on-site waste management facilities must be provided on the plan drawings accompanying your application.

23R.8 WASTE MANAGEMENT PLAN (continued)

Section Four: On Going Management (To be completed and submitted with Sections Two and Three).

Space

Number of Units (if applicable): _____

Estimated garbage generation (see *Waste Guidelines* at A.26): _____

Estimated recycling generation (see *Waste Guidelines* at A.26): _____

Describe the equipment & system to be used for managing:

Garbage _____

_____

_____

Recyclables _____

_____

_____

Garden Organics (if applicable)_____

_____

_____

Access

Describe arrangements for access by system users to waste facilities (highlight on plan drawings): _____

_____

_____

_____

Describe arrangements for access by collection contractors to waste facilities (highlight on plan drawings): _____

_____

_____

_____

Amenity

Describe how noise associated with residents using bins, collection contractors emptying the bins has been minimised: _____

_____

_____

_____

Describe the ventilation of waste storage areas (highlight on plan drawings): _____

_____

_____

_____

Describe facilities for washing bins and waste storage areas (highlight on plan drawings): ____

_____

23R.9 WASTE GUIDELINES

Type of Premises	Garbage Generation	Recycling Generation
Food premises		
Butcher	80L/100m² floor area/ day	Information not available
Delicatessen	80L/100m² floor area/ day	Information not available
Fish shop	80L/100m² floor area/ day	Information not available
Greengrocer	240 L/100m² floor area/day	120L/100m² floor area/ day
Restaurants	660L/100m² floor area/day	130L/100m² floor area/ day
Supermarkets	660L/100m² floor area/day	240L/100m² floor area/ day
Takeaway	80L/100m² floor area/ day	Information not available
Retail (non-food sales)		
Shops with less than 100m2 floor area	50L/100m² floor area/ day	25L/100m² floor area/ day
Shops with over 100m2 floor area	50L/100m² floor area/ day	50L/100m² floor area/ day
Showrooms	40L/100m² floor area/ day	10L/100m² floor area/ day
Hairdresser	60L/100m² floor area/ day	Information not available
Other		
Backpacker accommodation	40L/occupant/week	20L/occupant/week
Boarding house/ guesthouse	60L/occupant/week	20L/occupant/week
Offices	10L/100m²/day	10L/100m²/day
Hotel	5L/bed/day50L 100m² floor area/day 660L/100m² dining area/day	50L/100m² of bar and dining areas/day
Licensed club	50L/100m² floor area/ day	50L/100m² of bar and diningareas/day
Motel (without public restaurant)	5L/bed/day 660L/100m² dining area/day	1L/bed/day

Better Practice Guide for Waste Management in Multi-Unit Dwellings.

The current standard NSW commercial waste generation rates are those established by the Combined Sydney Region of Councils. For further information on commercial waste generation rates as they become available, please refer to www.environment.nsw.gov.au

PART 24

WATER MANAGEMENT

Introduction

24A Site Design for Water Management

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24B.3 Stormwater Disposal from Location B Properties

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24B.6 Relocating Pipes and Modifying or Releasing Easements where Council is the Authority

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24C.2 Effective Stormwater Management

25C.3 General Controls for On-Site Stormwater Management

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24C.5 Controls for On-site detention

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24E Road & Trunk Drainage Design

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24R.3 Permitted Site Discharge and Minimum On-site Detention Storage Volumes

24R.4 On-site Detention Calculation Sheet

24R.5 Design of On-site Detention Systems (OSD)

24R.6 Design of Property and Inter-allotment Drainage Systems

24R.7 Flood Study Requirementst

24R.8 Terms of Positive Covenants and Restrictions on Use

INTRODUCTION

This Part facilitates development in achieving the requirements of KLEP (Local Centres) 2012 Clause 6.5 - *Stormwater and Water Sensitive Urban Design.*

For some development types State Environmental Planning Policy (*Building Sustainability Index : BASIX*) *2004 (BASIX)* will apply.

Part 24A categorises:

i) development types, eg new dwellings or retail premises, and

ii) site location by drainage patterns, eg draining towards the road, or draining towards bushland.

These matters guide the location of development, including water management measures, on the site.

Part 24B outlines how stormwater is ultimately to be discharged from the site.

Part 24C outlines methods of effective stormwater management on site, prior to disposal. This includes methods to improve both water quality and quantity of runoff from the site, to protect downstream neighbours and ecosystems.

There is considerable overlap in the objectives of modern techniques of stormwater management. For instance, water tanks not only store water for re-use as a water conservation technique, but with constant use, also have huge potential to reduce one of the biggest pressures on urban waterways, namely increased intensity and frequency of runoff. Likewise, a purpose designed green roof can both slow runoff from a site and improve water quality while providing aesthetic and insulation benefits to a building.

Therefore the guidance provided in each relevant section of *Part 24C* is specifically related to the objective of that section. There is significant opportunity with careful design to maximise the number of objectives being met, with the minimum number of techniques, or with a variety of techniques best suited to the site, or the desired appearance of the site.

Part 24D guides development in relation to existing drainage systems, such as easements, underground pipes, overland flow paths, and waterways and outlines the requirements of a flood study.

Part 24E guides work (other than minor maintenance) proposed to be undertaken within the road and trunk drainage system.

Part 24F guides proposals where water is intended to be conserved by treating and re-using wastewater (greywater) on the site.

PART 24A

SITE DESIGN FOR WATER MANAGEMENT

24A Site Design for Water Management

24A.1 Development Type for Water Management

24A.2 Location of Development for Water Management

24A.3 Locating the Development on Site

24A.1 DEVELOPMENT TYPE FOR WATER MANAGEMENT

Objectives

1 *To plan water management techniques that are appropriate to the development and location.*

2 *To manage water to preserve, enhance and complement existing environmental, social and aesthetic conditions within and external to the site.*

3 *To design measures to support and enhance sustainable water management.*

4 *To ensure that development does not increase surface and subsurface runoff to downstream properties.*

Controls

Select the Type from those listed below (1-9) that best represents the development proposed. Note that Type 9 is for any other development type not listed in the previous eight categories. The majority of controls applicable to Type 9 development will be determined by Council on an individual basis in consultation with the developer.

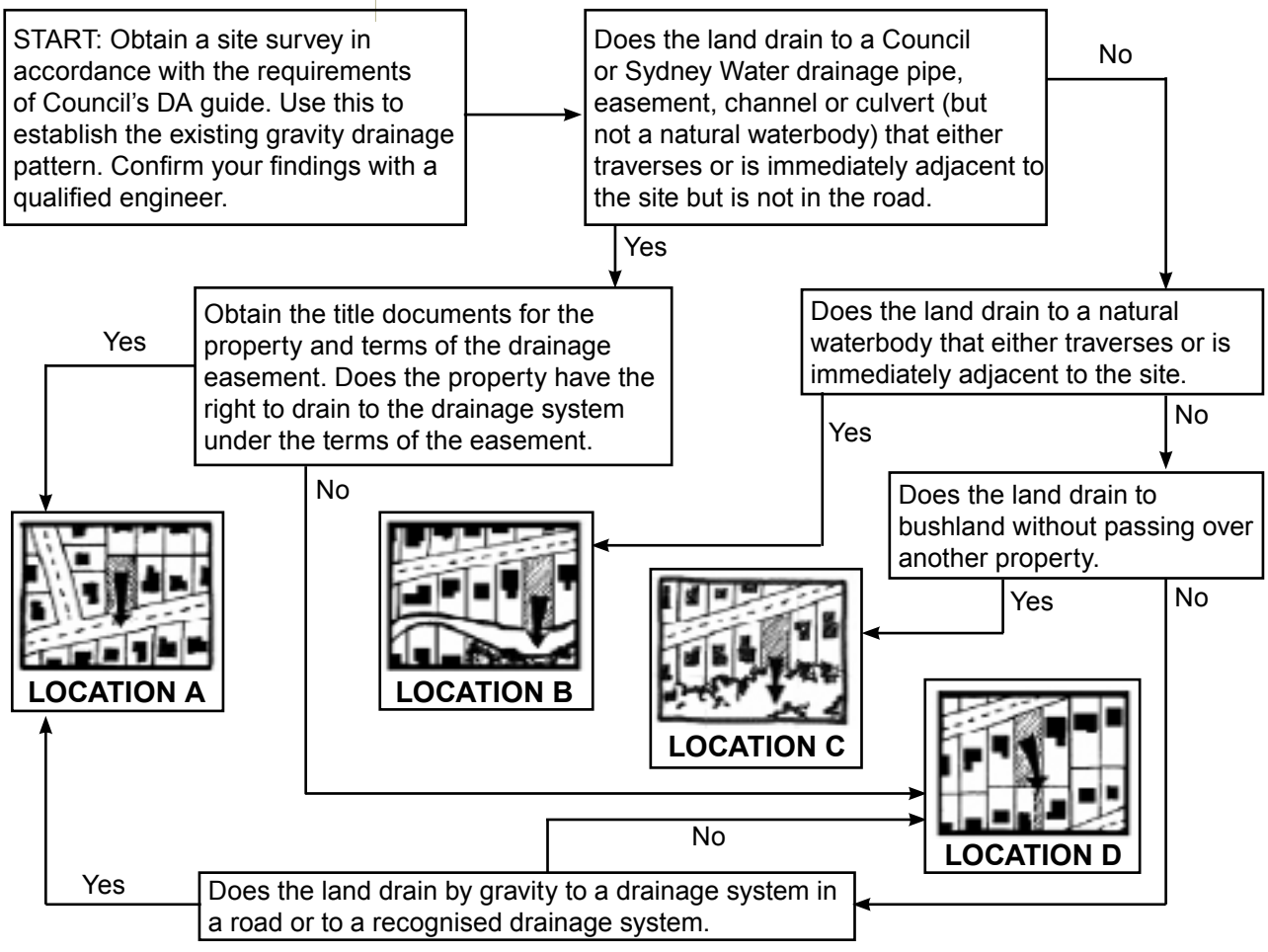
Type 1	Minor alterations and additions - any alteration or addition to a single detached dwelling or secondary dwelling where the increase in hard surface area is less than 100m^2.
Type 2	Major alterations and additions - construction of a secondary dwelling or any alteration or addition to a single detached dwelling where the increase in hard surface area exceeds 100m^2.
Type 3	New single dwellings including replacement single dwellings.
Type 4	Dual Occupancies- two dwellings on one allotment (either attached or detached), where either one or both of the dwellings are new.
Type 5	High and medium density development - any development involving three or more dwellings on one allotment, regardless of the size of the allotment and regardless of whether the dwellings are attached or detached. Includes seniors housing, multi-dwelling housing and residential flat buildings.
Type 6	Business, Commercial or Retail Premises - any building to be used for business, commercial or retail purposes, and mixed use developments such as shop top housing.
Type 7	Open Space - land used exclusively for recreational purposes, whether passive or active recreation, including any buildings erected on the land, where the land is primarily permeable and landscaped.
Type 8	Subdivision other than strata subdivision.

24A.2 LOCATION OF DEVELOPMENT FOR WATER MANAGEMENT

Further controls that may apply		
	SECTION B **PART 17 -** Riparian Lands	

Controls

Determine which of the following situations (Locations A – D) described below most closely resembles the location of the development site with respect to the natural drainage direction of stormwater. You may determine this by working through the flow chart below and check against the example below and the full descriptions following.



24A.2 LOCATION OF DEVELOPMENT FOR WATER MANAGEMENT (continued)

Controls

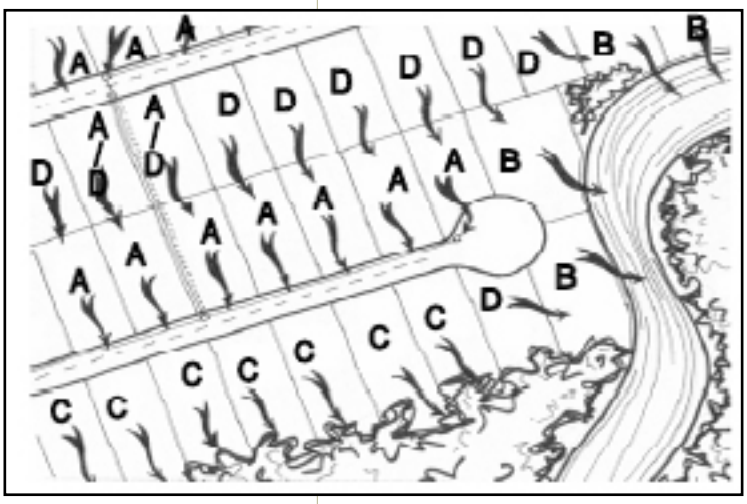
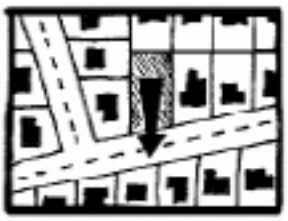


Figure 24A.2-1:
Examples of Location Types



Location A

Land that drains directly to a Council or Sydney Water drainage system in the road or drainage reserve (including a gutter, pipe or road) without the need for stormwater runoff to pass over another private property. This includes land traversed by or immediately adjoining a trunk drainage system where a legal right to connect already exists.



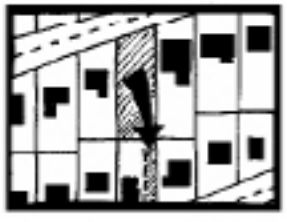
Location B

Land that drains directly to a natural waterbody (see LEP definitions) that traverses (crosses) or intersects the subject site. At least one bank of the waterbody must be located within or immediately adjacent to the subject site.



Location C

Land that drains directly to bushland.



Location D

Any other land, being land that must pass its stormwater over one or more intervening downstream private properties or public land to reach a recognised drainage system in a road reserve, drainage reserve or waterbody. This includes land where a private drainage easement is required (whether or not this has been obtained) and properties that are traversed by or immediately adjoining a trunk drainage system where there is no existing legal right to connect to the system.

24A.3 LOCATING THE DEVELOPMENT ON SITE

Further controls that may apply		
	SECTION B **PART 17 -** Riparian Lands	

Objectives

1 *To plan and design buildings and structures that preserve, enhance and complement existing environmental, social and aesthetic conditions within and external to the site.*

2 *To design water management measures that are complementary to the proposed development.*

3 *To design water management measures that support and enhance sustainability and improve the natural environment.*

Controls

Buildings must be located on properties in accordance with the controls set out below.

1 The development must not be located so as to impede, divert or increase the rate or concentration of stormwater flow across a boundary onto adjoining private property (eg. by placing a solid wall along a boundary).

2 Sufficient space must be allowed on the property for the installation and operation of water management measures as required in this Part of the DCP.

Note: Development within 'waterfront land' may be Integrated Development. Integrated Development requires consent from at least one public body other than Council.

3 Above ground elements of the stormwater management system, such as tanks and pumps must not be located in the front setback of a development.

4 No more than 10,000 litres of rainwater tank storage may be located above ground.

5 Stormwater management devices such as on site detention systems and large water tanks, should be located within the basement or beneath other impermeable areas. eg. - driveways.

6 Where there is more than one dwelling, stormwater management devices should be located in common areas.

7 The stormwater management system must not result in changes to the existing ground levels within the dripline of trees to be retained.

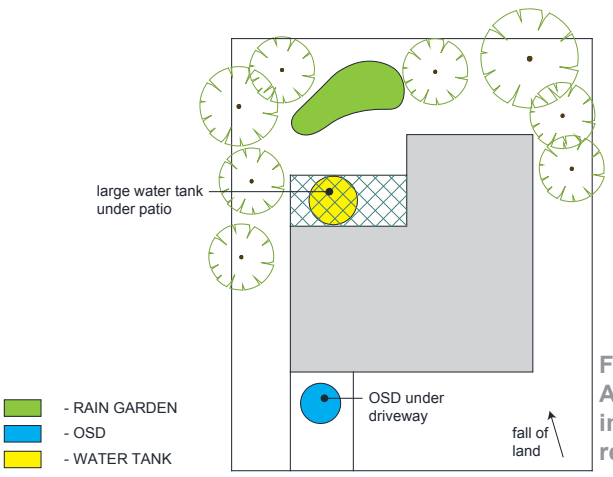


Figure 24A.3-1: Allow sufficient space for installation and operation of required water measures.

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24B Stormwater Discharge

24B.1 General

24B.2 Stormwater Disposal from Location A Properties

24B.3 Stormwater Disposal from Location B Properties

24B.4 Stormwater Disposal from Location C Properties

24B.5 Stormwater Disposal from Location D Properties

24B.6 Relocating pipes and modifying or extinguishing easements where council is the authority

READ WITH
SECTION B **PART 17 -** Riparian Lands
SECTION C **PART 24 -** Water Management 24R.6: Design of Property and Inter-allotment Drainage systems

24B. 1 GENERAL

Objectives

1 *To achieve a high level of residential safety and amenity.*

2 *To conserve the natural environment of Ku-ring-gai and adjoining areas.*

3 *To minimise the adverse impact of stormwater runoff on neighbouring properties.*

4 *To ensure adverse impacts are not increased beyond what was present prior to the development.*

5 *To minimise the adverse impact of stormwater runoff on the natural environment*

Controls

1 Stormwater must be discharged from the site in accordance with the controls for the relevant location category, as identified in *Part 24A* of this DCP.

2 Stormwater that is not retained for a use or appropriately infiltrated on site must generally be directed to a public drainage system comprising gutters, streets, pipes, box culverts and channels.

3 The scale of the development and the site conditions (including factors such as the lie and type of the land) will inform the selection of the most appropriate form of stormwater discharge.

4 In the selection of the means of stormwater disposal, particular regard must be given to downstream impacts.

Carrying Out Drainage Works

5 Drainage systems for stormwater disposal must comply with *AS3500-1998: National Plumbing and Drainage Code* or any standard replacing that standard.

Note: See Council Website for the Easement Management Policy.

24B. 2 STORMWATER DISPOSAL FROM LOCATION A PROPERTIES

Controls

Discharge to Kerb and Gutter/Table Drain

1 Piped drainage from the boundary line of the development to the street gutter or table drain must have a minimum 1% longitudinal fall towards the street gutter.

2 The total discharge from a single development lot to the street gutter or table drain must not exceed 25 litres per second.

Note: Where this is not possible, stormwater must be discharged to an enclosed system (pipe, box culvert, road pit). Alternatively, on-site detention may be required to lower the total discharge rate, or the site coverage contributing to the discharge, reduced.

3 For Development Types 1, 2 and 3 where piped drainage line crossings from the site boundary are to be employed:

i) the piped drainage line crossing must extend no further than20m from the development site across the frontage of a neighbouring property (see note) except where the location of trees prevent such piped crossings;

ii) the crossing line must be at an angle not less than 45° from the line of the frontage of the neighbouring property;

iii) the crossing line must run directly behind, and parallel to the street kerb as far as the discharge point. Any necessary drainage line crossing of driveways must be constructed in a trafficable grade, directly behind the layback and parallel to it, subject to Council approval. (These requirements may be varied by Council where they are demonstrated to be impracticable and where a suitable alternative route is demonstrated); and

iv) the proposed piped crossing will not compromise existing or future vehicular access to the neighbouring property or to services, trees or similar.

Note: Details of the proposed route are to be provided to Council in the form of scale plans with all these features shown.

4 For development types 4 – 9, piped drainage line crossings to the street drainage system must take place directly outside the frontage of that development and must not encroach across the frontage of any neighbouring property.

5 Connection to existing secondary footpath drainage systems, such as pipes beneath the concrete footpath, will not be permitted as they have limited capacity and block easily.

6 Connections to concrete kerb and gutter must comply with Council Standard Drawing 82-024 (Refer to Council's Technical Guidelines for Water Management Devices).

24B.2 STORMWATER DISPOSAL FROM LOCATION A PROPERTIES (continued)

Controls

7 When discharge is proposed to an open table drain, the pipe outlet must terminate flush with the property-side edge of the table drain and must be fully encased in a minimum 100mm thick mass concrete for the final 300mm length of the pipe.

Note: Where the applicant cannot comply with any of the above requirements due to site constraints, an alternative method of connection may be proposed for consideration by Council.

Discharge to an Existing Council Pipe in the Road Reserve or a Drainage Reserve

8 Discharge to an existing piped (in-ground) drainage system in the road or a drainage reserve may be an option where:

i) Such a system exists in reasonable proximity to the site and it is not possible to direct stormwater to a Council kerb and gutter or table drain; or

ii) The peak site discharge proposed exceeds 25 litres per second and it can be demonstrated that the hydraulic grade line of the inground drainage system (to which connection is proposed) is lower than the outlet of the property drainage system during the 5% AEP event.

9 Stormwater must be discharged to an existing Council pipe in the road reserve in accordance with the following controls:

i) For pipes of diameter up to 150mm, connection to the Council street drainage pipe must comply with Council Standard Drawing 82-024 (Refer to Council's Technical Guidelines for Water Management Devices); and

ii) For pipes of diameter greater than 150mm, connection to the Council street drainage pipe must, at Council's discretion, be undertaken in conjunction with the establishment of a grated gully (access) pit to Council standards. Details of new pits will need to be submitted to Council in accordance with 25D.1 of this Part.

Discharge to an Extension of the In-Ground Piped System in the Road Reserve

It may be possible to extend an existing downstream in-ground street drainage system on either the property side or the opposite side of the street. This is only allowed where no other connection is possible. In such cases, the following controls apply.

10 The in-ground drainage line must be extended using a steel reinforced or fibre reinforced piped system to convey 5% AEP year trunk flows (minimum of 375mm diameter rubber ring jointed reinforced or fibre reinforced concrete pipe), generally at gutter lip alignment.

11 The extended drainage line must connect to a new Council standard grated gully pit that must be established outside the development site.

