

DWELLING HOUSES

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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. This Part also guides dual occupancy development permitted under Schedule 1 of KLEP.

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 2 – Site Analysis
SECTION B PART 15 – Land Contamination PART 16 – Bushfire Risk PART 17 – Riparian Lands PART 18 – Biodiversity 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.*
- 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

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

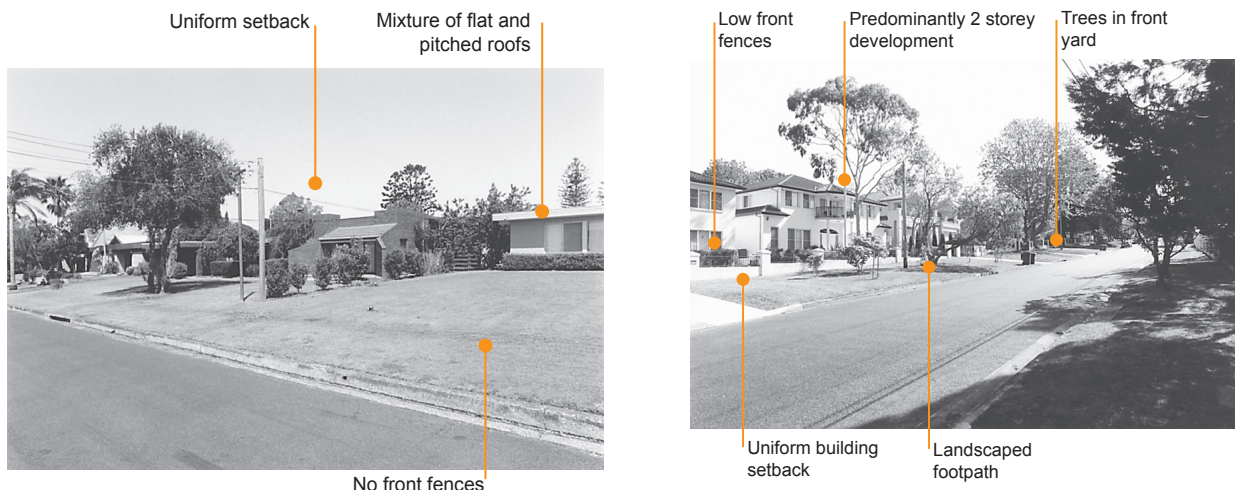


Figure 4A.1-2:
Qualities of visual character.

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 – Bushfire 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:		Two Storey:		
Street	Minimum	Street	Minimum	Average
Low side	9 metres	Low side	9 metres	11 metres
High side	12 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.

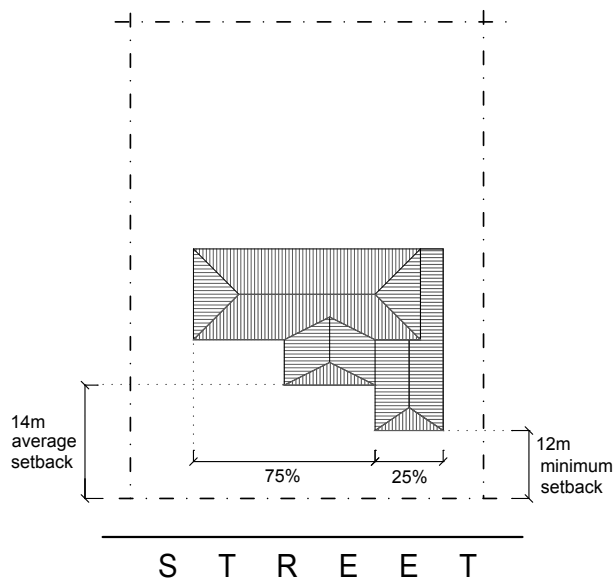


Figure 4A.2-1: Average and minimum front setbacks for two storey dwellings on high side of street

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, 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:

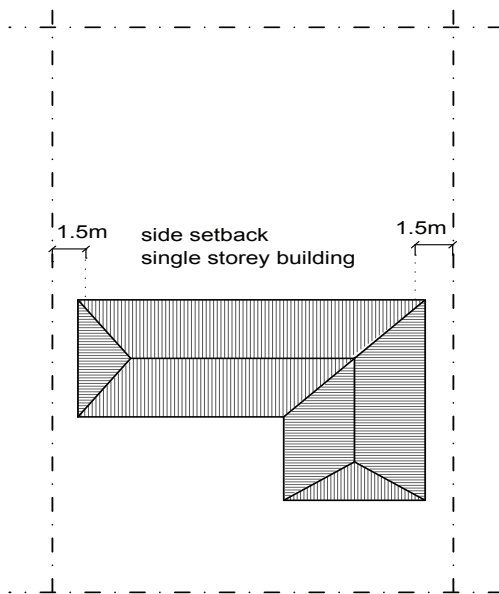
Site Width	Single Storey Building Setback - including single storey elements of two storey buildings	Two Storey Building Setback - including any upper level
Less than 20m	1.5m	2m
20m or more	9% of site width	12% of site width

- 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



S T R E E T

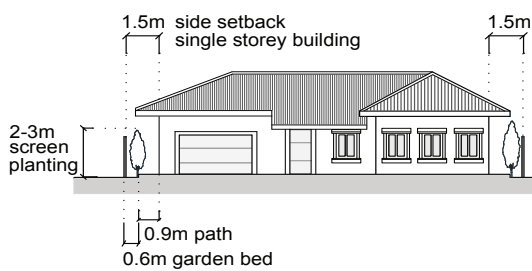
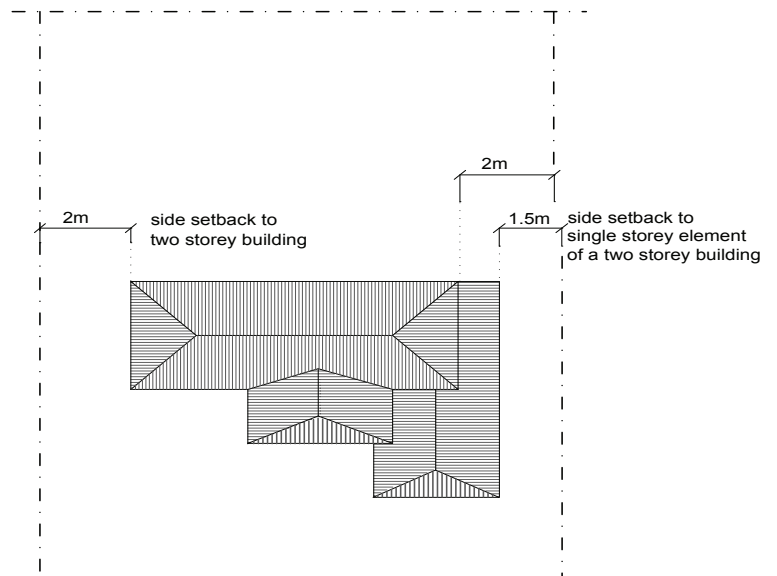
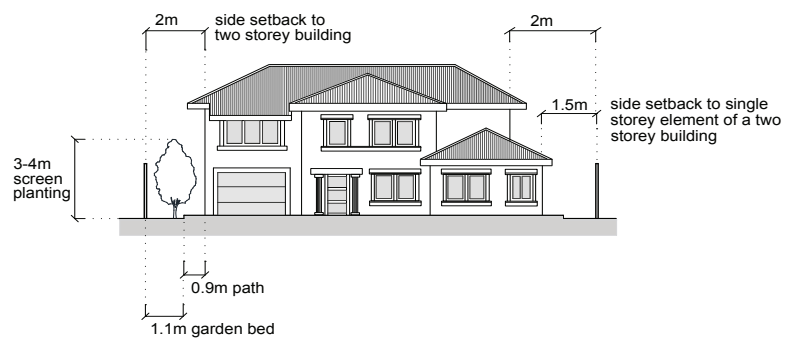


Figure 4A.2-3: Side setbacks
– Two Storey dwellings for
sites less than 20m width



S T R E E T



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).