24B.2 STORMWATER DISPOSAL FROM LOCATION A PROPERTIES (continued)

Controls

12 The feasibility of such a proposal must be established by a suitably experienced and qualified civil engineer eligible for membership of Engineers Australia.

13 A detailed design must be prepared by a suitably experienced and qualified civil engineer eligible for membership to Engineers Australia based on design criteria obtained from the roads authority (Refer to 24E of this Part).

Note: The full cost of such works must be borne by the developer.

Note: The design is subject to the approval of the roads authority (Council or RMS) under the Roads Act 1993 and no work may be undertaken until approved.

Note: The feasibility of such a proposal must be demonstrated with any DA submission.

Connection to a Council or Sydney Water Formed Channel or Pipeline within or adjacent to the Subject Site

Note: A 'formed channel' generally means a concrete or stone-lined channel located in a position that may not necessarily coincide with any historical waterbody. For example, a formed channel may have been constructed to convey runoff from a road to a nearby natural watercourse. In the event that a legal right to connect exists, the following controls apply (where no legal right exists, the property is likely to be Location D rather than Location A):

14 The terms of any easement over the channel/pipe system to which connection is proposed must legally permit the subject site to discharge its stormwater into it and be demonstrated to Council.

Note: Ascertaining this may require independent legal advice.

15 Where the formed channel/pipe system crosses intervening downstream properties before the next downstream area of road or drainage reserve, permission to convey the stormwater runoff from the development site by way of the formed channel/pipe must be established under the terms of an easement on the title of each affected downstream property.

16 The formed channel/pipe must have sufficient hydraulic capacity to accept the additional flow from the post developed site. The hydraulic capacity must be determined having regard to existing and cumulative future flow rates in that system.

17 The outlet must be designed to minimise backwater influence from the receiving system.

18 Connection to a Council pipeline must be made in accordance with Council Standard Drawing 82-024 (Refer to Council's Technical Guidelines for Water Management Devices). For pipes larger than 150mm diameter a junction pit must be constructed at the connection point.

24B.2 STORMWATER DISPOSAL FROM LOCATION A PROPERTIES (continued)

Controls

19 Where connection is to a Sydney Water stormwater pipe, the design tailwater for a sealed pipe drainage system connecting to such a channel must be the top of the channel unless otherwise specified by Sydney Water.

20 Any other site specific requirements of the Council or Sydney Water must be satisfied.

Note: Council may require the establishment of an on-site detention system at the development site (regardless of whether this is required in accordance with *24C of this Part).*

24B. 3 STORMWATER DISPOSAL FROM LOCATION B PROPERTIES

Further controls that may apply		
	SECTION B **PART 17 -** Riparian Lands	

Controls

1 Disposal of stormwater from Location B properties must be undertaken in accordance with the NSW DPI Office of Water document 'Guidelines for Outlet Structures on Waterfront Land, 2012'.

Note: This document is available at www.water.nsw.gov.au/

2 Where an existing connection is in poor condition, the stormwater outlet structure is to be upgraded in line with the 'Guideline for Outlet Structures on Waterfront Land, 2012'.

3 Where there is bushland between development and the waterbody, water quality treatment in accordance with Part 24C.6 of this Part prior to discharge to the watercourse.

Note: On some sites, discharge directly to the waterbody may not be appropriate. Advice and evidence from an appropriately qualified and experienced ecological expert may be required.

24B. 4 STORMWATER DISPOSAL FROM LOCATION C PROPERTIES

Controls

Note: See Council Website for Technical Guidelines for Water Management Devices.

Urban stormwater flowing into bushland is the major factor that causes weeds to become established in natural areas. In order to minimise such impacts, the following controls apply to Location C properties.

1 The developer must demonstrate to Council that all stormwater entering bushland will be dispersed sufficiently so as to not cause downstream erosion, scour or pollution. This may be achieved by using a raingarden, infiltration or dispersal trench system or slotted pipe to practical depth (where site conditions prevent a deeper trench structure) established at the highest practicable level within the site, parallel to the site contours. Any technique used is to be designed in accordance with the Technical Guidelines for Water Management.

Note: In some circumstances this may require OSD as part of the stormwater management system.

2 For new single dwellings (Development Type 3), the maximum post developed built-upon area draining to the dispersal trench system, infiltration trench system or raingarden must not exceed 35% of the built-upon area.

3 For alterations and additions (Development Types 1 & 2), the post-development built-upon area draining to dispersal trench system, infiltration trench system or raingarden must not exceed the greater of

i) 35% of the built-upon area; or

ii) the pre-developed built-upon area.

24B. 5 STORMWATER DISPOSAL FROM LOCATION D PROPERTIES

Further controls that may apply		
		SECTION C **PART 24R.6 -** Design of Property and Inter-allotment Drainage Systems

Controls

Council requires that stormwater is discharged from a site in a controlled manner under gravity to a recognised public drainage system. Accordingly, where this could be achieved but for the existence of another property downstream, Council will require that, where possible, an interallotment easement for drainage be utilised to legally provide a controlled gravity drainage solution as far as the nearest available recognised public drainage system.

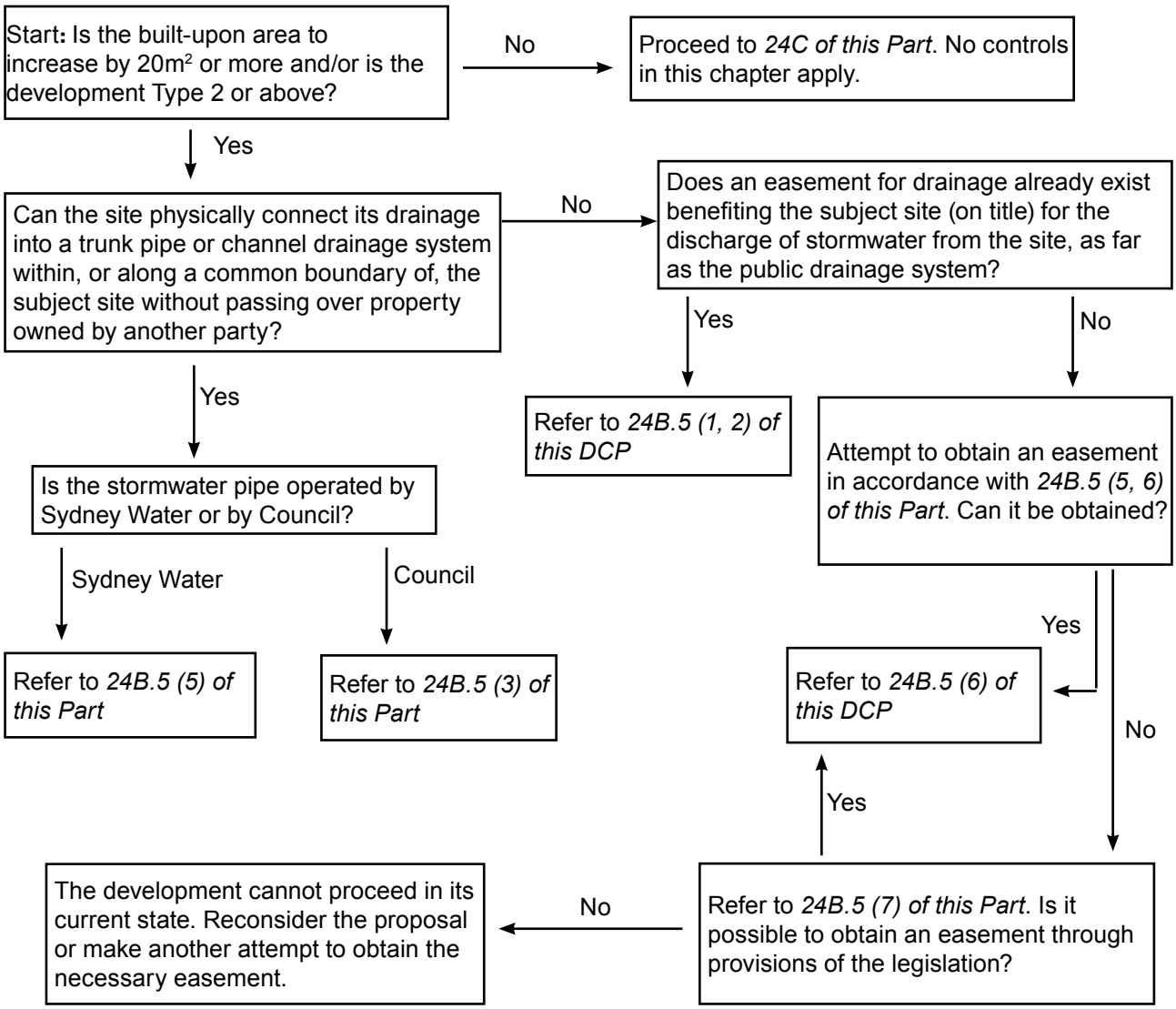
The necessary easement for interallotment drainage as far as the recognised public drainage system may already exist on the title of the subject site (generally described as being appurtenant to, or benefiting, the site). If not, it will be necessary for the owner of the subject site to obtain the necessary easement for drainage. Properties over which an easement may be created include private properties and public parks and reserves.

It may also be possible to connect into a trunk drainage system traversing or directly adjacent to a subject site. (Where the legal right to do so already exists, the property is a Location A property – Refer to 25A.2 of this Part). Where there is presently no legal right to connect to the trunk drainage system, Council may consider an application for a direct connection, as necessary, depending on the physical condition and capacity of the trunk system; the consent of the downstream owners; terms of the easement (where one exists); and the intent of the receiving trunk system.

24B.5 STORMWATER DISPOSAL FROM LOCATION D PROPERTIES (continued)

Controls

Where the use of, or creation of, an easement for drainage is not possible, it may be possible to utilise other methods of disposal depending on the scale and type of development. The following flow chart explains how to determine the manner in which to dispose of stormwater from a Location D property:



*Exposed aerial drainage other than downpipes will not be approved by Council.

Note: Council strongly encourages the developer to seek the services of a conveyancing solicitor or experienced legal professional in order to clarify the standing of a site with respect to use of drainage easements. Council does not have in-house experts in property conveyancing matters.

24B.5 STORMWATER DISPOSAL FROM LOCATION D PROPERTIES (continued)

Controls

Discharge to an existing interallotment drainage easement

The development application must:

1 Demonstrate to Council the existence of the interallotment drainage easement that allows the site to drain by gravity as far as a recognised and appropriate public drainage system. This will require provision of the title documents for the affected properties and the subject property. Such title documents are available from the Land and Property Information NSW.

2 Include either:

i) documentation from a registered surveyor or qualified engineer demonstrating the existence of either suitable drainage infrastructure within the easement system to be utilised (capacity and condition); or

ii) a scale plan showing the proposed drainage infrastructure to be placed in the existing easement to drain the subject site.

Note: In the event that the existing easement or piped system is not satisfactory in terms of capacity or length, Council will require the system to be upgraded or extended (Refer to 25R.6 of this Part).

Connection to a formed channel or council pipeline within the subject site

3 Permission to connect to a formed channel or drainage pipe will be granted by Council and at the discretion of Council only where it can be demonstrated that:

i) the terms of any easement over the channel/pipe system, to which connection is proposed, legally permit the subject site to discharge its stormwater into it and this can be demonstrated to Council;

ii) the said channel/pipe is located within or directly adjacent to the development site;

iii) where the formed channel/pipe system crosses intervening downstream properties before the next downstream area of road or drainage reserve, permission to convey the stormwater runoff from the development site by way of the formed channel/pipe is established under the terms of an easement or easements on the title of all affected downstream properties;

iv) the pipe / formed channel has sufficient hydraulic capacity to accept the additional flow from the post developed site and the hydraulic capacity is determined having regard to existing and cumulative future flow rates in that system;

v) the outlet is designed to minimise backwater influence from the receiving system;

24B.5 STORMWATER DISPOSAL FROM LOCATION D PROPERTIES (continued)

Controls

vi) where it is found that an existing Council owned channel/pipe is present on site that is not within an easement, a suitable easement will be created over the drain in favour of Council, at no cost to Council, or else the easement moved accordingly also at no cost to Council;

vii) drainage systems for stormwater disposal complies with A*S3500 – 1998 – National Plumbing and Drainage Code* or any subsequent standard replacing that standard;

viii) connection to a formed stormwater channel is made in accordance with Council Standard Drawing 82-024 (Refer to Council's Technical Guidelines for Water Management); and

ix) any other site-specific requirements of the Council are satisfied.

Note: Please refer to Council's Easement Management Policy for information relating to the connection and alteration of easements..

Connection to a Sydney Water stormwater pipe in an easement

4 The following controls apply:

i) Written consent must be obtained by the proponent from Sydney Water and submitted to Council;

ii) All necessary easements for drainage exist to benefit the subject site;

iii) All relevant requirements of Sydney Water must be satisfied prior to development consent being granted by the Council; and

iv) The design tailwater for a sealed pipe drainage system connecting to such a channel must be the top of the channel unless otherwise specified by Sydney Water.

Procedures for obtaining new private interallotment drainage easements

5 The first step: Approaching the downstream owners Creation of a new interallotment drainage easement must be attempted for all Location D properties where the built-upon area is to increase by 20m^2 or more (where built-upon area will increase by less than this area, please proceed to *Part 24C*). All attempts must be in accordance with the steps set out below.

i) The developer must establish the most appropriate route between the subject site and point of connection to the downstream public drainage system, together with any alternate routes. This may be in a road reserve, a drainage reserve, or a natural watercourse. The developer should contact an appropriate engineer to make the necessary investigations where such a location is not apparent. If trees are on or near the route, an arborist must also be consulted.

ii) After establishing the route, the developer must write to the owners of all the relevant downstream properties requesting

24B.5 STORMWATER DISPOSAL FROM LOCATION D PROPERTIES (continued)

Controls

an interallotment drainage easement as far as is necessary to connect into a recognised public drainage system. The letter may offer financial compensation and must indicate that the burdened property owner would not be responsible for maintenance of the easement.

Note: Appropriate financial compensation may be determined by a registered Valuer but will be subject to negotiations between both parties.

Note: It is recommended that the services of a conveyancing solicitor be engaged in this process.

iii) The developer must obtain a written response from the landowners of the properties approached in control (ii) above. This will either consent to, or refuse, the creation of the necessary easement(s) for drainage. Where refusal occurs, refer to 24B.5 (7) of this Part.

iv) Where consent is given, the developer must provide a copy of the signed agreement(s) to Council with any development application lodged.

Note: Where a signed agreement is obtained and submitted as part of DA documentation, the consent authority will impose a condition of consent requiring the legal registration and demonstration of the necessary easement. Alternatively, depending on the circumstances, Council may require registration of the easement on title prior to any DA consent being given. All costs associated with the registration of the easement on title must be borne by the applicant.

6 The second step: Prepare the design as per 24R.6 of this Part. If the development application is to be approved it will on a deferred commmencement basis with the registration of the interallotment drainage easement with Land and Property Information NSW (LPI) completed before the consent becomes operational..

Where the downstream landowners agree to the creation of an easement, the following steps must be carried out.

i) A survey plan, suitable for registration at LPI, must be prepared by a registered surveyor on behalf of the proponent showing the location of the easement. The necessary terms of the drainage easement must be prepared.

Note: The width of the easement to be created must have regard to the required size of pipe that will be placed in the easement and sufficient excavation width in the event of maintenance. Refer to 25R.6 for the required widths and placement of easements.

ii) The survey plan, owners' written approval, application form and fees must be lodged by the developer at the LPI. The Council must be nominated in the Section 88B Instrument as a party whose consent is required to release, vary or modify an easement.

iii) Written advice to the effect that the easement has been registered must be obtained by the developer from the LPI and supplied to the relevant landowners, the certifying authority as is necessary in the approval process and to Council for its records

24B.5 STORMWATER DISPOSAL FROM LOCATION D PROPERTIES (continued)

Controls

Note: The services of independent professionals with relevant experience should be sought in this process. Council does not provide legal advice in this respect.

Using legislation to obtain a drainage easement

7 In the event that all reasonable attempts to obtain the consent of the relevant landowners for the creation of an interallotment drainage easement have failed, provisions of *Section 88K of the Conveyancing Act 1919* or *Section 40 of the Land and Environment Court Act 1979* may be utilised. Council does not encourage the use of these provisions and supports negotiation with adjoining property owners. However, Council does recognise that these provisions exist.

Note: Independent legal advice must be sought if either of these options are to be pursued.

Providing evidence that a legal inter-allotment drainage easement cannot be obtained

8 In the event that an easement cannot be obtained from one or more downstream parties, the following documentary evidence must be submitted to Council in support of any Development Application:

i) A copy of all letters sent to landholders of neighbouring properties containing all feasible easement routes indicating an offer of appropriate financial compensation and explaining that the burdened property would not be responsible for maintenance of the easement; and

ii) A signed copy of the letters received from owners of the neighbouring properties through which an interallotment drainage easement was sought, stating that an easement will not be granted.

Note: In the event that it is not possible to obtain such a letter, a written account of any response obtained from the property owners may suffice. This evidence will be subject to independent verification by Council.

Note: Some development will not be approved by Council where an easement cannot be obtained.

Discharge of stormwater within the site

On-site discharge of concentrated stormwater flows by infiltration/ absorption into soils on the site is considered to be inadequate in most areas of Ku-ring-gai. This is because the majority of soils are clay-based have a low to very low infiltration rate or shallow bedrock.

9 Discharge of stormwater within the site may involve:

i) One or more dispersal trenches constructed at the point of disposal designed to disperse stormwater across a site in a sheet flow to provide an opportunity for water take-up by vegetation downstream from the trench;

24B.5 STORMWATER DISPOSAL FROM LOCATION D PROPERTIES (continued)

Controls

ii) A series of infiltration trenches constructed on sandy soils where bedrock is not close to the surface, and;

iii) other methods designed to ensure the infiltration/absorption of water into the site such as rain gardens, soaks or swales.

10 Discharge of stormwater within the site will only be permitted where all of the following conditions are satisfied (applies to Development Type 1, 2 or 3 only).

i) It is demonstrated that direct drainage by gravity to the street drainage system, a public drainage system or recognised natural watercourse within the property or to a drainage easement is not possible.

ii) It is demonstrated that no drainage easement either exists over adjoining properties or is readily available through negotiation.

iii) It is demonstrated that all other alternatives have been comprehensively examined and demonstrated to be inappropriate or ineffective.

iv) It is demonstrated that, for new single dwellings (Development Type 3), the maximum post developed built-upon area draining to the:

- dispersal trench system will not exceed 30% of the built-upon area; or
- infiltration trench system will not exceed 35% of the built-upon area.

v) It is demonstrated that, for alterations and additions (Development Types 1 & 2), the post-development built-upon area draining to:

- a dispersal trench system will not exceed the greater of
  - 30% of the built-upon area; or
  - the pre-developed built-upon area;
- an infiltration trench system will not exceed the greater of
  - 35% of the built-upon area; or
  - the pre-developed built-upon area.

vi) Where an infiltration trench system is proposed, its feasibility must be demonstrated in a report based on a scientific test by a qualified geotechnical engineer that the soils and bedrock are appropriate for the employment of such a system.

vii) The design and construction of the system are undertaken in accordance with the relevant Technical Guidelines for Water Management Devices.

Charged drainage systems

A charged drainage system is a sealed drainage system containing permanent ponded water that is forced out under pressure by the height of water above the outlet / discharge point.

24B.5 STORMWATER DISPOSAL FROM LOCATION D PROPERTIES (continued)

Controls

Council does not readily encourage the use of charged drainage systems. This is because of their susceptibility to blockage by leaf debris and sediment and the requirement for a high maintenance regime that may not be met by new or uninformed owners. The failure of such systems results in roof gutter overtopping and the increased potential for flooding/ damp problems within or adjacent to premises.

However, in certain cases, where the layout of the site and proposed building design permits, a charged drainage system may be used to aid in controlling stormwater disposal from a site. This may be useful where an easement for drainage cannot be obtained and it is necessary to limit the degree of on-site stormwater disposal that is undertaken in accordance with the controls set out in 24B.5 - 'Discharge of Stormwater within the Site' of this Part.

Discharge of stormwater from the site by way of a charged drainage system will only be permitted where all of the following controls are satisfied (apples to Development Type 1, 2 or 3 only):

11 Not more than two charged downpipes from any one building are required;

12 It is demonstrated that direct drainage by gravity to the street drainage system, a public drainage system or recognised natural watercourse within the property or to a drainage easement is not possible;

13 It is demonstrated that no drainage easement exists either over adjoining properties or are readily available through negotiation;

14 It is demonstrated that all other alternatives have been comprehensively examined and demonstrated to be inappropriate and ineffective;

15 The design for the system must be prepared by a qualified civil or hydraulic engineer;

16 A stilling pit must be provided at the property boundary from which the drainage line to the street gutter has positive fall by gravity to preclude the possibility of street water backflow;

17 A minimum of 1.5m head (height) must be available from the roof gutter to the invert of the inlet in the stilling pit;

18 A maximum of 1.5m difference in level must exist between the invert level of the inlet in the stilling pit and the base of the downpipe;

19 Hydraulic grade line calculations must be undertaken by a suitably qualified and experienced engineer that demonstrates that the proposed system will have sufficient operating head (A freeboard of at least 300mm is to be allowed between the roof gutter level and the hydraulic grade line at the top of the respective downpipe);

20 The drainage line from the stilling pit to the street system must be in accordance with control in 24B.2 (1-7) of this Part;

24B.5 STORMWATER DISPOSAL FROM LOCATION D PROPERTIES (continued)

Controls

21 The property drainage system must be fully sealed from the level of the roof gutter to the stilling pit;

22 The charged system must be a minimum uPVC sewer grade 100mm diameter;

23 Leaf guards must be established on all proposed roof gutters to minimise debris entering the system. Providing leaf guards to existing gutters is strongly encouraged;

24 A grated cleanout pit must be established adjacent to all system low-points in which is provided a screw-capped sealed extension of the respective main charged drainage line;

25 An appropriate flap valve must be established over the inlet pipes to the stilling pit in order to minimise mosquito nuisance;

26 Drainage systems for stormwater disposal must comply with *AS3500– 1998 – National Plumbing and Drainage Code*; and

27 Exposed aerial drainage will not be approved by Council, except for guttering and vertical downpipes and diagonal lines where they are directly feeding a rainwater tank required under the controls in this DCP.

28 Council may require a Positive Covenant (see 25R.8 of this Part) to ensure the continued functioning and maintenance of the approved charged system.

Pump-out systems

29 Council will only give consent to pump-out systems for development Types 1, 2 and 3 in rare instances and subject strictly to the applicant fully demonstrating compliance with a number of design controls. This is because of:

i) The susceptibility of pumps to failure during power outages which commonly occur during storms of higher rainfall;

ii) The potential impact of a failed pump-out drainage system on the downstream properties;

iii) The necessity for a high maintenance regime that may not be met by new or uninformed occupants; and

iv) Pumping water into an upstream or adjacent catchment can exacerbate existing flooding problems.

30 Stormwater disposal from a site by way of a pump-out system will only be permitted where it can be fully demonstrated that the owner or Council, in approving the pump-out system, could not reasonably be held liable for exacerbating or introducing a flooding problem in the immediate drainage system which is receiving the pumped runoff.

24B.5 STORMWATER DISPOSAL FROM LOCATION D PROPERTIES (continued)

Controls

31 Pump-out systems must comply with the controls set out below.

i) The Development must be type 1, 2 or 3 only.

ii) The applicant must demonstrate in writing that no easement may be obtained for the discharge of stormwater from the site.

iii) The pump-out system must not been the sole means of stormwater discharge from the site.

iv) The pump-out system must be employed only as an additional means of stormwater discharge where a dispersal trench is proposed to operate in accordance with 25A.5 - 'Discharge of Stormwater within a Site' of this Part, but where the impervious area to be drained exceeds 30% of total site area as defined in *24B.5 (10v) of this Part.*

v) The total impervious area to be pumped must not exceed 100m^2

vi) The pump-out system must be used in conjunction with a dispersal trench system which drains a separate impervious area of 30% of the total site area as defined in 24B.5 (10v) of this Part.

vii) Runoff pumped to the street frontage must not enter an existing drainage system where flooding affects private and/or public property including parks and reserves. In this respect, it must be demonstrated by a suitably experienced and qualified civil engineer using suitable hydraulic analysis that:

- there are no existing flooding issues causing damage or nuisance to property adjacent to or burdened by the drainage system which is receiving the pumped runoff; and
- increasing the volume of runoff in the receiving system would not create a new, or exacerbate, an existing drainage issue in any downstream private property; and
- the cumulative impact of pumping more than one property to the same receiving drainage system has been considered; and
- the drainage system that would receive the additional pumped runoff is of sufficient width and capacity to handle additional runoff as determined in (ii); or
- the drainage system immediately downstream at the nearest sag point receiving the pumped runoff drains directly to the bush via a formal drainage system without impacting upon private property.

viii) The pump-out system must have a visible ponding area available for temporary storage during pump failure with an absolute minimum capacity for the 1% AEP, 2 hour event falling on the corresponding impervious area draining via the pump system.

ix) A duty and standby pump with alternating switches must be provided within a sump in the ponding area, together with a fuel generator on site capable of operating the pump-out system when no power is available.

24B.5 STORMWATER DISPOSAL FROM LOCATION D PROPERTIES (continued)

Controls

x) A stilling pit must be provided at the property boundary, with gravity drainage provided between the stilling pit and the discharge point in accordance with controls in 24B.2 (1-7) of this Part. A non-return or flap valve must be placed at the point the rising main enters the stilling pit. If a stilling pit is impossible, some other form of cleanout/backflow prevention must be provided.

xi) Overflow from the ponding area of the pump-out system must be formally drained to the site dispersal system.

Pump-out example:

A Location D site of 930 m^2 proposing a new dwelling (Type 3) with hard surface area generating runoff (including roof, driveway and all other areas generating runoff) of 390 m^2 (42% of the total site area) proposed with access to an easement refused by the relevant owners. Under the controls of 24B.5 (10v) of this Part, a maximum of 30% of the total site area, or 280m^2, could drain to an on-site dispersal trench system. However, provided that it may be demonstrated by a experienced and qualified civil/hydraulic engineer that the above pump-out controls are met in full, a pump out system could be considered to pump the additional 110m^2 (12% of site area) proposed above the 30% threshold permitted by 24B.5 (10v) of this Part. In this case, the applicant would need to provide a visible storage area of 13.6 m^3 volume based on the 100 year 2 hour storm of 62mm/h falling on 110m^2. This would be in addition to any controls required under BASIX or this DCP.

24B. 6 RELOCATING PIPES AND MODIFYING OR RELEASING EASEMENTS WHERE COUNCIL IS THE AUTHORITY

Controls

1 The application must demonstrate that the relocation of the pipeline and /or easement will not have any adverse impacts on the following:

   i) the hydraulic efficiency of the re-routed system;

   ii) the potential for blockages within the system;

   iii) the management of overland flow;

   iv) water quality and riparian health;

   v) costs associated with ongoing maintenance of the stormwater asset.

2 A Council drainage easement is to be created over any new line of pipe and any redundant easements are to be extinguished.

3 The release or extinguishment of an easement will only be permitted where it can be demonstrated that it is redundant to existing or future stormwater management needs.

4 All associated design, documentation, relocation, valuation, stamp duty, compensation and legal costs are to be borne by the applicant.

5 The application and procedures must be consistent with Council's Easement Management Policy.

24C On-site Stormwater Management

24C.1 General
24C.2 Effective Stormwater Management
24C.3 General Controls for On-Site Stormwater Management
24C.4 Mandatory Rainwater Tank Requirements
24C.5 Controls for On-site detention
24C.6 Stormwater Quality Control



24C.1 GENERAL

Objectives

1 *To ensure stormwater management is integrated with the overall site design and reflects the site analysis.*

2 *To ensure that development does not increase surface and subsurface runoff to neighbouring properties.*

3 *To consider the existing capacity of the public drainage system.*

4 *To minimise stormwater discharge and reduce runoff days to protect and improve stream health*

5 *To ensure that development does not adversely affect the integrity of natural waterways, subsurface water and ecosystems.*

6 *To ensure stormwater management measures are functional and effective for the duration of their existence.*

7 *To maximise rainwater re-use.*

Controls

1 Stormwater is to be managed efficiently on-site and runoff controlled to assist in the prevention of:

i) flooding of public and private properties;

ii) overland water flows;

iii) undesirable changes in flow regime to bushland;

iv) erosion of creek beds, embankments and bushland areas;

v) transportation of gross pollutants, nutrients and chemical pollutants;

vi) spread of weeds;

vii) undesirable impacts on the character of the street.

2 Stormwater is to be managed on-site to assist in the maintenance of:

i) stream flow;

ii) water quality in creeks, rivers, groundwater and harbours;

iii) waterway and riparian ecosystems;

iv) groundwater dependant ecosystems; and

v) the natural recharge of groundwater.

Note: Council encourages the design of innovative stormwater management systems. Such systems must be informed by the soil type on the site. It should be recognized that soils in Ku-ring-gai are not generally appropriate for retention systems that involve infiltration.

Note: Where water sensitive urban design features do not preclude screen and canopy planting, they can be included in the calculations of deep soil landscaping.

3 Colours and materials of built elements of the stormwater management system that are visible to the public must be sympathetically treated to minimise visibility.

24C.2 EFFECTIVE STORMWATER MANAGEMENT

Controls



Figure 24C.2-1
Informal raingarden



Figure 24C.2-2
Formal detention pond amphitheatre in public space (*www.wsud.org*)

An appropriate method or combination of methods must be provided on the site to manage stormwater quality and flows. The system must be designed to ensure the optimum outcome for both the catchment and the subject site. Available management techniques include rainwater tanks, detention basins and tanks, infiltration basins and trenches, passive irrigation tanks, raingardens (biofiltration gardens), green roofs, dense native vegetation buffer strips, vegetated swales, biofiltration swales, rainscaping and dispersal trenches.

> **Note:** Some techniques, such as green roofs, are predominantly used for water quality treatment, microclimate regulation and aesthetics, rather than for retention or detention. However, consideration of retention or detention contribution will be made where such benefits can be demonstrated through modelling.

These systems can be designed to retain or detain stormwater:

1 On-site Retention (OSR) is a stormwater management system that keeps water on site for re-use in the hydrological cycle or as an alternative to mains water. OSR controls the volume of runoff during rainfall and storm events. Stormwater is not sent directly off the site, reducing runoff draining to pipelines, minimising flood events, conserving water and reducing the impact on the natural water cycle.

2 On-site Detention (OSD) works involve holding back stormwater temporarily within a site and then releasing it at a controlled rate. It controls the rate of runoff and reduces peak discharges during storm events; to minimise the load on pipelines and to minimise flood events. OSD does not alter the total volume of stormwater leaving the site and normally does not allow the stormwater to be used before it leaves the site.

3 In many situations a combination of OSD and OSR may be appropriate. In general, the factors that the designing engineer should take into account when determining the stormwater management techniques for a site are:

   i) the timing of peak flows from the site relative to those from the upstream catchment which drain to the same point. This is influenced by the time of concentration and the proximity of the site to the catchment point. Generally, in upper parts of the catchment water needs to be detained, whereas in lower areas it may be preferable to allow most of the stormwater to leave the site immediately;

   ii) the proximity of the subject property to environmentally sensitive areas such as bushland. Specifically, OSD can be problematic where a site drains to bushland as constant seepage causes weed growth;

   iii) the impact of any proposed stormwater management method on the streetscape and neighbouring properties, particularly in terms of aesthetics.

4 Both OSR and OSD options are to be designed and constructed to meet water quality controls in accordance with 24C.6 of this Part. This can be achieved by incorporating litter screens, proprietary devices, biofiltration or infiltration within the design.

24C.3 GENERAL CONTROLS FOR ON-SITE STORMWATER MANAGEMENT

Controls



Figure 24C.3-1
Concept design of a raingarden



Figure 24C.3 -2
Vegetated Infiltration basin

This section is based on the principles of effective stormwater management (Refer to 24C.2 of this Part) and contains the controls that will form the basis for assessing any stormwater management proposal.

1 The stormwater management system, as far as is practicable, must be designed so as to improve water quality and assist in maintaining stream flow and the water regime.

2 The stormwater management system, as far as is practicable must be designed to control discharge rates to prevent downstream flooding. On site detention will be required in most circumstances.

3 The design of the stormwater management system is to be based on:

i) for location A, B and D properties
- the deep soil landscaping or built-upon area requirements in Section A of this DCP

ii) for location C properties:
- the requirements of 24B.4 of this Part.

Note: Where the proposed built-upon area is less than the maximum permissible built-upon area, the design must still be based upon the maximum permissible built-upon area.

Note: For larger sites where development is obviously precluded from certain areas, a merits based assessment may be considered by Council for the basis of area calculations.

Stream Flow Controls

4 In order to maintain and improve stream flow the number of runoff days from the site must be reduced by 50% compared to the base case. This is to be achieved through the incorporation of both a rainwater tank and landscape measures, as outlined below.

Note: Base case for the purpose of 4) above refers to the number of runoff days that would result from the proposed development without stormwater management measures.

i) landscapes should be designed to ensure runoff from impervious areas of the site is directed to raingardens or other vegetated areas for infiltration (rainscaping) rather than being directly connected to the stormwater system. Permeable paving may also be used to reduce the frequency and intensity of runoff.

Note: This may not be possible on some sites due to the presence of large areas of exposed rock, existing drainage issues or ecological constraints. Where these circumstances apply, a Pre-DA meeting with Council is recommended.

- Runoff is to be controlled to ensure it does not cause flooding to the dwelling or neighbouring properties.

ii) for Development Types 5, 6, 8 and 9; and for proposed variations to iii) below:
- Rainwater tanks must be sized and installed in accordance with table 24C.4-1, and

24C.3 GENERAL CONTROLS FOR ON-SITE STORMWATER MANAGEMENT (continued)

Controls



Figure 4B.3 -3
Permeable paving used to reduce runoff to bushland on a Location C property.

- A suitably qualified and experienced engineer must certify that the proposed management measure(s) to be used at the site (whether proprietary or otherwise) will achieve the reduction in runoff days in 2) above;

iii) for Development Types 3 and 4, and for Type 2 where the development includes alterations and additions to a bathroom or laundry. The following will be deemed to comply with the reduction in runoff days in 2) above:

- Rainwater tanks sized and installed in accordance with table 24C.4-1 and 24R.1; and either of the following:
- For rainscaping, the size of the area receiving runoff is to be 30% of the contributing hardstand area for clay soils and 20% for other soils, or
- An unlined raingarden with a filter surface area in accordance with 24C.6 -2.

5 The selected stormwater techniques must be designed and constructed in accordance with the specifications for the relevant technique. The specifications can be found on Council's website.

Subsurface Water Controls

6 Subsurface water management systems must be designed to transfer subsurface water through, around or under the proposed development to maintain the natural subsurface water regime.

Where an impediment to the natural flowpaths is created as a result of the nature of the construction methods utilised or the bulk of the below-ground structure, artificial drains such as perimeter drains and through drainage may be utilised. These systems may only be utilised where it can be demonstrated that the natural flow regime is restored both up-gradient and down-gradient of the site, without any adverse effects on

i) surrounding property;

ii) infrastructure;

iii) groundwater dependent ecosystems;

iv) threatened species, populations, and ecological communities;

v) riparian lands; and

vi) watercourses

Note: Ongoing dewatering of any development may need approval from NSW DPI Office of Water for an aquifer interference activity.

Note: Additional information relating to shallow subsurface soil water and vegetation impacts may be required.

7 Subsurface water management systems are to be designed to be easily maintained. Council may require a Positive Covenant (see 25R.8 of this Part) to ensure the continued functioning and maintenance of the approved subsurface water management system

Controls

8 Basement excavations are to be fully tanked unless it can be demonstrated that ongoing dewatering will be less than 3ML/year AND the proposal is approved by NSW DPI Office of Water. The discharge of groundwater into the public drainage system required approval from Council and will only be granted where water quality and flow requirements are met.

24C.4 MANDATORY RAINWATER TANK REQUIREMENTS

Controls

For all Locations (A-D), at least one rainwater tank must be established to capture as much as possible roof water from the primary building(s) on the property. The controls are as set out in the table below:

Table 24C.4-1: Mandatory Rainwater Tank Requirement by Development Type

Type	Description		Minimum Tank Storage Volume	Minimum Use of Retained Water
Type 1 <20m^2	Alts & adds to a single detached dwelling or secondary dwelling. Increase in hard surface area.		A water tank is strongly recommended but not mandatory,	Where installed, must be connected to garden. Connection to toilet and laundry hot water is also encouraged.
20-100m^2	Alts and Adds to single or secondary dwellings where the development is increase in hard surface area. *	Where proposal does not involve a bathroom or laundry	The minimum tank storage volume is 2000L, or, compliance with BASIX, whichever is the greater	For garden irrigation only.
		Where proposal involves a bathroom or laundry.	The minimum tank storage volume is 2000L, or, compliance with BASIX, whichever is the greater.	In accordance with 24R.1
Type 2	Alts and Adds or construction of secondary dwellings >100m^2 increase in hard surface area.		The minimum tank storage volume is 5,000L, or as required in 24R.1, or in compliance with BASIX, whichever is the greater.	In accordance with 24R.1
Type 3	Single Dwellings		The minimum tank storage volume is 5,000L; as required in 24R.1; or in compliance with BASIX. whichever is the greater.	In accordance with 24R.1
Type 4	Dual Occupancy		For any new dwelling: • The minimum tank storage volume is 5,000L ; as required in 24R.1; or in compliance with BASIX. whichever is the greater; plus • 2000 litres for any existing dwelling to be retained	Connection to garden, toilet and laundry and hot water is encouraged for the existing dwelling.
Type 5	High and medium density		The minimum tank storage volume is that required to meet the 50% reduction in runoff days specified in control 24B.3-4, or compliance with BASIX whichever is the greater.	Number of connections required to meet the specified target. Must also be connected to garden, podium plantings, green roofs and walls.

24C.4 MANDATORY RAINWATER TANK REQUIREMENTS (continued)

Controls

Table 24C.4-1: Mandatory Rainwater Tank Requirement by Development Type (continued)

Type	Description	Minimum Tank Storage Volume	Minimum Use of Retained Water
Type 6	Business, Commercial, Retail	The minimum tank storage volume is that required to meet the 50% reduction in runoff days specified in control 24B.3-4, or compliance with BASIX or the Green Star Rating, whichever is the greater.	Number of connections required to meet the specified target. Must be connected to garden, podium plantings, and any green roofs and walls.
Type 7	Open Space	2000L for every five toilets or part thereof in any building erected	Must be connected to toilets. Where possible also for irrigation.
Type 8	Subdivision	2000L for any dwelling to be retained on a newly created lot.	The minimum use of retained water will be garden irrigation. Connection to toilet and laundry and hot water is also encouraged.
Type 9	Any Other Development	As determined by Council, dependent on development type	

*Increase in built-upon (impervious) area.

Note: The mandatory rainwater tank volume requirement may be met using one or more tanks, as appropriate to the site and the required use of stormwater.

Note: Controls for the installation of rainwater tanks are contained in Councils Technical Guidelines for Water Management Devices.



Figure 24C.4-1
3000L water tank blends with dwelling

24C.5 CONTROLS FOR ON-SITE DETENTION

Controls

Part 24C.5 applies to locations A, B and D (where connection to an easement is available), and in some circumstances to Location C properties.

1 Where the design engineer is of the opinion that OSD would cause a lag in flows from the site that would coincide with peak flows in the receiving trunk drainage system, the engineer must submit calculations using hydrological and hydraulic software modelling to demonstrate that OSD would be detrimental to the catchment.

Note: Waiving of OSD will be subject to Council approval.

2 The orifice plate must be installed in any discharge control pit at the same time as the pit is connected to the outlet pipe. The on-site detention system is not to discharge uncontrolled runoff into the downstream drainage network.

3 To protect the streetscape character, above ground on-site detention systems in the front setback are to be avoided.

Development Type 1 and 2

4 OSD is not required for development Types 1 and 2 unless it is required to control rates of runoff into existing interallotment systems which have a capacity less than the post-developed PSD on the site, and are not proposed to be reconstructed at greater capacity. These calculations must be demonstrated to Council.

Development Types 3, 4, 5 and 6

5 Any rainwater retention system must be included as part of the stormwater management system and must comply with the installation specifications available on Council's website.

6 In areas where it is desirable that peak outflows from the subject site do not coincide with the peak flow for the catchment as a whole, the permitted site discharge and storage volume must be calculated in the following manner:

i) Determine in which OSD drainage catchment the site is located 24R.2 of this Part;

ii) Use the information in 24R.3 of this Part and the calculation sheet at 24R.4 of this Part to determine the permitted site discharge and minimum OSD storage volume required for the development; and

iii) Deduct from the minimum storage volume (SSR1 or SSR2 from 24R.3 of this Part) the minimum volume of the any rainwater tank required at 24B.4 of this Part up to an absolute maximum of 10% of SSR provided the tank, is at least, plumbed to toilet and garden irrigation.

Note: The permitted site discharge (PSD) must remain as specified at 24R.3 of this Part.

24C.5 CONTROLS FOR ON-SITE DETENTION (continued)

Controls

iv) Areas, such as green roofs, permeable paving, and hard stand directed to raingardens or rainscaping, may be included in the impervious area bypassing the detention system in the On-site Detention system, calculation sheet (refer to 24R.4)

7 Except where it is demonstrably not practicable, the stormwater management system must incorporate at least two different devices or techniques so as to reduce the risk of total system failure, ie. rainwater tanks may NOT be the sole means employed for on-site stormwater management.

Note: Examples of means that may be acceptable to Council (depending on site circumstances) include:

i) a rainwater tank and OSD; or

ii) a rainwater tank, OSD and a raingarden.

8 The system must be designed such that overflow from the retention system is captured by the OSD device(s) employed on the site and disposed of in accordance with Part 24B.

Development Types 7, 8, and 9

9 For development Type 8 where construction of sealed driveways or roadways with an area greater than 200m^2 is proposed, an on-site detention system will be required to treat that area prior to discharge into the Council system. The SSR and PSD for this system must be calculated using 24R.4 of this Part and based upon the total impervious area to be constructed under the subdivision application.

Note: The creation of new lots will not be approved unless adequate provision for gravity drainage is demonstrated for each of the lots to be created. This will include demonstration of the necessary easements as required.

10 Tennis Courts must be constructed as on-site detention systems unless otherwise approved.

Note: For other type 7, 8, and 9 developments it is recommended that Councils pre-DA service be used, prior to the lodgement of a DA.