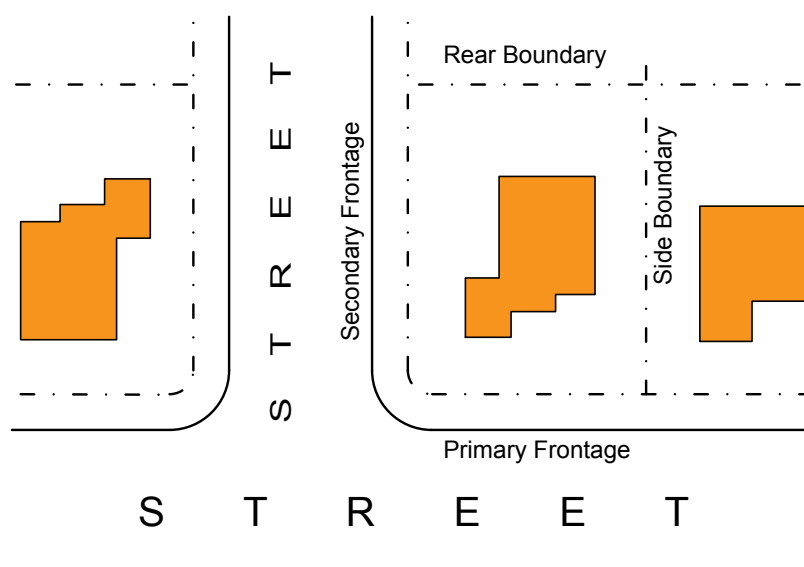


Figure 4A.2-6: Primary and Secondary Street Frontages

- 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

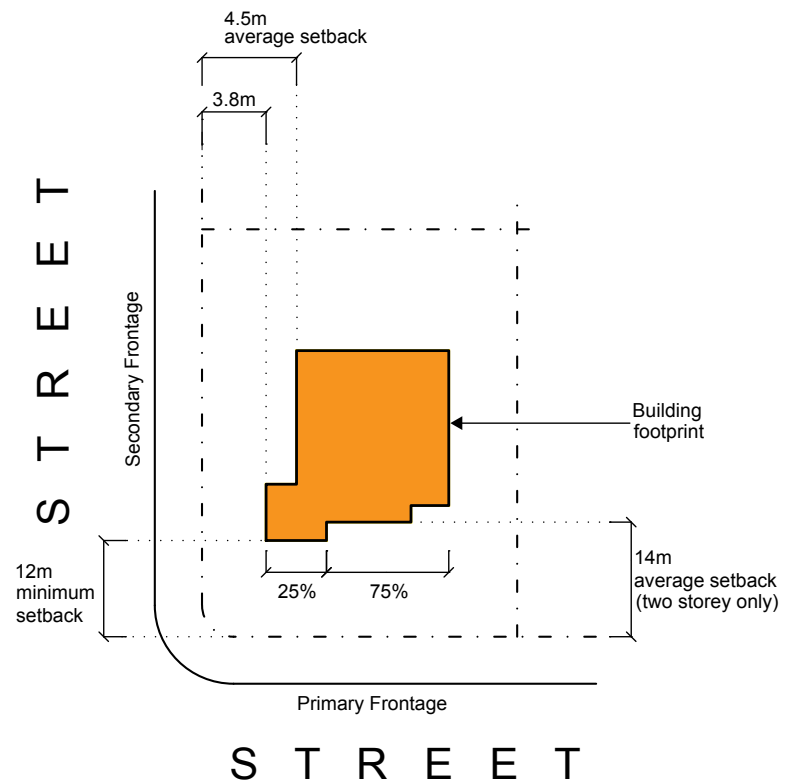


Figure 4A.2-7: Setback for corner sites of a two story house on the high side of the street