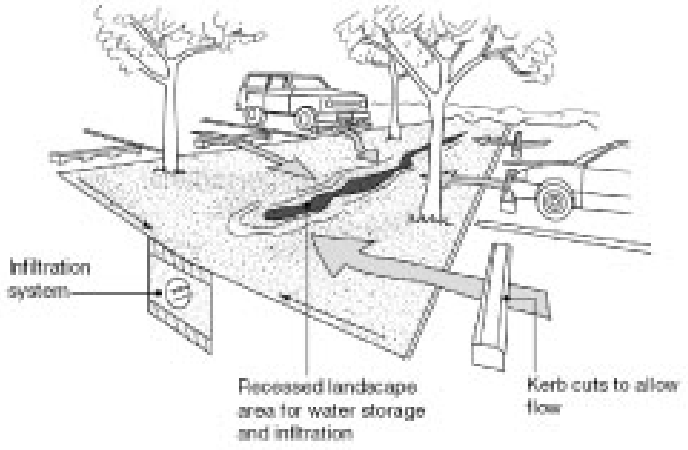


Figure 24C.5-1:
Biofiltration systems can be incorporated into vegetated areas within car parks reducing the on site detention requirements.

24C.6 STORMWATER QUALITY CONTROL

Controls

1 The captured stormwater must be treated to the standards set out in the table 24C.6-1.

Table 24C.6-1: Captured Stormwater Treatment Standards

Pollutant	Baseline Annual Pollutant Load (kg/ha/yr)	Standard to be achieved (kg/ha/yr)
Gross Pollutants	500	30% (70% reduction) = 150
Total Suspended Solids	900	15% (85% reduction) = 135
Total Phosphorus	2	35% (65% reduction) = 0.7
Total Nitrogen	15	55% (45% reduction) = 8.25

2 For Development Types 3 and 4, and Type 2 where the development includes alterations and additions to a bathroom or laundry. The following will be deemed to comply with 1) above:

i) direction of roof area to a rainwater tank;

ii) green roof;

iii) permeable paving;

iv) direction of runoff from impermeable surfaces to rainscaping.

3 For any remaining impermeable surface area, a raingarden or raingardens may be provided with a filter surface area of 2.5% of the remaining impermeable surface area. Design guidance can be found of Council's website: *kmc.nsw.gov.au*

4 Raingardens, particularly those within the front setback, on a Heritage Item, or in a Heritage Conservation Area, are to give consideration to its appearance, including the planting.

5 For the purpose of 2) above, the area of impermeable surface used to calculate the required raingarden surface area can be reduced by the following:

i) area of roof that is directed to a rainwater tank;

ii) area of green roof;

iii) area of permeable paving;

iv) area of impermeable surfaces where runoff is directed to rainscaping.

Note: Gross pollutant load has been set higher than typical Australian values reflecting the significant weight of leaf litter generated within Ku-ring-gai.

Note: Within the Ku-ring-gai local government area the vegetation associated with soils derived from Hawkesbury sandstone are particularly intolerant to phosphorus. For this reason, water quality standards for phosphorus and gross pollutants leaving a site have been set at a high standard. It is important to note that the pollutant load standard to be achieved for phosphorus is based on technology currently available.

Note: Standards to be achieved are a percentage of the 'baseline annual pollutant load', which is defined as the expected post-development pollutant load that would be discharged from the site over the course of an average year if no stormwater reuse or treatment measures were applied. The load is determined based on average rainfall of 1200 mm per year from a 50% impervious catchment with concentrations derived from average values reported in Engineers Australia Australian Runoff Quality (as updated).



Figure 24C.6 -1
A green roof can reduce the required OSD, insulate the roof, encourage small wildlife, and provide enjoyment for local residents.
Source author: Sookie

24C.6 STORMWATER QUALITY CONTROL (continued)

Controls



Figure 24C.6 -2
A local raingarden connected to the overflow of a rainwater tank improves water quality and reduces runoff to the adjoining bushland.

6 For Development Types 5, 6, 8 and 9 (including car parks):

i) all stormwater flows from regular rainfall events (up to the 40% AEP storm) must be captured for treatment prior to discharge to the stormwater drainage system.

ii) a suitably qualified and experienced engineer must certify that the proposed management measure(s) to be used at the site (whether proprietary or otherwise) will achieve the standards for water quality required in this DCP;

iii) the design is to be based on MUSIC modelling prepared in accordance with Council's MUSIC Modelling Guidelines available on Council's website (www.kmc.nsw.gov.au) and in the MUSIC-link function within MUSICv6.

iv) the certification and modelling must be submitted with the development application.

- where MUSICv6 is used a MUSIC-link validation report for Ku-ring-gai Council must be submitted with the development application
- where an older version of MUSIC is used the model files must be submitted to Council to enable MUSIC-link validation to be undertaken.
- any model using parameters not in line with Councils MUSIC modelling guidelines must provide clear justification for any variation.

Note: modelling software other than MUSIC may be used, however all assumptions, inputs and parameters used must match Councils MUSIC modelling guidelines and be clearly explained/demonstrated. Council may also require the model to be certified by a third party (at the proponents expense).

7 The treatment measure(s) must include one or more of the following methods or other as appropriate:

i) Proprietary device/s including an independent certification that it is able to capture and treat or retain the pollutant load specified;

ii) Any appropriate method described on Council's website or other technique appropriate to the site including:

- retention (ponds, wetlands);
- retention and filtration (raingarden, sand filters, permeable paving);
- re-use and re-charge (rainwater tanks and infiltration systems); or
- filtering and conveyance (vegetated swales); and
- Gross Pollutant Traps (GPTs).

8 Treatment must occur as close as practicable to the source to maximise effectiveness.

9 Where it is proposed to treat stormwater using one or more proprietary devices, technical specifications from the manufacturer must be provided with the development application as evidence of the performance capabilities of the device.

24D Existing Drainage Systems

24D.1 General

24D.2 Flood Studies and the Design Flood Standard

24D.3 Development Over or Adjacent to a Natural Waterbody, Open Channel or Drainage Depression

24D.4 Development Over or Adjacent to an Underground Pipeline

24D.5 Tennis Courts and Other Sporting Surfaces

24D.6 Fences

24D.7 Swimming Pools and Spas

READ WITH

SECTION B
PART 17 - Riparian Lands

24D.1 GENERAL

Objectives

1 *To ensure existing stormwater flow paths and drainage systems are preserved during all rainfall events.*

2 *To ensure natural watercourses and floodplain processes are maintained.*

3 *To ensure flows maintain or mimic natural or pre-development conditions.*

4 *To enhance the environmental function of urban creeks and riparian lands.*

5 *To preserve the integrity of existing open waterbodies.*

6 *To minimise the detrimental effects on neighbouring properties.*

7 *To ensure accessibility to existing and future underground piped drainage systems is preserved for maintenance and construction purposes.*

8 *The impact of flood events is not increased.*

9 *To protect new development from inundation or flood damage.*

Controls

Controls 1 - 3 below are only relevant where it is proposed to undertake development adjacent to or over an existing drainage system (including a natural waterbody). In such situations the following controls apply:

1 Development must be kept clear of floodways.

2 Development must not impede overland flows.

3 Development in the vicinity of drainage systems must not result in:

i) increased incidences of flooding;

ii) damage to property and belongings;

iii) risk to life;

iv) loss of environmental amenity and integrity; or

v) difficulty in maintaining or upgrading an associated drainage system.

24D.2 FLOOD STUDIES AND THE DESIGN FLOOD STANDARD

Controls

A flood study is undertaken to identify the reach and depth of overland flows associated with drainage systems on or near a site and to assess the impact of development on such flows and vice versa. Drainage systems include underground pipes, natural watercourses, open channels and depressions.

1 Council reserves the right to request that a flood study be undertaken where it considers that a development proposal, associated with a nearby drainage system, may:

i) be subject to inundation from overland flows causing damage to property or belongings; and /or

ii) be subject to structural damage from overland flows or debris associated with the overland flows; and/or

iii) impede the passage of stormwater associated with the design flood standard to cause a rise (afflux) in the flood level upstream greater than 50mm; and/or

iv) divert overland flows onto or into adjacent properties; and/or

v) increase the downstream velocities of flow for the design flood standard.

The flood study must be prepared in accordance with 24R.7 of this Part.

2 The design flood standard must be calculated based on either:

i) the overland flow associated with the 1% AEP storm event with any above-ground channels and underground pipes / culverts operating at a maximum of 50% capacity; or

ii) the overland flow associated with the 20% AEP storm event with any above-ground channel or underground pipes / culverts fully blocked;

iii) whichever is the greater.

Note: Council may require the adoption of a longer recurrence interval design storm such as the Probable Maximum Flood (PMF) where it is considered that the proposed works pose a greater than usual risk to persons and/or property.

3 Where a flood study has been completed and the site is identified on the flood planning area map any development proposal must demonstrate:

i) Development will not exacerbate flooding on adjoining properties; and

ii) Development is confined to a part of the site which is flood free; or

iii) All dwellings are set at or above the specified freeboard

Note: Council has completed flood studies for selected catchments. Please check www.kmc.nsw.gov.au

24D.3 DEVELOPMENT OVER OR ADJACENT TO A NATURAL WATERBODY, OPEN CHANNEL OR DRAINAGE DEPRESSION

Further controls that may apply		
	SECTION B **PART 17 -** Riparian Lands	

Controls

Note: Development within 40m of 'waterfront land' may be Integrated Development. Integrated Development requires consent from at least one public body other than Council.

The following controls apply to development over or adjacent to a natural waterbody, open channel or drainage depression.

1 Where works are proposed to be undertaken adjacent to the design flood standard conveyance zone associated with a watercourse, open channel or drainage depression, and Council considers it to be necessary, a flood study must be prepared in accordance with 24R.7 of this Part to demonstrate that the development will not:

i) be subject to inundation from flows associated with the watercourse causing damage to property or belongings; and /or

ii) be subject to structural damage from flows associated with the watercourse or debris associated with the flows; and/or

iii) impede the passage of stormwater associated with the watercourse to cause a rise (afflux) in the flood level upstream greater than 50mm; and/or

iv) divert flows associated with the watercourse onto or into adjacent properties; and/or

v) increase the downstream velocities of flow for the design flood standard.

2 Bridges may be considered, where:

i) the underside of any bridge structure, including any attached utility services, is not less than 300mm above the level of the design flood standard;

ii) the existing velocity of water in the watercourse would not be affected;

iii) not more than one bridge is established per property; and

iv) the watercourse and banks beneath the bridge are stabilised by rock lining or equivalent to prevent erosion that would otherwise result from reduced plant growth due to restricted solar access.

Note: Lower level bridges may be considered subject to demonstration that they are structurally adequate, will not impact upon stormwater flows (including backwater affecting upstream property) and will enable dry access during storm events up to the 5% AEP.

24D.3 DEVELOPMENT OVER OR ADJACENT TO A NATURAL WATERBODY, OPEN CHANNEL OR DRAINAGE DEPRESSION (continued)

Controls

3 Where the design flood standard is less than $20m^3/s$, or identified as overland flow on the Flood Planning Area Map* the minimum floor level of all enclosed areas and structures, including all habitable floor areas, must be either:

i) 300mm above the design flood standard level; or

ii) 300mm above the highest existing ground level along the associated overland flow path; or

iii) whichever is the greater, except in the case of garages, where the minimum height must be 150mm instead of 300mm, and in-ground swimming pools, which must be designed in accordance with the provisions of 24D.7 (4) of this Part

*where a flood study has been completed.

4 Where the design flood standard exceeds $20m^3/s$, or as identified as mainstream flow on the Flood Planning Area Map* the minimum floor level for all enclosed areas, including all habitable floor areas, must be 500mm above the design flood standard level, except in the case of garages, where the minimum height must be 300mm, and in-ground swimming pools, which must be designed in accordance with the provisions of 24D.7 (3,4,5) of this Part.

*where a flood study has been completed.

Note: Council may require, as a condition of consent, that the following burdens be placed on the title of the subject property over the following areas of the property:

i) a restriction-on-use over the determined design flood standard conveyance zone for an overland flow path associated with a natural waterbody, open channel or drainage depression, the terms of which do not permit the placement of any structures within that zone which may impede the design flood standard; and/or

ii) a drainage easement to the benefit of Council and/or upstream properties as applicable.

5 Safety fencing that is required to reduce hazard to persons to acceptable limits may be installed in any areas that are subject to overland flow. Safety fencing must be able to withstand a velocity x depth ratio of $0.4m^2/s$, not impede flows or debris, and meet the minimum requirements of AS1926.1-1993: Fencing for Swimming Pools or any standard that replaces it. If fencing is not feasible, other suitable measures may be provided to restrict access to areas which exceed this limit.

6 Parking areas must not be established in areas where vehicles would become buoyant in an overland flow zone, and hence unstable. A maximum velocity x depth ratio of $0.6m^2/s$ to $0.7\ m^2/s$ applies in these instances in accordance with Australian Rainfall and Runoff.

Note: Australian Rainfall and Runoff is published by Engineers Australia www.eabooks.com.au. Information on updates to Australian Rainfall and Runoff can be found at www.arr.org.au

24D.4 DEVELOPMENT OVER OR ADJACENT TO AN UNDERGROUND PIPELINE

Further controls that may apply		
	SECTION B **PART 17 -** Riparian Lands	

Controls

1 The exact location of any drainage line within (or out of) any drainage easement must be established by a registered surveyor, including size, depth to obvert from ground levels and changes in direction, and shown on a scaled drawing.

2 Notwithstanding the controls contained in this section, development is not permitted over or adjacent to a drainage easement and/or pipe unless it also meets the requirements of 24D.3 (3,4) of this Part.

3 No structure will either encroach upon or be located within a drainage easement, or within a 1.5 metre wide zone either side of an underground drainage system, with the exception of carports and other open-faced structures, where:

i) existing overland flow paths are maintained, i.e there is no substantial alteration to existing ground levels;

ii) the pipe size does not exceed 525mm;

iii) all sides of the structure are open-faced to not less than 300mm above the top water level of any overland flow path;

iv) the structure has a minimum 2.5 m head clearance along the length of the easement or pipeline;

v) footings do not encroach into the easement and are not located where they would cause any structural loading on an underground pipe;

vi) velocity x depth profiles of associated overland flows do not exceed 0.4 m^2/s; and

vii) the structure is readily removable and would not compromise future access to the in-ground drainage system for maintenance or upgrade.

4 Parking stands to be paved as set out below.

i) paving, where finished ground levels over the pipe or easement will not be substantially altered, where existing overland flow paths will be maintained and where a suitable full-depth expansion joint or equivalent measure is provided along the easement boundaries or 1.5 m from the centreline. Paving is to be readily removable for future maintenance or upgrade;

ii) eave overhangs where a minimum 2.5m head clearance to ground level is provided;

iii) footings that extend to at least the depth of the invert of the associated pipe or that are placed on competent bedrock;

24D.4 DEVELOPMENT OVER OR ADJACENT TO AN UNDERGROUND PIPELINE (continued)

Controls

iv) tennis courts and other sporting surfaces in accordance with 24D.5 of this Part; and

v) fences, where construction does not, either partly or fully, obstruct any existing overland flowpath and which comply with 24D.6 of this Part.

Note: The approval of such structures will be at the discretion of Council.

5 Where any structure is to be located within a drainage easement in accordance with the controls listed at clause 3 above, a written agreement to the activity must be obtained from all beneficiaries of the easement.

6 Where works are required to Council's drainage systems or in easements on private land the natural form of the channel is be reinstated where feasible as identified on the 'Riparian Lands Map' in the KLEP. See Section 6.7 of the KLEP, and Part 17 of this DCP.

7 Where underground drainage lines exist within private property without the benefit of an easement, Council may require the creation of an appropriate easement at no cost to Council as a condition of approval for any Development Application for the subject land.

Note: In the event that works need to be carried out on Council drainage systems for private developments or in easements, the costs of removal and replacement of any structure permitted under this section will NOT be borne by Council.

24D.5 TENNIS COURTS AND OTHER SPORTING SURFACES

Controls

Tennis courts will not generally be permitted over drainage systems, however, in certain limited circumstances, Council may consider such a proposal acceptable. A tennis court in such a location must comply with the controls set out below.

1 No part of the tennis court must be constructed over or within the riparian land associated with any watercourse (see 'Natural Resources - Riparian Lands Map' in the KLEP (Local Centres) 2012.

24D.6 FENCES

Further controls that may apply		
	SECTION B **PART 17 -** Riparian Lands	

Controls

1 No fence of any construction type may be established within the cross-section of the main flow channel associated with watercourses.

2 No fence of solid construction may be established over a natural watercourse, open channel or drainage depression.

3 Fences, whether located at boundaries or within a property, must not obstruct any overland flow path associated with a watercourse, open channel, easement or drainage depression.

4 Any fence located within an overland flow path as defined by the flood design standard must be of open construction to at least 300mm above the flood design standard level.

24D.7 SWIMMING POOLS AND SPAS

Controls

1 Swimming pools, spas and associated equipment must be located not less than 1.5m from any outer edge of an underground drainage system operated by Council, regardless of whether an easement has been created for the drainage system.

Note: This is to ensure that Council will be able to maintain the system without compromising the pool structure (eg. lifting plant).

2 Where it is proposed to establish a pool adjacent to the design flood standard conveyance zone associated with an overland flow path, watercourse, channel or drainage depression, a flood study must be prepared in accordance with the provisions of 24D.2 of this Part and 24R.7 of this Part to ascertain the design flood standard and demonstrate that the pool structure will:

i) not impede the flow of stormwater associated with the design flood standard so as to cause a rise (afflux) in the flood level upstream greater than 50mm;

ii) not increase the downstream velocities of flow for the design flood standard; and

iii) not be subject to structural damage associated with the conveyance of the design flood standard (water) or the impact of debris transported by the flows.

3 Where the design flood standard flow is less than $20m^3/s$, the minimum finished level of the swimming pool or spa coping is to be not less than 150mm above the design flood standard level.

4 Where the design flood standard flow is greater than $20m^3/s$, the minimum finished level of the swimming pool or spa coping level is to be not less than 300mm above the design flood standard level.

5 No swimming pool or spa must be established where it will be subject to inundation from the calculated design flood standard.

Note: The presence of silt, debris and other pollutants in overland flows can severely compromise the life of the pool, spa and associated equipment where they are inundated. In this respect, covenants or similar which place the onus for maintenance of the swimming pool or spa on the property owner where it is known that they will be inundated will not be considered by Council.

24E Road and Trunk Drainage Design

24E.1 Design procedures

24E.1 DESIGN PROCEDURES

Objectives

1 *To ensure proper management of stormwater capture and conveyance.*

2 *To achieve high standard of safety, health and amenity for persons, vehicles and property.*

3 *To manage and conserve the Ku-ring-gai environment.*

4 *To minimise risk to vehicles and property from the impacts of stormwater runoff.*

5 *To preserve existing stormwater flow paths and drainage systems during all rainfall events.*

Controls

As required under legislation (including the Roads Act 1993), a design plan must be prepared and submitted to Council for approval when any work other than minor maintenance is to be undertaken within the road and trunk drainage system.

Note: Further detail may be found in other Council documents such as Council's Specification for Road and Drainage Works.

Note: Sufficient information must be provided for Council to assess the proposed drainage design.

Note: The care, control and management of the road and trunk drainage system, including the network of pipes, overland flow paths and natural and constructed channels, is the responsibility of Council, so any work performed on it may only be carried out with Council's knowledge and approval.

General Controls

1 All designs must be prepared by a qualified civil engineer eligible for membership to Engineers Australia.

2 All calculations and designs must be in accordance with the procedures set out in *Australian Rainfall and Runoff* .

3 All submissions of calculations to Council must, where appropriate, include:

i) a catchment plan showing each sub-catchment and overland flow path;

ii) engineering plans detailing the proposed construction; and

iii) calculations shown on the calculation sheet contained in *Australian Rainfall and Runoff* .

4 Where the calculations are to be performed by approved computer modelling, full details of the input and output files must be provided in hard copy and in acceptable electronic form.

Note: A*ustralian Rainfall and Runoff* is published by Engineers Australia www.eabooks.com.au. The most recent version of *Australian Rainfall and Runoff* should be used unless otherwise specified by council. Information on updates to *Australian Rainfall and Runoff* can be found at www.arr.org.au/

Hydrological Calculations

5 All hydrological calculations submitted to Council for approval must be carried out in accordance with the procedures set out in *Australian Rainfall and Runoff* and in accordance with recognised engineering practice.

Note: For drainage systems in all catchments, Council has 20% and 1% AEP flow information available. This can be obtained by completing a Technical Services search form (available from Customer Service) and payment of the relevant fee.

6 For catchments greater than 1.5 hectares and/or where there is more than one contributing catchment, peak flowrates must be determined using a recognised runoff routing computer model such as DRAINS.

24E.1 DESIGN PROCEDURES (continued)

Controls

Note: In all other cases, use of the rational method for determining flowrates will be considered acceptable. In these instances, the calculation sheet shown in *Australian Rainfall and Runoff* must be included together with a plan clearly showing the catchment areas and overland flowpaths.

Note: In some areas 1 dimensional modelling may not be considered sufficient and Council may require 2 dimensional modelling to be undertaken

7 Runoff coefficients and times of concentration must give due consideration to likely future development within the catchment.

Recurrence Intervals

8 Drainage systems must be designed to provide both minor and major flow conveyance systems as detailed in *Australian Rainfall and Runoff*

9 All enclosed stormwater drainage systems must be designed to have minimum capacity to cater for a 5% AEP storm, unless otherwise approved by Council.

10 An overland flowpath must be established to accommodate the surcharge from rainfall for a storm recurrence interval of either the 1% AEP with all pipelines 50% operational or the 20% AEP with all pipes blocked, whichever provides the greatest surcharge.

11 Constructed trunk stormwater drainage channels must be designed to have sufficient capacity to convey the 5% AEP rainfall event with appropriate freeboard at the bankfull level together with provision to convey the 1% AEP event in overbank flow.

Note: Council may require the recurrence intervals specified herein to be increased having regard to the particular circumstances of each case or where danger to persons or risk of significant property damage warrants such an approach.

Note: Rainfall intensities for Ku-ring-gai as derived from Australian Rainfall and Runoff are included in Ku-ring-gai Rainfall Intensity Frequency Duration Data.

Note: Topographical maps may be purchased in whole or in part from Council.

Note: Council does not retain a complete record of the locations, sizes and levels of all components of its drainage system. Upon written application to Council, relevant information may be researched for the applicant, however, Council cannot guarantee that the correct information is held in its records.

Hydraulic Calculations and System Design

12 Pipeline design for road and trunk drainage must be performed using the hydraulic gradeline method set out in *Australian Rainfall and Runoff.*

13 Minimum internal pipe diameter must be 375mm.

14 Minimum pipe gradient must be 1.0% to allow for cleaning and self-flushing.

24E.1 DESIGN PROCEDURES (continued)

Controls

15 Pipe velocity must be between 0.5m/s and 7.0m/s and preferably between 1.0m/s and 5.0m/s during the design storm to ensure the flow is self-cleansing but not likely to cause scour.

16 Minimum pipe cover in areas not subject to vehicular loading must be 300mm (measured from the crown of the pipe).

17 Minimum pipe cover in areas subject to vehicle loading must be 450mm. Appropriate design of bedding and backfill is also be required.

18 Pipe classes, backfill and bedding must be determined using the *AS3725* or any standard replacing that standard.

Note: Pipeload available from the Concreate Pipe Association Australia http:www.cpaa.org.au/ can be used for bedding design and determining pipe class to be used.

19 Except where approved by Council, pipes must be rubber ring jointed reinforced concrete pipes to comply with the requirements of Australian Standard *AS4058-1973* or any standard replacing that standard.

Note: Council does not permit the use of pipes or traditional concrete lined channels or their equivalent to replace existing open watercourses. Where new drainage channels are proposed, they must be designed and constructed in an environmentally sensitive manner that mimics the environmental benefit of a natural open watercourse. This would typically involve the use of large sandstone rocks that are tightly packed to form a stable channel and also to provide niches for habitat function, sediment collection and plant growth. The size of individual rocks will depend on the design velocity of flood flow along the channel. The channel design will require sensitive design by the engineer.

20 Constructed channels must be designed to cater for a 50% blockage factor (ie, it must be assumed that the channel is 50% blocked during the critical design storm). This applies to both the minor and major flow conveyance design.

21 Inlet pits must be located and provided with kerb inlet of adequate size to relieve the flow in gutters, such that the depth does not exceed 100mm on the high side of residential roads and 75mm on the low side of residential roads and 75mm in commercial areas. Additional pits may be required in certain locations to prevent cross road flows. The location of the gully pits on curves, kerb returns and in line with normal pedestrian traffic flows is to be avoided.

22 The minimum pit size for any inlet, gully or junction pit on Council drainage systems is 900x900mm clear internal.

23 The inlet capacity of on-grade and sag inlet pits must be determined using equations given in *Australian Rainfall and Runoff* or the charts provided in the Appendix of *Australian Rainfall and Runoff* Allowances must be made for blockage in accordance with the following table:

24E.1 DESIGN PROCEDURES (continued)

Controls

Inlet Type	Side Entry	Grated	Combination	Letterbox
% Capacity Blockage	10%	30%	100% side inlet capacity only	50%

Table 24E.1-1: Inlet capacity allowance requirements.

Note: Alternative capacity allowances may be considered if they are in line with Australian Rainfall and Runoff or related updates www.arr.org.au

Note: Some areas where there is a history of blocking, such as high leaf drop, high street litter load, Council may require check analysis with higher blocking factors as part of the design

25 All new pits are to be constructed using galvanised steel grates and sag pits are to have a minimum internal lintel width of 2.4m nominal opening.

26 Water depths and velocities in free surface flows must be determined using Manning's Equation. Where uniform flow is occurring (ie. the channel cross-section, roughness and slope are constant over a reasonable distance), Manning's Equation may be applied to the cross-section without consideration of upstream or downstream influences.

Note: For most overland flow analysis, the assumption of uniform flow will not be appropriate and consideration must be given to upstream and downstream controls, losses for afflux and other hydraulic losses.

Preparation of Stormwater Design Drawings for Trunk Systems

27 Stormwater design drawings submitted to Council for approval must include a plan view of the proposed stormwater drainage layout and a drainage longitudinal section of each proposed pipeline. These must be drawn at recognised scales and in accordance with Australian Standard AS1100, Part 401-1984 or any standard replacing that standard.

28 The plan view must clearly show the location, dimensions and types of:

i) all existing drainage features including drainage pipelines, channels, structures, utility services and overland flow paths;

ii) all proposed drainage features including drainage pipelines, channels, structures and overland flowpaths; together with

iii) all necessary information to accurately set out the proposed works including the location, coordinates and levels of survey control marks and coordinates of each drainage node.

29 Drainage longitudinal sections must be provided for all proposed stormwater drainage lines. They must be drawn to Australian Height Datum (AHD) at the same horizontal scale as the plan view and with a vertical exaggeration of five, oriented with chainages running from left to right and must include the following:

24E.1 DESIGN PROCEDURES (continued)

Controls

i) existing and design surface profile;
ii) existing and design surface levels;
iii) existing drainage pipelines;
iv) utility services;
v) design pit and pipe profiles;
vi) chainages along pipe centreline;
vii) proposed pipe grade, size and class;
viii) design flow and velocity;
ix) drainage structure definition; and
x) junction and node identification.

24F On-site Wastewater Management

24F.1 On-site wastewater management

24F.1 ON-SITE WASTEWATER MANAGEMENT

Objectives

1 *To ensure sustainable use of the water resource without compromise to lifestyle, health or amenity.*

Controls

In addition to installation of water saving devices and any required rainwater tank, water may also be conserved by treating wastewater on the site and, where appropriate, reusing it. This can take the form of greywater diversion, greywater treatment or wastewater treatment. Where on-site wastewater management is to be employed, the proposal must comply with the controls set out below:

1 The system must be designed, located and constructed so as to:

i) prevent the spread of pathogens to waterways, soil, air, animals or humans;

ii) prevent nuisance odour, insect pests, vermin or other amenity impacts;

iii) prevent contamination of soil, water or air; and

iv) ensure that all overflows are to the sewerage system in accordance with Sydney Water requirements.

2 The proposal to Council must include a design and management plan addressing relevant hydrological, hydrogeological, soil contamination and public health issues in accordance with *AS/ NZS1547:2000 On-Site Domestic Wastewater Management* or any standard replacing that standard.

3 Any on-site wastewater system designed for detached single dwellings must be designed in accordance with the provisions of NSW Environment and Health Protection Guidelines: On-site Sewage Management for Single Households (DLG et al, 1998).

Note: In addition to any development consent required, approval must be sought from Council under Section 68 of the Local Government Act 1993 for the installation of any on-site wastewater treatment system.

Note: The provisions of the Local Government (General) Regulation 2005 will apply to any application to which this section relates.

Note: Any system should also meet the Australian Guidelines for Water Recycling

Note: Greywater means wastewater from washing machines, laundry tubs, showers, hand basins and baths but does not include wastewater from a kitchen, toilet, urinal or bidet.

24R References

24R.1 Rainwater Tank Size Guide

24R.2 Drainage Catchments for On-site Detention

24R.3 Permitted Site Discharge and Minimum On-site Detention Storage Volumes

24R.4 On-site Detention Calculation Sheet

24R.5 Design of On-site Detention Systems (OSD)

24R.6 Design of Property and Inter-allotment Drainage Systems

24R.7 Flood Study Requirements

24R.8 Terms of Positive Covenants and Restrictions on use

READ WITH

SECTION C
PART 24 - Water Management
24C.4: Mandatory Rainwater Tank Requirements

24R.1 RAINWATER TANK SIZE GUIDE

Further controls that may apply		
		SECTION C **PART 2C.4 -** Mandatory Rainwater Tank Requirements

This guide applies only to development types 1 to 4 as specified in 24C.6 of this Part.

Tables 24R.1-1 to 24R.1-3 provide guidance on the minimum size of rainwater tanks to meet the target of a 50% reduction in run-off days to reduce the impacts of runoff on waterways. Note that smaller tanks with a larger number of connections increases the draw-down and the available space in the tank, ensuring run-off is captured when it rains.

You may need or wish to provide a larger tank to meet water conservation objectives, for instance to meet the requirements of BASIX.

Each table has been developed for the number of uses that will be connected to a rainwater tank. Connection of the rainwater tank to as many uses as possible helps ensure there is more frequent “draw-down” and space in the tank to capture run-off when it rains.

Notes to *Tables 24R.1-1 to 24R.1-3*:

Connections to meet the requirements of the above tables include the following:

i) toilet

ii) laundry

iii) hot water (see NSW Health: Guidelines on Using Rainwater Tanks. Available at: www.health.gov.au/

iv) green Wall

v) passive irrigation tank.

For specifications for green walls and passive irrigation tanks see specifications on Council’s website.

Multiple connections of the same type are permitted e.g. two toilets connected to the rainwater tank would be two connections and 24R.1-2 would provide the size of tank required to reduce runoff days by 50%. A maximum of connection to two toilets will be permitted for tables 24R.1-2 and 24R.1-3.

Roof area refers to the roof area connected to the tank (where possible the whole roof area is to be connected).

Garden size refers to the area to be irrigated using the rainwater tank. It does not refer to the area irrigated from the passive irrigation tank.

Any storage over the 10KL limit is required to be stored underground in accordance with Part 2 of this DCP, and are therefore highlighted for convenience.

24R.1 RAINWATER TANK SIZE (continued)

Garden size (m^2)	Roof area (m^2) ≤100	150	200	250	300	≥ 350
50	2.5					
100	2	*11*				
150	2	7				
200	2	6	*14*			
250	2	5	10			
300	2	5	9	*20*		
350	2	5	8	*17*		
400	2	5	8	*15*		
450	2	5	8	*14*		
500	2	5	8	*13*		
550	2	5	8	*12*	*20*	
600	2	5	7	*12*	*18*	
650	2	5	7	*12*	*17*	
700	2	5	7	*12*	*17*	

Table 24R.1-1:
Tank size (KL) with 1 connection in addition to garden

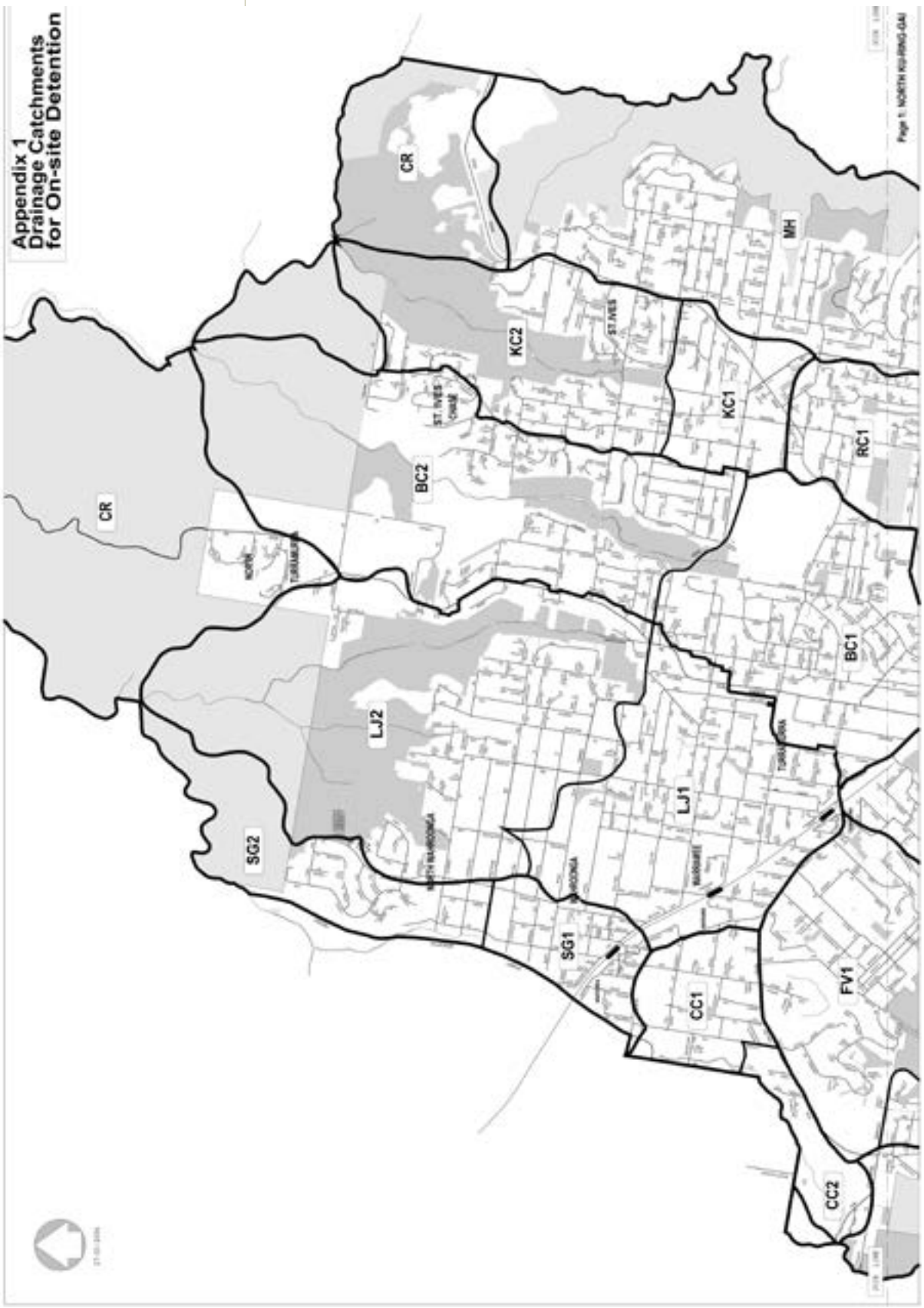
Garden size (m^2)	Roof area (m^2) ≤150	200	250	300	350	400	≥ 450
50	2.5	9					
100	2	5					
150	2	5	10				
200	2	5	8				
250	2	4	8	*16*			
300	2	4	7	*13*			
350	2	4	7	*12*	*20*		
400	2	4	7	*11*	*17*		
450	2	4	7	10	*15*		
500	2	4	6	10	*14*		
550	2	4	6	10	*14*	*20*	
600	2	4	6	10	*13*	*18*	
650	2	4	6	10	*13*	*17*	
700	2	4	6	10	*13*	*17*	

Table 24R.1-2:
Tank size (KL) with 2 connections in addition to garden

Garden size (m^2)	Roof area (m^2) ≤200	250	300	350	400	450
50	2.5	5				
100	2.5	5	10			
150	2	4	8	*18*		
200	2	4	7	*12*		
250	2	4	7	*11*	*18*	
300	2	4	7	10	*15*	
350	2	4	6	10	*14*	
400	2	4	6	9	*13*	
450	2	4	6	8	*12*	*19*
500	2	4	6	8	*12*	*18*
550	2	4	6	8	*11*	*17*
600	2	4	6	8	*11*	*16*
650	2	4	6	8	*11*	*16*
700	2	4	6	8	*11*	*15*

Table 24R.1-3:
Tank size (KL) with 3 connections in addition to garden

24R.2 DRAINAGE CATCHMENTS FOR ON-SITE DETENTION



24R.2 DRAINAGE CATCHMENTS FOR ON-SITE DETENTION (continued)



24R.3 PERMITTED SITE DISCHARGE AND MINIMUM ON-SITE DETENTION STORAGE VOLUMES

The codes in the table below are found in *Part 25R.1 of this DCP*

Code	Catchment Area	Permitted Site Discharge (l/s/ha)	Equivalent Minimum OSD Storage Volume (m^3/ha)
AC1	Avondale Creek	102	398
AC2	Avondale Creek	166	241
BB1	Blackbutt Creek	141	302
BB2	Blackbutt Creek	166	241
BC1	Cowan Creek	96	414
BC2	Cowan Creek	166	241
BG1	Blue Gum Creek	147	287
BG2	Blue Gum Creek	166	241
CC	Coups Creek	132	325
CR	Cowan River	166	241
FV1	Fox Valley	129	332
FV2	Fox Valley	166	241
GC1	Gordon Creek	128	336
GC2	Gordon Creek	166	241
KC1	Ku-ring-gai Creek	139	308
KC2	Ku-ring-gai Creek	166	241
LG1	Lady Game Creek	147	287
LG2	Lady Game Creek	166	241
LC	Lane Cove River	166	241
LQ1	Loftberg Quarry Creek	153	272
LQ2	Loftberg Quarry Creek	166	241
LJ1	Lovers Jump Creek	94	417
LJ2	Lovers Jump Creek	166	241
MH	Middle Harbour	166	241
MC1	Moores Creek	136	315
MC2	Moores Creek	166	241
RC1	Rocky Creek	124	345
RC2	Rocky Creek	166	241
SG1	Spring Gully Creek	134	320
SG2	Spring Gully Creek	166	241

24R.4 ON-SITE DETENTION CALCULATION SHEET

Address ……..

Catchment Detail				
1.	Catchment Name ……			
2.	Catchment Discharge Rate	……	l/sec/m^2	**A**
3.	Catchment Storage Rate	……	m^3/m^2	**B**
Site Details				
4.	Site Area ……m^2 ^ 60% of site area	……	m^2	**C**
5.	Area(s) not draining to the detention system……m^2			
6.	Total impervious area (roofs, driveways, paving, etc.)	……	m^2	**D**
7.	Impervious area bypassing detention system	……	m^2	**E**
Permitted Site Discharge				
8.	**C** [……m^2] x **A** […… l/sec/m^2] =	……	l/sec	**Flow 1**
9.	Adjustment for any uncontrolled impervious flow **E** / **D** =	……	(<0.25)	**F**
10.	**Flow 1** [……. l/sec] x **F** [……] =	……	l/sec	**Flow 2**
11.	**Flow 1** [……] – **Flow 2** [……] =	**……**	**l/sec**	**PSD**
Site Storage Requirement				
12.	**C** [……m^2] x **B** [……m^3/m^2 =	**……**	**m^3**	**SSR1**
13.	If the storage is in a landscaped basin, **SSR1** x 1.2 =	**……**	**m^3**	**SSR2**
Outlet Control				
14.	Height difference between top water surface level and the centre of the orifice	……	m	**G**
15.	Orifice Diameter $21.8 \times \sqrt{\frac{PSD}{\sqrt{G}}}$	**……**	**mm**	**OD**

PSD = Permitted Site Discharge
SSR1 = Site Storage Requirement (except for landscaped basins)
SSR2 = Site Storage Requirement (landscaped basins) **(Note: Use only SSR1 or SSR2)**
OD = Orifice Diameter

Signature…… **Name**……

Qualifications…….. **Date** ……

24R.5 DESIGN OF ON-SITE DETENTION SYSTEMS (OSD)

Controls

Depending on the site, stormwater may be detained above and/or below ground. Where it is above ground, it may be held in an open grassed or landscaped area or in a driveway designed for such a purpose. It is possible to use a combination of different locations. The following controls apply to on-site detention tanks:

General Controls for On-site Detention Systems (OSD)

1 On-site detention (OSD) must not be established across allotment boundaries unless intended to be covered by reciprocal drainage easements.

2 The design of the facility is to be compatible with the proposed overall site layout and landscaping and must not be unsightly.

3 On-site detention storages must generally be located as close as possible to the lowest point of the site.

4 The site drainage system must not surcharge before the on-site detention area is full to the design top-water level.

5 On-site detention storages must not be located in drainage easements and/or overland flow paths that convey catchment flows through the site.

6 The on-site detention system is to drain freely to the public drainage system for storm events up to and including the 1% AEP.

If this is not possible, compensation is to be made by increasing the storage volume provided (calculations to be submitted for approval).

The rate of discharge from the OSD system is to be calculated based on the impervious area remaining after the deep soil area is deducted from the total site area.

7 Where the development is on land that is to be strata titled or community titled, OSD must be located in common areas (and not in private courtyards).

8 Locations of on-site detention systems must be included on any new final plans of subdivision.

9 Cut and/or fill within the canopy areas of any trees to be retained is not permitted.

10 The excavation influence line must not affect footings of adjacent or neighbouring structures.

11 The location of the OSD must not restrict pedestrian access between a public road and any site building and must not cause hazard or inconvenience in any manner.

12 A spillway or overflow outlet is to be provided in all OSD systems as part of the operation of the system. The overflow must be designed to cater for total system failure (blockage) in extreme storm events and designed to safely convey all overflows up to the 1% AEP

24R.5 DESIGN OF ON-SITE DETENTION SYSTEMS (OSD) (continued)

Controls

uncontrolled flow to an adequate downstream drainage system without adverse impact on neighbouring properties.

Note: Where large overflow structures are required, Council may determine that approval for the structure is required from the Dam Safety Committee.

13 The overflow from the system is to be collected within a suitably located and sized drainage pipeline with a design capacity equivalent to the 1% AEP storm runoff from the site.

14 Overflow must not be directed to another private property unless along an overland flowpath along an easement.

15 The spillway is to be protected by the fixing of suitable armour over the overflow facility.

16 The overflow level must not be less than:

i) 0.3m below the floor level of all habitable areas adjacent to the OSD and

ii) 0.15m below the floor level of all garage areas adjacent to the OSD.

17 The top level of kerbs and other retaining structures is to be a minimum of 50mm above the level of flow over the spillway.