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

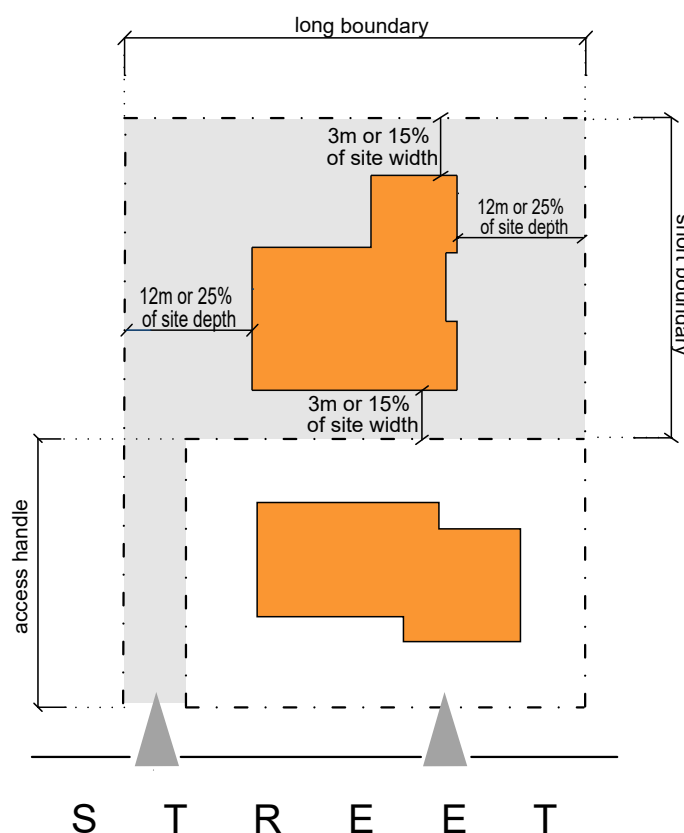


Figure 4A.2-8 Setback battle-axe lots

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 tall 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, 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
800-899m ²	58	56
900-999m ²	56	54
1000-1199m ²	54	52
1200 -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 m ²	Maximum Built-upon Area %
Less than 850m ²	Site Area x 0.5
850m ² -2050m ²	Site Area x [0.5 -(SA-850)/6,500]
Greater than 2050m ²	645m ² and subject to merit consideration

Example: The built upon area for a 1100m² 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 m²

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 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 850m ²	3
850m ² to 1,000m ²	5
1,001 m ² to 1,500m ²	7
Over 1,500m ²	10 or as directed

(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 Part 13 of this DCP.
- 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 31m² 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.

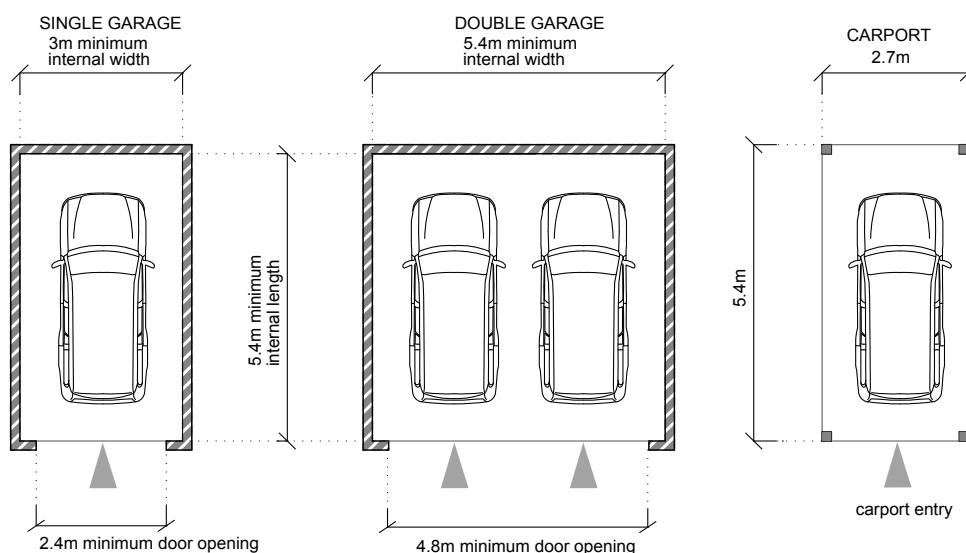


Figure 4B.2-1 Minimum dimensions for unobstructed garage and open carport (AS 2890.1)

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(2) & (15) 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 to 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.