18 The location of all on-site stormwater detention systems is to be marked on site by the fixing of a marker plate of minimum size of 0.15m x 0.1m to the grate of the discharge control pit or nearest concrete or permanent surface in a prominent position. The plate must be of non-corrosive metal or 4mm thick laminated plastic and that contains the following wording:

This is an on-site stormwater detention system required by Ku-ring-gai Council. It is an offence to reduce the volume of the tank or basin or to interfere with the orifice plate that controls the outflow. The owner must clean the base of the outlet control pit and the debris screen of debris and sediment on a regular basis. This plate must not be removed.

19 A positive covenant and restriction on use is to be established for the detention system in accordance with 24R.8 of this Part.



Figure 24R.5 -1
Marker plate for on-site detention system

Discharge control pits (dcp)

20 The discharge control pit is to have dimensions of 0.6m x 0.6m for pits up to 0.6m deep, and 0.9m x 0.6m for pits exceeding 0.6m depth.

21 To protect against blockage, all outflow controls are to be totally and solely enclosed by a rustproof debris screen or wire cage in accordance with the following:

i) the screen material is to be hot dipped galvanised mesh (Lysaght's maximesh 3030 or equivalent product);

ii) the minimum surface area of the debris screen must be 50 times

24R.5 DESIGN OF ON-SITE DETENTION SYSTEMS (OSD) (continued)

Controls

the area of the outlet pipe or orifice;

iii) the screen is to be a minimum of 0.1m from the face of the orifice and attached (generally on a sliding mechanism) to the wall;

iv) the screen must be capable of removal by hand to permit cleaning and easy inspection of the outlet control; and

v) the inlet pipe to a DCP should direct inflows parallel to the screen. To assist in shedding debris, the screen should be positioned as close as possible to the vertical, but not less than 45 degrees to the horizontal.

22 A sediment collection sump must be provided below the orifice outlet to the stormwater detention system that:

i) has a minimum depth of 0.2m below the invert of the orifice;

ii) is connected to the outlet pipe by means of 3 x 40mm weepholes plugged with a geofabric filter cloth; and

iii) includes an additional filter medium between the weepholes and the connection to the outlet that consists of 15mm river gravel wrapped in geofabric over a minimum length of 0.6m, thence to subsoil drainage connected to the main outlet (where possible).

23 If site discharge is controlled through installation of a choke pipe, the adopted tailwater levels are to be as follows:

i) for systems draining directly to the street drainage system –
- for connections to the kerb, the top of the kerb level, or
- for connections to street drainage pits, 0.15m below the underside of the grate, or
- for connections to footway or easement pipes or pits, the surface level of the point of connection; or

ii) for systems draining directly to an open channel, the top of the channel.

iii) for systems draining directly to a watercourse, the top of the watercourse.

24 If site discharge is controlled by a sharp edged orifice, the following controls apply:

i) orifice plates are to have minimum dimensions of 0.2 x 0.2m with a minimum orifice diameter of 30mm and must be 3mm thick flat stainless steel.

ii) the orifice plate is to be tooled to the exact dimension as calculated and must be securely fastened in a central position over the outlet pipe using four galvanised (4) dynabolts and epoxy cement.

iii) orifice plates are to be flush with the wall such that flow does not pass between the plate and the wall and is to be located so that the centreline of the orifice is in line with the base of the on-site detention tank.

24R.5 DESIGN OF ON-SITE DETENTION SYSTEMS (OSD) (continued)

Controls

iv) the following formula is to be used to calculate the required diameter of the sharp edged orifice:

$D = 21.8 * (PSD / h^{0.5})^{0.5}$ where

D = orifice diameter (mm) PSD = flowrate (L/s)

h = pressure head at the middle of the orifice when the system is at its maximum storage capacity (m)

Note: The formula assumes that the water level immediately downstream of the orifice is not above its obvert.

v) where the calculated orifice diameter is less than 30mm, the detention system must be redesigned to either reduce water depths in the storage facility or to increase the catchment draining to the basin.

vi) the outlet pipe to which the orifice discharge is connected is to have a capacity at least 1.5 times the permissible site discharge for at least the first 2m downstream from the orifice.

Above ground on-site detention systems

25 The facility must be located where the least possible adjustment to existing ground levels would be required to achieve storage of the necessary volume.

26 The calculated storage volume is to be increased by 20% to allow for the growth of the vegetation and for minor variations to the ground level occasioned by the maintenance regime.

27 Ponding depth must not exceed 1.2m at any point and must not exceed 0.3m over a minimum width of 1m at the perimeter.

28 A childproof fence must be established around the OSD area where ponding depth exceeds 0.3m and where any side of the OSD basin exceeds 15% gradient.

29 The proposed structure must be certified by the designing engineer as impermeable and structurally adequate to retain the design volume of water.

30 Council will not approve post and sleeper walls and/or earth mounding as a retaining structure for on-site detention storages unless of double wall construction with at least 0.5m width of soil between.

31 A minimum of 0.15m freeboard to the top of the basin perimeter is to be provided above the level of the overflow spillway invert.

32 Where ponding on driveways/parking areas is considered the maximum ponding depth is to be 0.15m in parking areas and 0.2m in all other trafficked areas; and

33 Where ponding on driveways/parking areas is considered, all driveway gradients and gradient transitions must meet the standards of *Australian Standard 2890.1 – 2004 "Off-street car parking"*.

24R.5 DESIGN OF ON-SITE DETENTION SYSTEMS (OSD) (continued)

Controls

Below ground OSD structures

34 A minimum of 0.3m soil cover is to be provided where the tank is located under landscaped areas.

35 The tank must be structurally designed to withstand all service loads (normal earth, surcharge, traffic and hydrostatic) and to provide a service life of fifty (50) years.

36 Internal supporting walls must be minimised to ease maintenance. Typically internal supports should only be considered for spans greater than 3m.

37 Excavation for the tank must be checked for impact on the zone of influence on adjacent footings and structures.

38 An inspection / access grate measuring 0.6m x 0.9m is to be installed directly over the overflow outlet and must be readily accessible from a point external to the site building(s).

39 Where the internal depth of the tank is less than 0.6m, surface grates are to be provided in each corner of the on-site detention tank and all inlet pipes must be connected directly under the grate access to the control outlet of the on-site detention tank. This is to minimise any need to enter the tank for maintenance reasons and to allow for ventilation and remote flushing of the tank floor.

40 The base of the tank is to have a minimum 1% grade towards the discharge control pit to ensure proper drainage.

41 Fixed step irons must be fitted into the tank where the internal tank depth exceeds 1.2m.

42 A child-proof locking system must be employed for surface grates and lids.

43 In high water table areas, the tank must be designed to avoid flotation.

44 All inlet pipes are to discharge at the tank floor level in order to minimise noise disturbance;

45 Rainwater tanks designed for aboveground use must not be utilised for underground OSD purposes; and

46 A Ku-ring-gai Council marker plate is to be affixed to the detention tank/basin at the control pit.

24R.6 DESIGN OF PROPERTY AND INTER-ALLOTMENT DRAINAGE SYSTEMS

Controls

Design of Property Drainage Systems

The property drainage system is the system of underground pipes, inlet and junction pits, roof gutters, downpipes, swales and associated plumbing within a property that captures and conveys stormwater to on-site management systems (ie, OSD, OSR and/or water quality treatment devices) and to the public drainage system outside the site. The following controls apply to these drainage systems:

1 Consideration must be given to the management of all stormwater runoff from:

- i) roofs, paved areas, driveways, swimming pool surrounds and other impervious areas,
- ii) areas subject to changes to natural ground level and including excavated or filled areas,
- iii) areas where the natural or pre-development overland flow regime is disrupted to the potential detriment of an adjoining property,
- iv) areas where long term ponding of water may occur, and
- v) areas where existing runoff from up-slope properties is likely to create nuisance to the proposed development.

2 The piped property drainage is to capture and convey the 2% AEP storm runoff to the stormwater management/disposal system.

Note: At Council's discretion, higher standards may be adopted if the proposed development is sensitive to damage by stormwater or blockage of the drainage system.

3 All stormwater entering the site, including that which exceeds the capacity of the piped drainage system, is to be captured and conveyed overland within the development site, in a controlled manner not exceeding recognised hazard criteria, to the approved stormwater disposal system.

Note: Any proposed concentrated flow onto adjoining properties is only permissible where an easement has been obtained in accordance with the requirements of this DCP (Refer to 25B of this Part).

4 No part of the property drainage system is to consist of aerial drainage systems other than vertical downpipes and guttering.

5 Underground pipes/plumbing must:

- i) have a minimum internal diameter of 0.1m,
- ii) not be located beneath buildings except where:
  - there is no practicable alternative and pipes cannot be routed around the building,
  - the number of pipes underneath the building is minimised,
  - piping underneath buildings is straight and has no junctions,
  - inspection openings are provided at all points of entry and exit under the building, and

24R.6 DESIGN OF PROPERTY AND INTER-ALLOTMENT DRAINAGE SYSTEMS (continued)

Controls

- the design engineer certifies that the system is in accordance with *AS3500.3 – 1998 – National Plumbing and Drainage and the Building Code of Australia*,
- be subject to a hydraulic grade line analysis by a consulting engineer for any development site exceeding 5000m^2 in area,
- be sewer class piping or better,
- be designed so that no surcharge occurs onto other properties or pipe flows exceed 100l/s,
- have a minimum longitudinal grade of 1% where pipe diameters are up to and including 0.15m or, where larger, a minimum longitudinal grade of 0.5%,
- be compatible with proposed and possible future development in all respects, and
- have the minimum depth of cover from finished ground level to top of pipe as required in accordance with Table 7.1 from *AS3500.3 - 1998 National plumbing and drainage Part 3.2: Stormwater drainage - Acceptable solutions.*

Note: Higher standards should be adopted if the proposed development is sensitive to damage by stormwater or blockage of the drainage system.

6 Discharge from subsoil drainage systems must be to a pit located within the property and not directly to the street gutter. The discharge is to be disposed of in a manner that does not affect adjacent properties nor cause erosion or scour of downstream drainage systems.

7 In residential developments that consist of more than one (1) dwelling, the private courtyard of each dwelling must contain at least one grated inlet pit.

8 Surface inlet pits must:

i) be located to catch overland flows experienced during failure of the site drainage system,

ii) be provided at all pipe junctions, changes in pipe direction exceeding 45 degrees and at the road boundary (within the property) prior to connection to the public drainage system,

iii) be of sufficient size to accept the predicted flow and have dimensions in accordance with the table below:

Depth (mm)	Dimension (mm^2)
< 600	450 x 450
600 – 900	600 x 600
900 – 1200	600 x 900
>1200	900 x 900

24R.6 DESIGN OF PROPERTY AND INTER-ALLOTMENT DRAINAGE SYSTEMS (continued)

Controls

iv) have step irons inside, where pits are deeper than 1.2m,

v) must not be of plastic unless not larger than 0.45 x 0.45m with, not deeper than 0.45m and of heavy duty plastic to manufacturer's specifications, and

vi) have grated pit covers that are removable, designed to appropriate loadings (such as traffic) and constructed of galvanised steel or cast iron.

9 Heavy duty, grated drains of minimum width 0.2m and minimum depth 0.2m must be provided across driveways at the following locations:

i) outside the entrance to a garage where the driveway falls towards the garage, or

ii) at the front (street) boundary of the property, fully within the property, where the driveway falls towards the street.

10 The minimum diameter outlet pipe from any grated surface inlet pit or grated drain provided to capture surface runoff must be 150mm in order to reduce the occurrence of outlet blockage.

11 All inlet and outlet pipes from a pit are to be finished flush with the internal wall of the pit. The outlet pipe must be at the same level as the base of the pit to ensure there is no permanent ponding of water in the pit.

12 Any existing drainage system on a development site to be utilised must be suitably modified in order to offset any adverse impacts that a proposed development may have on the efficiency of that system.

13 Stormwater pipes are to be located outside the drip-line or not less than six (6) metres from the trunk (whichever is greater) of any tree to be retained unless the method of pipe installation is certified by a qualified arborist as not affecting the longevity of the tree to be retained.

Note: For small diameter pipes with minimum cover, careful hand excavation of the installation trench with retention across the trench of all roots greater than 25mm diameter, may be an acceptable method.

Note: For larger diameter pipes, or for small pipes at excessive depth, installation of pipes by remote thrust boring technique may be an acceptable method. In this case a pipe cover of at least one (1) metre should be provided.

14 Drainage works, materials and specifications are be designed and constructed in accordance with:

i) Institution of Engineers Australia *Australian Rainfall and Runoff*

ii) Australian Standard AS 3500.3 – *2003 National Plumbing and Drainage*; and

iii) relevant occupational health and safety requirements.

24R.6 DESIGN OF PROPERTY AND INTER-ALLOTMENT DRAINAGE SYSTEMS (continued)

Controls

Mechanical pump-out systems for basement carparks

Mechanical pump-out drainage is only permissible where gravity drainage cannot be achieved from basement carpark area to the on-site stormwater management system. The following controls apply to mechanical pump-out systems:

15 The developer is to demonstrate that gravity drainage from the basement carpark is not possible.

Note: Where gravity drainage is possible from some parts of a basement carpark, only those sections where gravity drainage is not possible are be drained using a mechanical pump-out system.

16 The catchment area being pumped out must consist of not more than the basement carpark itself and the driveway ramp to the basement carpark.

17 The catchment area being drained is to be 100m^2 or less.

18 The system must be designed by a competent qualified civil engineer eligible for membership to Engineers Australia.

19 The system must be dual alternating with level switches and activation of dual operation at top water level.

20 Each pump must cater to a minimum of 110% of the design flow.

21 A description of the pump(s) is to be provide listing the manufacturer, model number and published duty curves.

22 An automatic alarm must be installed so that it sounds during pump failure.

23 The water pumped from the basement carpark must be directed to the OSD system designed in accordance with the requirements of 25C of this Part.

24 The pump wet well is to have a storage capacity of at least the two hour 1% AEP storm runoff and must be checked for adequacy up to the 1% AEP event by a time-area computer model or the mass-curve technique in *Australian Rainfall and Runoff*.

25 The noise level from the pump must not, at any time, exceed the ambient sound pressure levels by 5dB(A) at the boundary of the site and must not be audible within any habitable room of an adjoining premises.

26 Proposed maintenance is to be described in the submission to Council.

Note: Council may impose a requirement to create a Positive Covenant on the title of the property requiring regular maintenance and reporting to Council of the pump-out system by a plumber or engineer.

24R.6 DESIGN OF PROPERTY AND INTER-ALLOTMENT DRAINAGE SYSTEMS (continued)

Controls

Design Controls for Interallotment Drainage Easements

This section describes the requirements for the design and construction of interallotment drainage systems. In the majority of cases, the developer will be required to construct a pipe in the easement once it is created. In limited circumstances, Council may agree that such a pipe is not necessary – it is important to consult with Council on this matter prior to submission of the development application. Agreement of the owner of the downstream property in this respect will also be required. The following controls apply for the design and location of all easements:

27 The easement is to be designed with sufficient regard to:

i) proposed pipe diameter within the easement and contributing catchments;

ii) significant trees that may be impacted upon by the placement of drainage lines;

iii) the structural requirements of pipes and their laying/upkeep;

iv) any adjoining structures; and

v) the stormwater overland flowpath capacity requirements.

28 All overflow from rainfall events on a site must be directed to the interallotment drainage line with the necessary inlet pits and cut-offs

29 The interallotment easement must be designed in accordance with the following table:

Nominal Pipe Diameter	Minimum Easement Width
150mm	1.0 metres
225mm	1.2 metres
300mm	1.3 metres
375mm	1.4 metres
450mm	1.5 metres
525mm	1.6 metres
600mm	1.6 metres
750mm	1.8 metres
>750mm	metre + nominal pipe diameter

Note: The presence of an on-site stormwater retention, detention or extended detention system at the development site will not be accepted as a justification for reducing the design flowrate through a downstream interallotment drainage system. The capacity of the system within the easement must be sufficient in the event of a blockage failure or overflow of the detention system.

24R.6 DESIGN OF PROPERTY AND INTER-ALLOTMENT DRAINAGE SYSTEMS (continued)

Controls

30 The in-ground interallotment drainage system (pipe) must be sufficient to carry:

i) the 1% AEP uncontrolled stormwater runoff from existing and future hard surfaces on the site, and the additional future design inflows, as determined by the requirements of this section, from all other properties that may benefit from a connection to the system, that adjoin and are uphill from the same associated drainage easement and/or have the benefit of the same associated drainage easement.

Note: Upon application, Council may waive this requirement for Development Types 1-3.

Note: In rare circumstances, in the event that a long-term overland flow path (such as a paved driveway with kerbing) of sufficient capacity for the major flow is secured over the length of the easement, the 1% AEP design requirements may be reduced to a 5% AEP.

31 The constructed interallotment drainage system (pipe or channel) is to be wholly contained within the drainage easement created on the title(s) of the affected property or properties.

32 Where the drainage line in the private interallotment drainage easements is to be piped, the minimum pipe diameter must not be less than 0.15m and the minimum depth of cover from finished ground level to the top of the pipe is to be in accordance with Table 7.1 of *Australian Standard AS 3500.3.2:1998*.

33 If constructed channels are proposed for interallotment drainage systems, then:

i) the channel must be concrete, stone-pitch or brick lined to form a permanent profile, and

ii) a 50% channel blockage factor is to be adopted in the design.

34 Stormwater pipes must be located outside the Tree Protection Zone of any tree to be retained unless the method of pipe installation is certified by a qualified arborist as not affecting the longevity of the tree to be retained.

Note: For small diameter pipes with minimum cover, careful hand excavation of the installation trench with retention across the trench of all roots greater than 25mm diameter, may be an acceptable method.

Note: For larger diameter pipes, or for small pipes at excessive depth, installation of pipes by remote thrust boring technique may be an acceptable method. In this case a pipe cover of at least one (1) metre should be provided.

35 An overland flowpath that directs water along the easement must be established to cater for blockage of the in ground interallotment system as far as the discharge point.

36 Surface inlet pits must:

24R.6 DESIGN OF PROPERTY AND INTER-ALLOTMENT DRAINAGE SYSTEMS (continued)

Controls

i) be located to catch overland flows experienced during failure of the site drainage system, into the interallotment drainage line,

ii) be provided at all pipe junctions, changes in pipe direction exceeding 45 degrees and at the road boundary (within the property) prior to connection to the public drainage system,

iii) be of sufficient size to accept the predicted flow and have minimum dimensions in accordance with the table below:

Depth (mm)	Dimension (mm^2)
< 600	450 x 450
600 – 900	600 x 600
900 – 1200	600 x 900
>1200	900 x 900

iv) have step irons inside, where pits are deeper than 1.2m,

v) have pit covers that are removable, designed to appropriate loadings and constructed of galvanised steel or cast iron.

37 Drainage works, materials and specifications must be designed and constructed in accordance with:

i) Institution of Engineers Australia *Australian Rainfall and Runoff*,

ii) Australian Standard AS 3500 3.2 – 1998 National Plumbing and Drainage, Part 3 Stormwater Drainage,

iii) the relevant occupational health and safety requirements, and

iv) any other relevant controls in this DCP.

38 Where it is found that an existing Council owned channel/pipe is present on site that is not within an easement, a suitable easement is to be created over the drain in favour of Council, at no cost to the Council, or else the easement moved accordingly at no cost to Council.

39 Where an easement benefits one or more private properties, that easement must not also be created to the benefit of Council.

24R.7 FLOOD STUDY REQUIREMENTS

Controls

A flood study is undertaken to identify the reach and depth of overland flows associated with drainage systems on or near a site and to assess the impact of development on such flows and vice versa. Drainage systems include underground pipes, natural watercourses, open channels and depressions and seepage.

The flood study must be undertaken by a suitably qualified and experienced stormwater or hydraulic engineer eligible for Chartered Professional Engineer status with Engineers Australia. It must conform to the principles set out in *Australian Rainfall and Runoff* and the *NSW Floodplain Management Manual* and must include the following information:

Calculations and supporting information

1 A plan of the contributing catchment area and rationale for area determination must be submitted.

2 Rationale for time of concentration calculations must be discussed.

3 A hydrologic model is required to assess the flow discharge arriving at the site in the 1% AEP event, based on the following:

   i) for catchment areas less than 3 Ha, a rational method assessment is allowed.

   ii) for catchment areas greater than 3 Ha, an appropriate runoff routing computer model is to be used (e.g DRAINS, ILSAX etc).

4 Sufficient survey is to be obtained to accurately define the flow limits and profiles, which may extend onto adjoining properties.

5 A hydraulic model is required to assess the impact of the flow discharges through the pre-developed and post-developed site.

   i) for flow rates of $2m^3/s$ with no backwater effects, the Mannings Equation may be used.

   ii) for flow rates greater than $2m^3/s$ and/or with backwater effects, HEC-RAS or another suitable model is to be used.

6 Where an enclosed drainage system exists in the catchment studied (and is to be included in the analysis), the overland flow rate is to be determined as occurring during the greater of:

   i) the 1:100 year event with the enclosed system operating at a maximum of 50% capacity (due to inlet controlled systems and blockage factors), or

   ii) the 1:5 year event with the enclosed system fully blocked.

24R.7 FLOOD STUDY REQUIREMENTS (continued)

Controls

Information to be included in submission

7 All hydrological and hydraulic calculations undertaken to quantify the design flood standard and derive the flood levels together with the catchment map and any other data used in the calculations, as required above.

8 A scale plan view of the determined flood zone must be provided at the same scale as the site survey for:

i) The pre-developed site. This may be overlaid on the existing site survey plan and the centreline of the watercourse or drainage depression together with all existing structures and impediments to flow must be shown on this detail, and

ii) The post-developed site. This is to be overlaid on a plan, at the same scale as the submitted architectural plans, showing the footprint of all proposed structures in relation to the determined flood zone. The centreline chainages of the watercourse or drainage depression, together with all proposed structures and impediments to flow, must be shown on this detail.

9 A minimum of three 1:50 scale cross-sections taken at right angles to the drainage system, showing both the pre-developed and post-developed flow sections with all levels to AHD, drawn at the following chainages:

i) at the upstream property boundary;

ii) where the existing and proposed development is closest to the drainage line;

iii) at the downstream extent of the development work; and

iv) other cross-sections as needed if other parts of the system affect the site.

Note: Cross-sections must show existing and proposed levels, top water levels, hydraulic data, flood extents and critical proposed development levels such as floor levels.

10 A longitudinal section (at vertical scale 1:50, horizontal scale to that of plan view) of the drainage system through the property showing existing and proposed levels, flood levels, hydraulic data and all changes in grade.

11 The conclusion of the report is to have a signed declaration by the engineer stating:

"I have examined the site, existing improvements and proposed development. In accordance with accepted engineering practice, I have undertaken a flood study of the adjacent drainage system and can confirm the accuracy of my calculated results. I declare that the proposed development will be safeguarded from flooding and flood damage associated with the design flood standard as defined in Part 24 of the *Ku-ring-gai DCP* and will not adversely affect any other structures or properties.

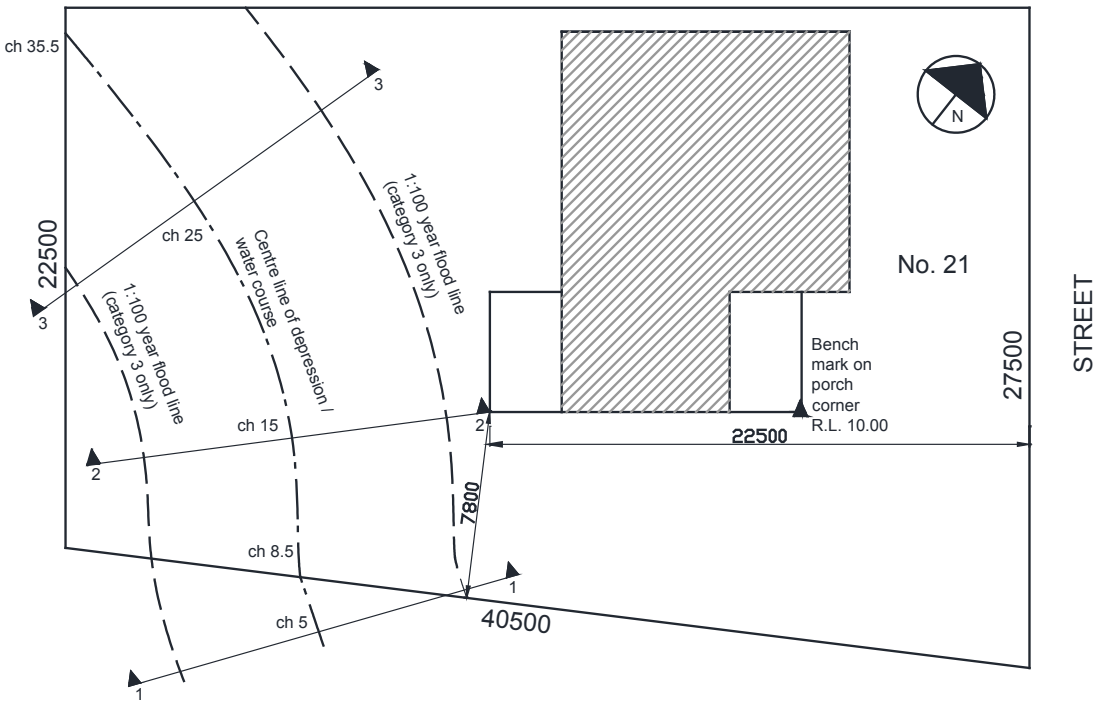
24R.7 FLOOD STUDY REQUIREMENTS (continued)

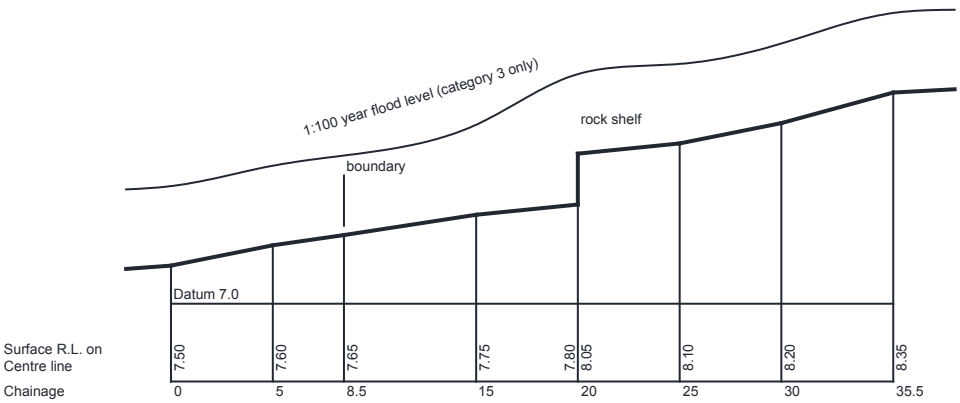
Controls

12 The study must be submitted in a flood report form which includes an introduction and reference to the plans for the proposed development, methodology adopted and a written explanation/ conclusion for findings of the study, together with all supporting information. The study must nominate floor levels for the proposed development, with regard to Council freeboard requirements.

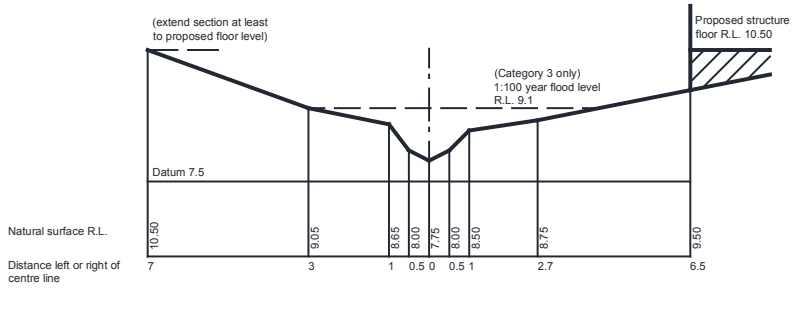
Note : Please consult Council's website for flood studies which have been completed

24R.7 FLOOD STUDY REQUIREMENTS (continued)





LONGITUDINAL SECTION
H 1:250, V 1:50



SECTION 2-2 (LOOKING UPSTREAM)

Figure 24R.8-1:
Typical Survey Information

24R.8 TERMS OF POSITIVE COVENANTS AND RESTRICTIONS ON USE

Controls

24R.8.1 Terms for On-site Detention

Terms of positive covenant referred to in the plan

1 The proprietor of the burdened lot covenants with the Council in respect of any System (as later defined) constructed on the burdened lot to:

i) permit stormwater to be temporarily detained by the System;

ii) regularly keep the System clean and free from grass clippings, silt, rubbish, debris and the like;

iii) maintain the System to ensure a maximum outflow from the System and a minimum pondage in accordance with plans duly approved by the Principal Certifying Authority;

iv) ensure that the System at all times includes an overflow to direct any excess flow to the downstream drainage System;

v) maintain, repair and replace the System or any part of it due to deterioration or damage without delay so that it functions in a safe and efficient manner;

vi) comply with the terms of any written notice issued by the Council in respect of the requirements of the Positive Covenant within the time stated in the notice;

vii) permit the Council to enter upon the burdened lot or any part of it with all necessary materials and equipment at all reasonable times and on reasonable notice (but at any time and without notice in the case of an emergency);

- to view the state of repair of the System;
- to ascertain whether or not there has been any breach of the terms of this Positive Covenant;
- to execute works on the burdened lot for compliance with the requirements of this Positive Covenant;

viii) indenify and keep indemnified the Council from and against all claims, demands, actions, suits, causes of action, sums of money, compensation, damages, costs and expenses which the Council or any other person may suffer as a result of any malfunction or non-operation of the System or any failure of the proprietor to comply with the terms of the Positive Covenant.

2 The Council will have the following additional powers:

i) in the event that the proprietor fails to comply with the terms of any written notice issued by the Council as set out above or in the event of an emergency, the Council or its authorised agent may enter the burdened lot with all necessary materials and equipment at all reasonable times and on reasonable notice (but at any time and without notice in the case of an emergency) and carry out any work which the Council in its discretion considers reasonable to comply with the said notice referred to in Part 1(vi) above or to alleviate the emergency.

24R.8 TERMS OF POSITIVE COVENANTS AND RESTRICTIONS ON USE (continued)

Controls

ii) the Council may recover from the proprietor as a liquidated debt in a court of competent jurisdiction;
- any expense reasonably incurred by it in exercising its powers under sub-paragraph (i) hereof,
- legal costs on an indemnity basis for issue of the said notices and recovery of the said costs and expenses together with the costs and expenses of registration of a covenant charge pursuant to Section 88F(4) of the *Conveyancing Act, 1919* or providing any certificate required pursuant to Section 88G of the Act or obtaining any injunction pursuant to Section 88H of the Act.

In this Positive Covenant, unless inconsistent with the context,

"System" means in relation the burdened lot the stormwater drainage detention basin or tank constructed or to be constructed on the burdened lot in accordance with the requirements of the Council including all ancillary, gutters, downpipes, pipes, drains, orifice plates, trench barriers, walls, earth banks, kerbs, pits, grates, tanks, basins and other surfaces designed to temporarily detain and control stormwater located on any part of the burdened lot.

"Proprietor" includes the registered proprietor of the burdened lot from time to time and all of his heirs, executors, assigns and successors in title to the burdened lot and where there are two or more registered proprietors of the burdened lot the terms of this Positive Covenant will bind all those registered proprietors jointly and severally.

"Council" means the Ku-ring-gai Council or its successor.

Terms of restriction on the use of land referred to in the plan

Unless inconsistent with the context words used herein have the same meaning as those ascribed to them in the Positive Covenant referred to in the Plan.

The proprietor of the burdened lot covenants with the Council is not to:

3 allow any obstruction or interference of any kind to be erected, placed, created or performed so as to inhibit the flow of water to and from the System;

4 except in accordance with the written approval of the Council allow any building, erection or structure to be constructed or allowed to remain constructed or placed on the System;

5 carry out or allow to be carried out any change of land profile or earthworks on the System;

6 carry out or allow to be carried out any alterations to the System including surface levels, controlled outflows, grates, pipes, orifice plate, mesh screen or any other materials or elements thereof outside those normally required for the formation, maintenance and proper function of the System.

24R.8 TERMS OF POSITIVE COVENANTS AND RESTRICTIONS ON USE (continued)

Name of authority empowered to release, vary or modify any positive covenant or restrictions on the use of land referred to in the plan:

Ku-ring-gai Council

Manager, Development Assessment Services

Ku-ring-gai Council

24R.8 TERMS OF POSITIVE COVENANTS AND RESTRICTIONS ON USE (continued)

Controls

24R.8.2 Terms for On-site Retention

Terms of positive covenant referred to in the plan

1 The proprietor of the burdened lot covenants with the Council in respect of any System (as later defined) constructed on the burdened lot to:

i) permit stormwater to be retained and re-used by the System;

ii) regularly keep the System clean and free from grass clippings, silt, rubbish, debris and the like;

iii) maintain the System to ensure a maximum outflow from the System and a minimum pondage in accordance with plans duly approved by the Principal Certifying Authority;

iv) ensure that the System at all times includes an overflow to direct any excess flow to the downstream drainage System;

v) maintain, repair and replace the System or any part of it due to deterioration or damage without delay so that it functions in a safe and efficient manner;

vi) comply with the terms of any written notice issued by the Council in respect of the requirements of the Positive Covenant within the time stated in the notice;

vii) permit the Council to enter upon the burdened lot or any part of it with all necessary materials and equipment at all reasonable times and on reasonable notice (but at any time and without notice in the case of an emergency)

- to view the state of repair of the System;
- to ascertain whether or not there has been any breach of the terms of this Positive Covenant;
- to execute works on the burdened lot for compliance with the requirements of this Positive Covenant

viii) indemnify and keep indemnified the Council from and against all claims, demands, actions, suits, causes of action, sums of money, compensation, damages, costs and expenses which the Council or any other person may suffer as a result of any malfunction or non-operation of the System or any failure of the proprietor to comply with the terms of the Positive Covenant.

2 The Council will have the following powers:

i) in the event that the proprietor fails to comply with the terms of any written notice issued by the Council as set out above or in the event of an emergency, the Council or its authorised agent may enter the burdened lot with all necessary materials and equipment at all reasonable times and on reasonable notice (but at any time and without notice in the case of an emergency) and carry out any work which the Council in its discretion considers reasonable to comply with the said notice referred to in Part 1(vi) above or to alleviate the emergency.

24R.8 TERMS OF POSITIVE COVENANTS AND RESTRICTIONS ON USE (continued)

Controls

ii) the Council may recover from the proprietor as a liquidated debt in a court of competent jurisdiction;

iii) any expense reasonably incurred by it in exercising its powers under sub-paragraph (i) hereof,

iv) legal costs on an indemnity basis for issue of the said notices and recovery of the said costs and expenses together with the costs and expenses of registration of a covenant charge pursuant to Section 88F(4) of the Conveyancing Act, 1919 or providing any certificate required pursuant to Section 88G of the Act or obtaining any injunction pursuant to Section 88H of the Act.

3 In this Positive Covenant unless inconsistent with the context,

"System" means in relation the burdened lot the stormwater retention and re-use tank or other device constructed or to be constructed on the burdened lot in accordance with the requirements of the Council including all ancillary, gutters, leaf gutter guards, downpipes, pipes, drains, filter, pump, delivery plumbing, trench barriers, walls, earth banks, kerbs, pits, grates, tanks, basins and other surfaces designed to retain and re-use and control stormwater located on any part of the burdened lot.

"**Proprietor**" includes the registered proprietor of the burdened lot from time to time and all of his heirs, executors, assigns and successors in title to the burdened lot and where there are two or more registered proprietors of the burdened lot the terms of this Positive Covenant are to bind all those registered proprietors jointly and severally.

"**Council**" means the Ku-ring-gai Council or its successor.

Terms of restriction on the use of land referred to in the plan

4 The proprietor of the burdened lot covenants with the Council not to:

i) allow any obstruction or interference of any kind to be erected, placed, created or performed so as to inhibit the flow of water to and from the System;

ii) except in accordance with the written approval of the Council allow any building, erection or structure to be constructed or allowed to remain constructed or placed on the System;

iii) carry out or allow to be carried out any change of land profile or earthworks on the System;

iv) carry out or allow to be carried out any alterations to the System including surface levels, controlled outflows, grates, pipes, filter, pump, delivery plumbing or any other materials or elements thereof outside those normally required for the formation, maintenance and proper function of the System;

v) unless inconsistent with the context words used herein have the same meaning as those ascribed to them in the Positive Covenant referred to in the Plan.

24R.8 TERMS OF POSITIVE COVENANTS AND RESTRICTIONS ON USE (continued)

Covenant referred to in the Plan.

Name of authority empowered to release, vary or modify any positive covenant or restrictions on the use of land referred to in the plan

Ku-ring-gai Council

Manager, Development Assessment Services

Ku-ring-gai Council

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PART 25

NOTIFICATION

Introduction

25.1 Notification and Advertising Requirements

25.2 Notification Requirement By Notification Type

25.3 Criteria to be Considered in Determining Detrimental Effects

25.4 Procedures for Notification By Council

25.5 Written Submissions to Council

NOTIFICATIONS

INTRODUCTION

This Part provides controls for advertising and notifying the public and other affected parties about a proposed development. It outlines a range of notification methods and describes which methods, or combination of methods are to be applied to different development types or categories. It also outlines the length of time for the exhibition of development proposals.

This Part also outlines requirements in relation to submissions on development proposals.

25.1 NOTIFICATION AND ADVERTISING REQUIREMENTS

Objectives

1 *To enable public participation in the planning process that is appropriate to the type and form of development proposed.*

2 *To ensure a consistent, transparent and efficient development assessment process.*

Controls

1 Notification is required for the following:

i) Development Applications;

ii) Part 96 Modification Applications; and

iii) Part 82A Review Applications.

2 A development is considered to require the notification type specified in *Table 25.1-1* if it meets one or more of the circumstances specified in the relevant line of the centre column of the table.

3 For the purposes of this Part, 'advertise' means '*provide written notice of a proposed development, including a notice in a newspaper'.*

4 Where a development may be considered to fall into two or more Notification Types, notification is to be undertaken in accordance with the higher requirement.

Examples:

1. From Table 25.1-1, a new dual occupancy development would be notified as Type D. A development on a heritage site relying on KLEP (Local Centres) 2012 Clause 5.10(10) would be Type F. A dual occupancy development on a heritage site relying on KLEP (Local Centres) 2012 Clause 5.10(10) would therefore be the higher requirement, namely Type F.

2. From Table 25.1-1, a new residential flat building is Type F. An amendment to an undetermined DA for a residential flat building, where the environmental impact will be greater than the original proposal is considered a different proposal type, namely Type B.

5 Once the development category is determined, notification must be undertaken in accordance with the Notification Type (A - F) listed for that development category in *Table 25.1-1*.

6 In the event that the development for which consent is applied does not appear in the table below, the notification and advertising requirements for the development application will be determined by Council's development assessment team leader in accordance with other requirements of this Part.

Note: Clause 5.10(8) of the KLEP (Local Centres) 2012 sets out requirements for the notification of local Aboriginal communities in regard to applications which relate to Aboriginal places of heritage significance.

25.1 NOTIFICATION AND ADVERTISING REQUIREMENTS (continued)

Controls

Development Category	Circumstances	Notification Type
AMENDMENTS, MODIFICATIONS AND REVIEWS		
Amendments to undetermined DAs for all development types	Where the environmental impact will be the same or less than the original proposal	A
	Where the environmental impact will be greater than the original proposal	B
Modifications to Development Consent for all development types	S96(1) and S96(1A)	A
	S96(2) and S96AA that is designated development, State significant or any other advertised development where Council is not the consent authority – see clause 118 of the EP&A Regulation	cl. 118 EP&A Regs
	All other S96(2) and S96AA modifications	B
Review of Determinations (S82A) (S96A)	Are to be notified as per the notification requirements for the type of development proposed in the original DA or modification	As per original DA or modification sought to be received
LOW DENSITY RESIDENTIAL DEVELOPMENT		
Alterations and Additions to Dwelling Houses	All	C
Dual Occupancy	New	D
	Alterations and additions	C
New Dwelling Houses	All	D
Secondary Dwellings	New, addition of one or more rooms	D
	Other works	C
Other	All (see also residential ancillary)	C
RESIDENTIAL ANCILLARY		
Carports / Garages	All	C
Fencing	All	A
Landscape Works	All	A
Outbuildings	All	C
Swimming Pools	All	C
Tennis Courts	All	C
Other	All	C

Table 25.1-1 Notification by development type

25.1 NOTIFICATION AND ADVERTISING REQUIREMENTS (continued)

Controls

Development Category	Circumstances	Notification Type
MEDIUM AND HIGH DENSITY RESIDENTIAL DEVELOPMENT		
Boarding Houses	New building / use; additional habitable rooms; increased height; outdoor recreation facilities	E
	Other works	C
Group homes, Hostels	Internal works that do not change number of bedrooms or dwellings	A
	In residential zones (except internal works as above)	F
	In non-residential zones (except internal works as above)	D
Multi-dwelling Housing	Internal works that do not change number of bedrooms or dwellings	A
	Other works	F
Residential Flat Buildings	Internal works that do not change number of bedrooms or dwellings	A
	Other works	F
Shop Top Housing	Internal works that do not change number of bedrooms or dwellings	A
	Other works	E
Seniors Housing	Internal works that do not change number of bedrooms or dwellings	A
	In residential zones (except internal works as above)	F
	In non-residential zones (except internal works as above)	E
Other	Internal works that do not change number of bedrooms or dwellings	A
	In residential zones (except internal works as above)	F
	In non-residential zones (except internal works as above)	E
SUBDIVISION		
Community Title	All	A
Company Title	All	A
Strata Title	All	A
Torrens Title	All	D

Table 25.1-1 Notification by development type

25.1 NOTIFICATION AND ADVERTISING REQUIREMENTS (continued)

Controls

Development Category	Circumstances	Notification Type
Subdivision proposal lodged in conjunction with a proposal for a building	All	As for the building
HERITAGE		
Heritage Item	Demolition - Where the DA applies to the Heritage Item	F
	Demolition - Where the DA applies to ancillary development	E
	Alterations and additions	E
Heritage Conservation Areas	Demolition - Where the DA applies to the main building on the site	F
	Demolition – Where the DA applies to ancillary development	
	Any addition or alteration: •to the front façade; •that is visible from the street or public domain; or •that is 25% or more of the gross floor area of the main building.	E
	Alterations and additions	D
COMMERCIAL DEVELOPMENT		
Bulky goods premises (retail premises)	New building/use	F
	Alterations and additions	D
Business premises (not listed elsewhere in this table)	New building	F
	Additions and alterations	D
Caravan Parks	All	D
Change of Use (not listed elsewhere in this table)	In business zones	A
	In any other zone	D
Commercial premises in residential flat buildings permitted under Schedule 1 of the LEP	New building	F
	Alterations and additions	D
Extension of Trading Hours	In residential zones	D
	In non-residential zones	A
	Extension of trading hours between 10pm and 7am.	E
Firearms outlets	All	F
Hotel or motel accommodation	New buildings; additional habitable rooms; outdoor recreation facilities	F
	Other works	D