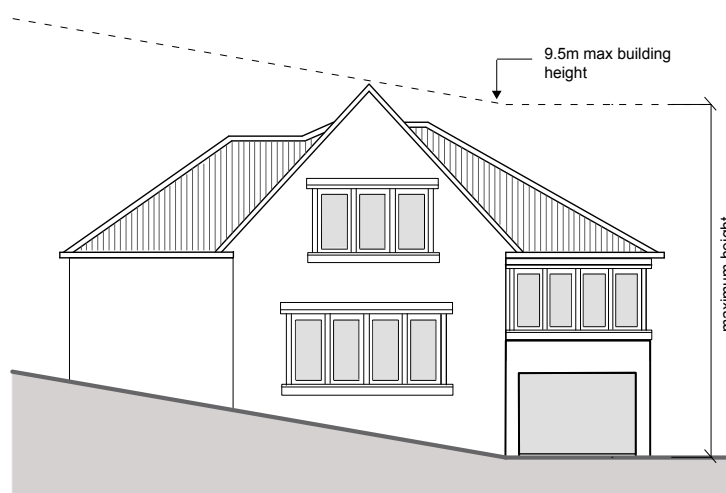


Figure 4C.1-1: Maximum height of dwelling

- 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

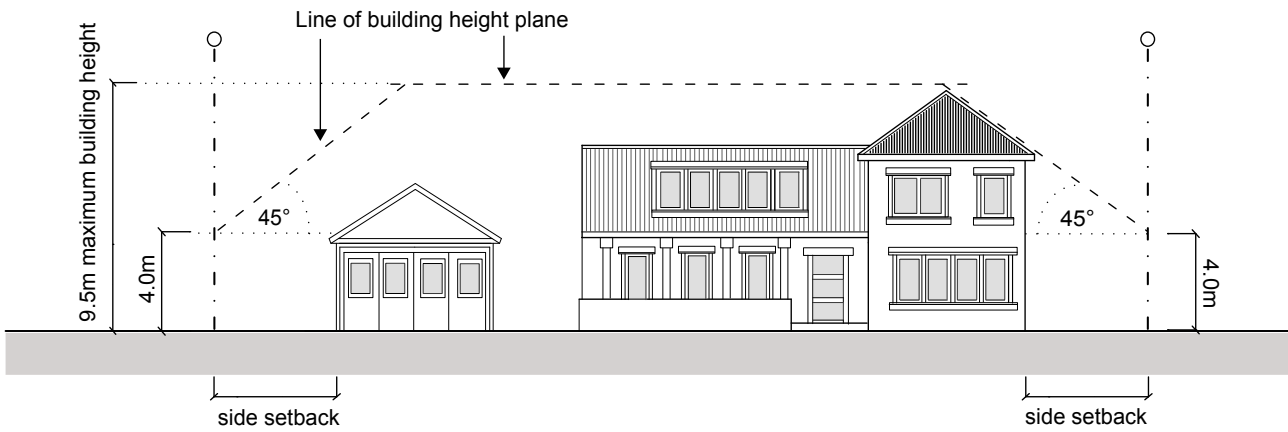


Figure 4C.1-2: Building height plane.

4C.2 BUILDINGFACADES

Further controls that may apply:

SECTION C
PART 23.3 - Sustainability of
Building Materials

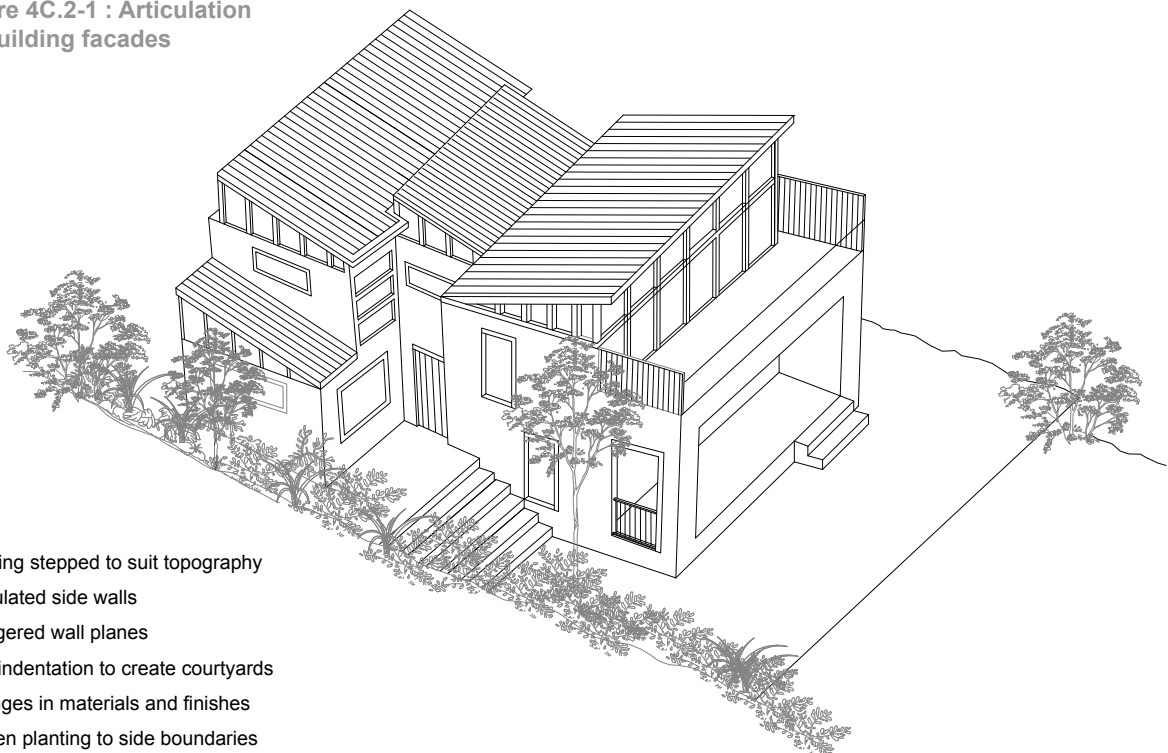
Objectives

- 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.

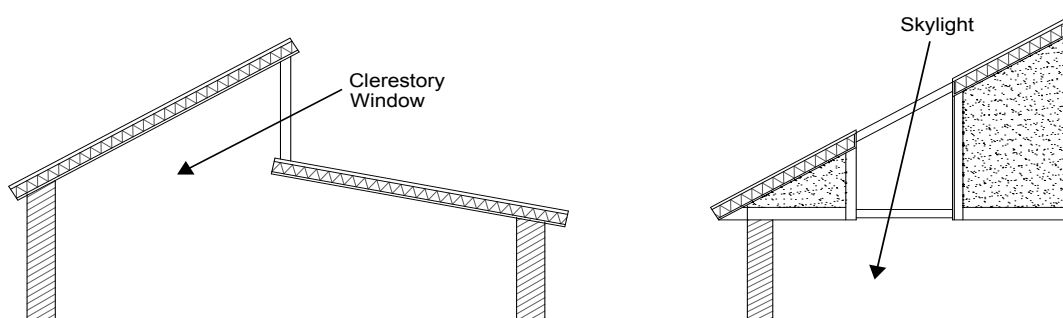


Figure 4C.3-1 Clerestory window and skylight

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 50m² 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 tall 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.krg.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 23.8 - General Acoustic Privacy

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).

Objectives

4 To ensure tennis courts 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.

Controls

- 6 All mechanical equipment, including filters, pumps and heaters associated with the swimming pool and/or spa are housed within an enclosure. The enclosure is to be sound-proofed to the extent that noise from the operation of the mechanical equipment does not exceed 5dB(A) above the background noise (LA90, 15 min) level during the day when measured at the boundary of the nearest potentially affected residential occupancies and is not audible in habitable rooms of any residences at night (from 8.00pm to 7.00am). The background (LA90, 15 min) level is to be determined without the noise source present.

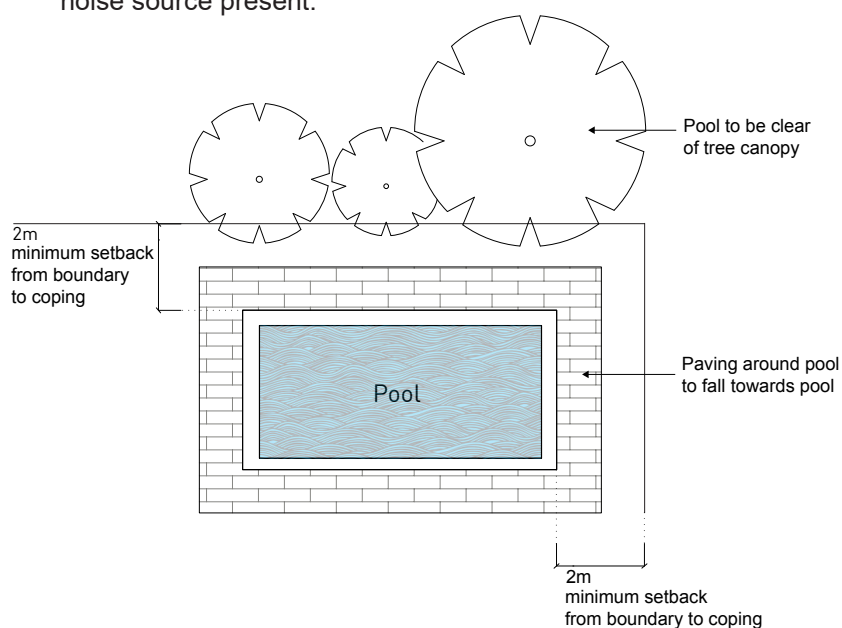


Figure 4C.7-1: Swimming pool controls.

Tennis Courts

- 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.

4C.7 ANCILLARY FACILITIES (continued)

Objectives

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

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

Controls

- 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.)
- 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.
- 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.
- 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 For requirements on noise levels associated with air conditioning, kitchen, bathroom, laundry ventilation, or other mechanical ventilation systems and other plant refer to Part 23.8 of this DCP.

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

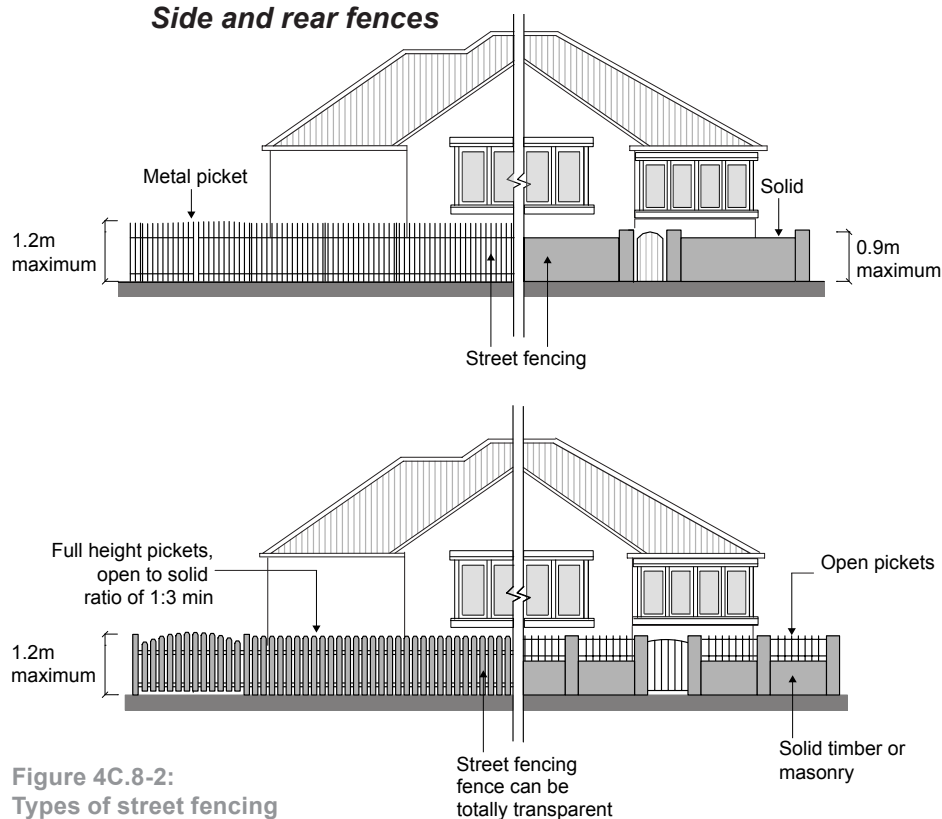


Figure 4C.8-2:
Types of street fencing

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.