Table 25.1-1 Notification by development type

25.1 NOTIFICATION AND ADVERTISING REQUIREMENTS (continued)

Controls

Development Category	Circumstances	Notification Type
Internal works (all commercial development types)	All	A
Markets	All	A
Pubs	New building/ use; additional habitable rooms; outdoor recreation facilities	F
	Other	D
Office premises	New building	F
	Other	D
Restaurants	New building; Alterations and additions	D
	Change of use in non-residential zones	A
	Change of use in residential zone	E
Registered Clubs	New building	F
	Internal or minor external changes	A
	Other works	D
Retail premises (not listed elsewhere in this section)	New building	F
Service Stations	Minor external and internal works where no change to storage, pumping, bunding, drainage and the like of liquids or dangerous materials is required	A
	All other works	D
Sex Services Premises	New business; external alterations / additions; increase in room and / or employee numbers by more than two	D
	Other	A
Other – Alterations and Additions	All	D
COMMUNITY FACILITIES		
Amusement Centres	New building/use	E
	External alterations and additions	D
Child Care Centres	In residential zones	F
	In non-residential zones	D
Educational Establishments	In residential zones	F
	In non-residential zones	D
Entertainment Facilities	New building/use; Outdoor recreation facilities	F
	External alterations and additions	D
Function Centre	New building/use	F
	External alterations and additions	D
Hospitals	In residential zones	F
	In non-residential zones	E

Table 25.1-1 Notification by development type

25.1 NOTIFICATION AND ADVERTISING REQUIREMENTS (continued)

Controls

Development Category	Circumstances	Notification Type
Information and Education Facilities	New building/use	E
	External alterations and additions	D
Internal works for all community development types (including those otherwise listed in this table)		A
Medical Centre	New building/use	E
	External alterations and additions	D
Places of Public Worship	New building/use	F
	External alterations and additions	D
Public Administration Building	New building/use	F
	External alterations and additions	D
Recreation Facility (Indoor)	New building/use	F
	External alterations and additions	D
Respite Day Care Centres	In residential zones	F
	In non-residential zones	D
Special Events	All	A
Temporary structures	All	A
Other	All	D
MIXED USE		
Building comprising 2 or more different land uses Note: Where proposed works only affect one use, the table relevant to that use applies.	New buildings; additional habitable rooms; outdoor recreation facilities; increased height	F
	External alterations and additions	D
	Internal works	A
MISCELLANEOUS		
Agriculture	All	A
Demolition	All	D[1]
Drainage	All	A
Formal Biodiversity Offsets (other than Bio-banking under Part 7 of the NSW Threatened Species Conservation Act 1995)	All	F
Heritage Items or Aboriginal Places of Heritage Significance	Any application relying on KLEP 2014 Clause 5.10(10)	F

Table 25.1-1 Notification by development type

25.1 NOTIFICATION AND ADVERTISING REQUIREMENTS (continued)

Controls

Development Category	Circumstances	Notification Type
Signage	Commercial	A
	Residential	C
	Other	A
Tree works/ removal/ pruning	In Heritage Conservation Areas; On land which contains a Heritage Item	C
	Where the tree is deemed to be significant by Council's tree management Officer[2]	C
Telecommunications Facilities	All	D
Utility Installations	All	A
Other	All	D
1. Note: As described in the following section (Part 5.2), additional notification provisions apply to this type of development where proposed for an item within an area identified by Council as a draft Heritage Conservation Area or where the item is identified as a draft Heritage Item by Council.		
2. Note: This may be due to the tree's size, type or prominence.		

Table 25.1-1 Notification by development type

25.2 NOTIFICATION REQUIREMENT BY NOTIFICATION TYPE

Controls

Notification Type A requirements

1 No notification is necessary except where, in the opinion of Council's development assessment team leader, the owners and occupiers of adjoining and neighbouring land would be detrimentally affected in any manner described in *25.3.of this Part* if the development proposal was carried out.

2 In the event that Council's development assessment team leader determines that owners and occupiers of adjoining and/or neighbouring land would be detrimentally affected by the proposed development, notification letters are to be sent in accordance with *25.5 of this Part* to all such persons.

Notification Type B requirements

3 Notification letters must be sent in accordance with *25.5 of this Part* to:

i) all persons who were notified about the original application or any subsequent applications for amendment or modification; and

ii) all persons who made submissions with respect to the original application and any subsequent applications for amendment or modification.

4 Where, in accordance with the above controls, Council's development assessment team leader determines that re-notification and re-advertising is not to occur, the assessment report on the application is to include a statement giving the reasons why re-notification was not considered necessary.

5 The development application is to be available for public inspection for a period of fourteen (14) calendar days from the date of the notification letter.

6 The development application is to be listed on Council's website and in information supplied on a weekly basis to Councillors as specified in *25.4 of this Part*.

Notification Type C requirements

7 Notification letters must be sent in accordance with *25.4 of this Part* to:

i) all owners and occupiers of the adjoining land on either side of the subject property; and

ii) all owners and occupiers of the land adjoining the rear or front of the property, whichever side the works are proposed to be undertaken.

Note: Exceptions to Type C requirements may apply where, in the opinion of Council's development assessment team leader, the owners and occupiers (where known) of land other than that specified above would be detrimentally affected in any manner described in *25.4 of this Part*, if the proposal was carried out, in which case additional persons are to be notified as specified by Council's development assessment team leader.

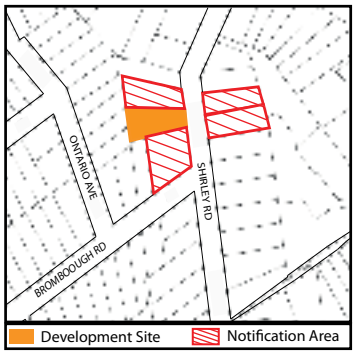

Figure 25.2-1: Example: Notification Type C - minimum notification requirements for works at front

25.2 NOTIFICATION REQUIREMENT BY NOTIFICATION TYPE (continued)

Controls

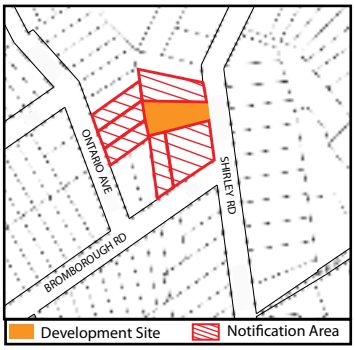

Figure 25.2-2: Example: Notification Type C - minimum notification requirements for works at rear

8 If land to which notification letters are to be sent is occupied by a strata title building or a community land development, the notification letters sent in accordance with *25.4 of this Part* must also be forwarded to the proprietors of the strata plan or community plan.

9 Details regarding the owners and occupiers of adjoining and neighbouring land will be taken from Council's records at the time the notification letters are being prepared. Where Council's records show that land to which notification letters are to be sent is jointly owned, the notification letter will only be sent to one of the joint owners.

10 The development application is to be available for public inspection for a period of fourteen (14) calendar days from the date of the notification letter.

11 The development application is to be listed on Council's website and in information supplied on a weekly basis to Councillors as specified in *25.4 of this Part*.

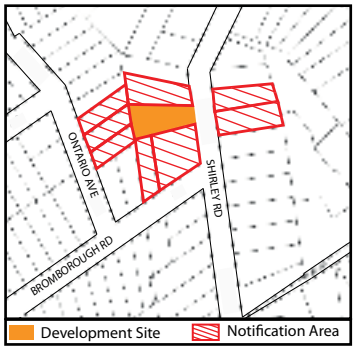

Figure 25.2-3: Example: Notification Type D - minimum notification requirements for all works

Notification Type D requirements

12 Notification must be sent in accordance with *25.4 of this Part* to the owners and occupiers of all adjoining land except where, in the opinion of Council's development assessment team leader, the owners and occupiers of land (other than those specified) would be detrimentally affected. In such a case additional persons are to be notified as specified by Council's development assessment team leader.

13 Where land to which notification letters are to be sent is occupied by a strata title building or a community land development, the notification letters required in accordance with *25.4 of this Part* must also be sent to the proprietors of the strata plan or community plan.

14 Details regarding the owners and occupiers of adjoining and neighbouring land will be taken from Council's records at the time the notification letters are being prepared, or from other sources as may be made available to Council prior to the notification letters being prepared.

15 Where Council's records show that land to which notification letters are to be sent is jointly owned, the notification letter need only be sent to one of the joint owners.

16 The development application is to be available for public inspection for a period of fourteen (14) calendar days from the date of the notification letter.

17 The development application is to be listed on Council's website and in information supplied on a weekly basis to Councillors as specified in *25.4 of this Part*.

18 If the development application is for a new dual occupancy development, a notification sign must be placed at the street frontage to the property in accordance with *25.4 of this Part*.

25.2 NOTIFICATION REQUIREMENT BY NOTIFICATION TYPE (continued)

Controls

19 If the development application is for demolition of an item within an area identified by Council as a draft Heritage Conservation Area or where the item is identified as a draft Heritage Item:

i) a notification sign must be placed at the street frontage to the property in accordance with *25.4 of this Part*; and

ii) the notification of the development application on Council's website must indicate that the item is a draft Heritage Item or in a draft Heritage Conservation Area as appropriate.

Notification Type E requirements

20 Notification letters must be sent in accordance with *25.4 of this Part* to the owners and occupiers of:

i) three (3) adjoining and neighbouring properties to each side of the subject property; and

ii) seven (7) adjoining and neighbouring properties to the front and rear of the subject property.

Note: Exceptions will apply where, in the opinion of Council's development assessment team leader, the owners and occupiers of land (other than that specified below) would be detrimentally affected in any manner described in *5.4 of this Part*. In such a case additional persons are to be notified as specified by Council's development assessment team leader.

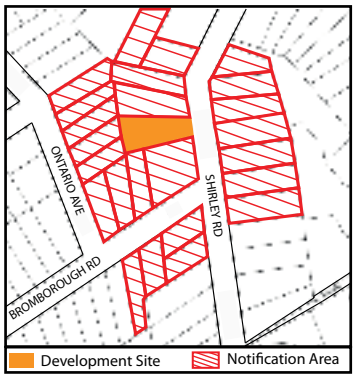

Figure 25.2-4: Example: Notification Type E - minimum notification requirements for all works

21 A notification sign is to be placed at the street frontage to the property in accordance with *25.4 of this Part*.

22 If land to which notification letters are to be sent is occupied by a strata title building or a community title development, the notification letters required in accordance with *25.4 of this Part* are also to be sent to the proprietors of the strata title or community title properties.

23 Details regarding the owners and occupiers of adjoining and neighbouring land will be taken from Council's records at the time the notification letters are being prepared, or from other sources as may be made available to Council prior to the notification letters being prepared.

24 Where Council's records show that land to which notification letters are to be sent is jointly owned, the notification letter will only be sent to one of the joint owners.

25 The development application is to be available for public inspection for a period of fourteen (14) calendar days from the date of the notification letter.

26 The development application is to be listed on Council's website and in information supplied on a weekly basis to Councillors as specified in *25.4 of this Part*.

27 Notification on Council's website must indicate if the development application applies to a Heritage Item, a draft Heritage Item or is in a Heritage Conservation Area or a draft Heritage Conservation Area as applicable.

25.2 NOTIFICATION REQUIREMENT BY NOTIFICATION TYPE (continued)

Controls

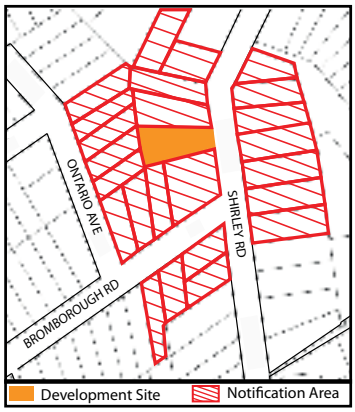

Figure 25.2-5: Example: Notification Type F - minimum notification requirements for all works

Notification Type F requirements

28 As soon as practicable after the development application has been submitted, Council must place the application, and any accompanying information, on public exhibition for a period of not less than 30 days commencing the day after which notice of the application is first published.

29 Council must also give written notice of the application in accordance with the following:

i) to such persons as appear, based on Council records, to own or occupy the property;

ii) the three (3) adjoining and neighbouring properties to each side of the subject property;

iii) the seven (7) adjoining and neighbouring properties to the front and rear of the subject property;

iv) if practicable, to such other persons as determined by Council's development assessment team leader to own or occupy land the use or enjoyment of which, in its opinion, could be detrimentally affected in any manner described in *25.4 of this Part* if the proposal was carried out; and

v) to such other persons as are required to be notified by the regulations.

30 Notice of the application is to be exhibited in accordance with the regulations on the land to which the application relates.

31 Notice of the application is to be published in accordance with the regulations in a newspaper circulating in the locality.

32 In the case of land to which notification letters are to be sent being occupied by a strata title building or a community title development, the notification letters required must be in accordance with *25.5 of this Part* and must also be sent to the proprietors of the strata plan or community plan.

33 If land is owned or occupied by more than one person, a written notice to one owner or one occupier is taken to satisfy the notification requirements of this DCP.

34 A notification sign is to be placed at the street frontage to the property in accordance with *25.4 of this Part*.

35 During the submission period, any person may inspect the development application and any accompanying information and make extracts or copies of them (the cost of copying will be charged in accordance with Council's Fees and Charges).

36 During the submission period, any person may make written submissions to the consent authority with respect to the development application. A submission by way of objection must set out the grounds of the objection.

25.2 NOTIFICATION REQUIREMENT BY NOTIFICATION TYPE (continued)

Controls

37 Circumstances in which public exhibition may be dispensed with are as follows:

i) a development application for designated development is amended, substituted, or withdrawn and later replaced before it has been determined by the consent authority;

ii) the consent authority has complied with the requirements above for Type F in relation to the original application;

iii) the consent authority is of the opinion that the amended, substituted or later application differs only in minor respects from the original application; and/or

iv) consent authority decides to dispense with further compliance with the notification provisions in relation to the amended, substituted or later application (in that event, compliance with this Part in relation to the original application is taken to be compliance in relation to the amended, substituted or later application).

38 The development application is to be listed on Council's website and information supplied on a weekly basis to Councillors as specified in *25.4 of this Part*.

39 Notification on Council's website must indicate if the development application applies to a Heritage Item, a draft Heritage Item or is in a Heritage Conservation Area or a draft Heritage Conservation Area as applicable.

25.3 CRITERIA TO BE CONSIDERED IN DETERMINING DETRIMENTAL EFFECTS

Controls

1 In forming an opinion as to whether notification requirements should be increased or decreased from those specified in this DCP, Council's development assessment team leader is to consider whether the enjoyment of adjoining or neighbouring land could be likely to be detrimentally affected by the proposed development.

2 In considering whether enjoyment of adjoining or neighbouring land could be likely to be detrimentally affected by the proposed development, the development assessment team leader is to take into account the following matters:

i) views from surrounding properties;

ii) overshadowing;

iii) loss of privacy;

iv) noise impact;

v) the design and appearance of the proposal in relation to the streetscape;

vi) the use of the development;

vii) the scale, height, external appearance and bulk of the proposed building;

viii) the siting of any proposed building in relation to the site boundaries;

ix) hours of use;

x) light spillage or reflection;

xi) the structural integrity of common or party walls where demolition of walls, floors and ceilings is proposed;

xii) traffic and parking generation;

xiii) adverse impacts of stormwater drainage;

xiv) tree removal impacts; and

xv) excavation requirements.

3 The opinion formed by Council's development assessment team leader regarding the likely detrimental impact upon the enjoyment of adjoining and neighbouring land is not an assessment of the merits of the development application.

25.4 PROCEDURES FOR NOTIFICATION BY COUNCIL

Controls

Website information

1 Where the development application is to be advertised on Council's website, the following information must be included:

i) the development application number;

ii) the address of the proposed development (including lot, deposited plan and street numbers);

iii) a brief description of the proposed development;

iv) identification of any Heritage Item or draft Heritage Item on the land; and

v) whether the land is in a Heritage Conservation Area or a draft Heritage Conservation Area.

Notification to Councillors

2 Councillors will receive a weekly list of all new development applications within their ward area. The list will include:

i) the development application number;

ii) the address of the proposed development (lot, deposited plan and street numbers);

iii) the date on which the development application was accepted by Council;

iv) the name of Council's development assessment team leader responsible for assessing the development application;

v) a brief description of the proposed development; and

vi) plans of the proposal.

Content of notification letters

3 Where notification letters are to be sent, the letters are to contain the following information:

i) the development application number;

ii) the address of the proposed development;

iii) the name of the applicant;

iv) the name of the Council officer responsible for assessing the development application;

v) a brief description of the proposed development;

vi) an invitation to view the development proposal;

vii) when and where the development application may be viewed;

viii) that persons to whom the letter is addressed have the right to make a written submission regarding the development proposal and that written submissions will be considered by Council during the assessment period;

ix) the date by which submissions must be provided to Council; and

25.4 PROCEDURES FOR NOTIFICATION BY COUNCIL (continued)

Controls

x) advice that submissions made to Council may not be kept confidential as they, or their contents, may be included in reports to Council and may be available for the applicant to consider in accordance with the *Government Information (Public Access) Act 2009*;

Public exhibition period

4 Submissions must be received by Council by the end of the public exhibition period.

5 For the purposes of this Part, the public exhibition period is the time during which the development application is to be available for public inspection.

6 The public exhibition period for new development applications and new applications for modification or review, is extended for the December/January period as outlined in Table 25.4-1.

Public exhibition period required in 5.1 of this Part	Date of lodgment of development proposal	Public exhibition period extended to the first working day after
14 days	Between 10 December and 30 January inclusive	13 February
30 days	Between 10 December and 14 January inclusive	13 February

Table 25.4-1 Extended notification period for new development applications, new modification or reviews as applicable.

7 The public exhibition period for amendments to undetermined development applications, modifications and reviews for applications that require re-notification (Type B) is extended for the December period as outlined in Table 25.4-2.

Public exhibition period required for Type B in 5.1 of this Part	Date of lodgment of amendments to development proposal	Public exhibition period extended to
14 days	Between 10 December and 31 December inclusive	21 calendar days

Table 25.4-2 Extended notification period for amendments to development applications, modification or reviews as applicable.

25.4 PROCEDURES FOR NOTIFICATION BY COUNCIL (continued)

Controls

Advertisements in the local newspaper

8 Where, in accordance with this DCP, the development application is to be advertised in a local newspaper, the advertisement must contain the following minimum information:

i) the development application number;

ii) the address of the proposed development (lot, deposited plan and street numbers); and

iii) a brief description of the proposed development.

9 The applicant must pay to Council the fee determined by Council for advertising in accordance with its adopted fees and charges.

Notification signs at the property

10 Where, in accordance with this DCP, a notification sign is required, it must be headed “Development Proposal” and must contain the following details:

i) the development application number;

ii) the address of the proposed development;

iii) a brief description of the proposed development; and

iv) the date by which written submissions must be provided to Council.

25.5 WRITTEN SUBMISSIONS TO COUNCIL

Controls

Form of written submissions

1 A person may make one or more written submissions regarding any development proposal, to which this DCP applies, within the period during which the application is available for public inspection.

2 A written submission may take the form of a letter, report, facsimile transmission, petition, e-mail or other like form.

3 A written submission must state the reasons for objection to, or support for, a development application.

4 The name and address of the person making the written submission must be clearly marked on the submission.

5 If the written submission is a petition, the petition must clearly state the name of the head petitioner and his/her contact details.

6 The development application number is to be clearly marked on the submission.

7 The written submission must be clear and legible.

Note: A daytime telephone contact number is required in the event that Council needs to clarify issues with the person making the submission.

Note: Section 147 of the *Environmental Planning and Assessment Act 1979* requires the disclosure of any political donations or gifts in relation to public submissions. A form is available at www.kmc.nsw.gov.au for attachment to a submission where relevant.

Anonymous submissions

8 Council will not consider any anonymous submissions in the assessment of development applications.

Disclosure of submissions

9 The applicant for the development and members of the public may access submissions upon request to Council in accordance with the *Government Information (Public Access) Act 2009*.

10 If the development application is reported to a Council meeting, the submission may be reproduced and/or summarised in the assessment report.

Acceptance and consideration of submissions

11 All written submissions submitted on or prior to the date specified by Council in the newspaper advertisement and/or notification letter are to be considered by Council's development assessment team leader in the assessment of the development proposal.

25.5 WRITTEN SUBMISSIONS TO COUNCIL (continued)

Controls

12 In the event that a person or group of persons requests an extension of time for the submission of written comments, the period allowed for submissions may be extended only if, in the opinion of Council's development assessment team leader, a longer period is warranted in the circumstances.

13 Council may, depending on the circumstances of the case, accept and consider written submissions that are lodged with the Council after the expiration of the period of public inspection and prior to the completion of Council's assessment report.

14 In the assessment of a development proposal, Council will not consider written submissions lodged after Council's assessment report has been completed.

15 The reasons for support of, or objection to, the development application specified in the written submissions are to be summarised in Council's assessment report.

16 The names and addresses of the persons who made written submissions with respect to the development application are to be indicated in Council's assessment report in accordance with the *Privacy and Personal Information Protection Act 1998*.

Acknowledgement of submissions

17 Receipt of written submissions received by Council will be acknowledged in writing.

18 In the event that the development application is to be determined at a Council meeting, the responsible officer will contact the person who made the submission by telephone, facsimile or e-mail, provided such contact details have been given to the Council, to advise the person of the committee or council meeting date.

Advice to applicant of written submissions

19 The applicant of a development application to which this DCP applies will, upon written request to Council, be advised of the terms of any written submission and from where it has emanated.

20 The applicant is to be entitled to read and, at the applicant's expense, copy any written submissions received, in accordance with the provisions of the *Privacy and Personal Information Protection Act 1998*.